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Measuring the Level of Development of Government Healthcare Facilities in Tribal & Non Tribal Region of Nasik District (M.S.) India

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ABSTRACT
Uniform distribution of any service or facility is always a challenging job as the physical and cultural factors are not homogeneous. Providing Health care facility to a large population which is distributed in variety of landforms or physical region is not easy task. Study of health care services is one of the major aspects of Health Geography. Many studies have been made in recent time at macro or micro level. Akhtar (1978)[1] have been examined the spatial distribution and growth of healthcare services in Rajasthan where as Surywanshi (2002)[8] have studied the geographical spatial patterns of healthcare services at tribal and rural level. In Maharashtra, socio economic abstract were publishes regularly (yearly) for every district, which provide important statistics of health facilities. By its study one can understand the spatio-temporal changes in the development of health care facilities. In present paper an attempt has been made to understand the development of government health care facilities in the span of 40 years i.e. 1971 to 2010. Tahsil has been taken as a study unit. All 15 tahsil were grouped in to tribal and non-tribal tahsil on the basis of tribal population percentage. By using composite score method all tahsil were categorized in to 3 levels of development. It is found that initially Government health facilities are not distributed well in tribal part but after 40 years tribal tahsil shows remarkable increase in this field. Few tahsil have yet to develop fully in this manner. The norms suggested for medical facilities by Bhore committee or National health plan 1983 should be implemented in near future. The distribution of healthcare facilities has been determined on the basic of seven variables like number of hospitals, Dispensaries, Maternity homes, Primary health centers,
Key words: *Government health care facilities, tribal tahsil, norms*

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INTRODUCTION

Socio-cultural and economic framework determines health condition of the population.[2] after independence lot of efforts were made to improve health standards of the rural and tribal areas. But it is common phenomena that resources are mostly diverted towards towns and cities than the rural and tribal parts. The health facilities show a lopsided pattern with expenditure concentrated on sophisticated facilities in the towns, leaving the rural majority practically unnerved. Such condition also prevails in Nasik district of Maharashtra, which is the study area for this paper. Western part is characterized by Sahyadrian hill ranges. This part has maximum concentration of tribal population. An attempt has been made to find out the development process of government healthcare facilities in five tribal tahsil as well as ten other non tribal tahsil of this district.

Study Region:

Nasik district is situated in Tapi and Godavari basin. It lies between 19° 45` to 20° 45` north latitude and 73° 30' to 74° 45' east Longitude (Fig. No.1). There are 15 tahsils included in the Nasik district. The district has three major divisions based on socio-cultural and physical characteristics. The main system of hills is the Sahyadrian, which run from north- south in the western part of the district. All spurs of Sahyadrian range stretch out to the east. Area between the spurs and the eastern part of the district is

comparatively plain. Godavari, Girna are the major rivers are draining the area. 23 % of total district population is belong to schedule tribe and it is mainly concentrated in the western hilly part. According to the data of 2011 census, the district population is around 61.1 million. About 43 % population is living in urban areas. The public health of the district is looked after by the public health department of the State, the Zilla Parishad and the municipalities.

Fig. No.1 Location of Nasik District.

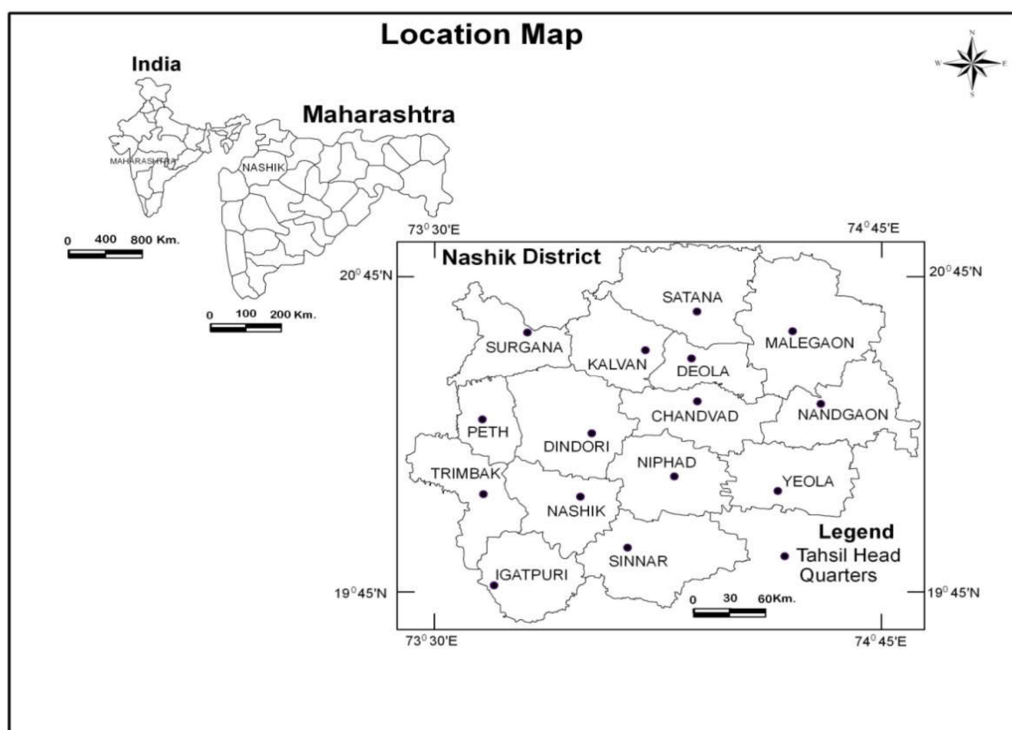


Fig. 1

Objectives: - The main objectives of the present paper are as follows,

I. To find out the present level of distribution of healthcare facilities in Nasik District.

II. To search the regional disparities in level of healthcare facilities in the study region.

III. To understand the factors responsible for the imbalances of healthcare facilities in the district.

MATERIAL AND METHODS

The present study is based on the secondary source of data. This data obtained from socio-economic abstract of the Nasik district (1972, 2011- 2012), district census handbook, district gazetteer and different websites of internet. The tahsil has been taken as a unit for analysis of the levels of healthcare facilities in the study region. Tahsil having ST population more than 50 % of its total population considered as a tribal tahsil. Five tahsils have been identified as a tribal tahsil on the basis of above criterion, remaining ten tahsils have non tr

Statistical technique like percentage and average has been used for study. Data is processed and represented with the ArcGIS software. For the measuring of the level of development of government healthcare facilities in the study region, seven variables have been taken into account collectively. By using data about all variables the standard Z score and composite score are calculated for each tahsil. On the basic of composite score, the developments of healthcare facilities are grouped into three classes. By calculating the average, standard deviation, Z score and composite score for each tahsil is acquired. On the basis of that, all the tahsil are grouped in to low, medium and high development region in case of the healthcare facilities

X1= Number of hospitals, X2= Number of Dispensaries, X3= Number of Maternity homes, X4= Number of Primary health centers, X5= Number of Doctors, X6= Number of Nurses, X7= Number of Beds

By using data about above seven variables, the Standard Z Score & Composite Index are calculated with help of following formula.

Z score = Xi-X/O

Where Z=Standard Score for observation. ,
Xi = Original value of observation. X = Average of all values of X., O = Standard Deviation of X.

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

Comp. Scores = (X1+X2+X3+ X4+X5+X6+X7) / N

(Where N = Total Numbers of variables.)

RESULTS AND DISCUSSIONS

On the basic of composite scores, all tahsils are grouped into three classes according to their level of healthcare facilities. These are..

1. Low Level of government health care facilities development.
2. Medium Level of government health care facilities development.
3. High Level of government health care facilities development.

The change in the tribal share of each variable taken in to consideration during the study span of 40 years , as well as this change in percentage is calculated for tribal and non tribal tahsil separately and given in table no. 2. On the basis of above table the share of health care facilities in tribal tahsil in total district is shown in the following table.

Table No.2. Contribution of tribal tahsil in healthcare facilities in Nasik District

Region	% Govt. Health care facilities in Tribal Tahsil						
	Hospitals	Dispensaries	Mat. Home	P.H.C.	Doctors	Nurses	Beds
Tribal Tahsil 1971	33	30	28	33	30	19	11
Tribal Tahsil 2011	28	11	35	44	29	26	19

Source: Compiled by Researchers-2015

It is found that the share of tribal tahsil is reduced in total districts health care facilities like hospitals, dispensaries, doctors where as a good thing is that in case of Maternity homes, P.H.C., Nurses and number of beds this share increases. This increase is significant for Beds, Nurses and P.H.C. It is obvious that in 1971 the scenario was very worst so improvement is marked clearly. In case of P.H.C. the norms of tribal population helps to increase number of P.H.C. in tribal region. (1 P.H.C for per 20000 population in tribal region and 30000 in case of other population, mainly rural) [4]

Table No. 3 Change in healthcare facilities in Nasik district. (1971 – 2011)

Region	% Change in Govt. Health care facilities						
	Hospitals	Dispensaries	Mat. Home	P.H.C.	Doctors	Nurses	Beds
Tribal Tahsil	+93	-77	+94	+86	+79	+83	+90
Non-Tribal Tahsil	+93	0	+91	+79	+81	+75	+86
Total	+93	-29	+92	+83	+80	+78	+87

Source: Compiled by Researchers-2015

According to above table it is found that tribal tahsil make remarkable progress in many facilities. PHC percentage increases more in tribal region than in non tribal region. New schemes for tribal tahsil were implemented effectively. Member of local assembly of Maharashtra of this region are very active and continuously look after of health and other services in this region. The increase in Number of Nurses and beds are also more than the non tribal tahsil. But in case of number of doctors conditions are not encouraging in tribal tahsil. Number f dispensaries were decreases in tribal region because many dispensaries were converted in to PHC and hospitals.

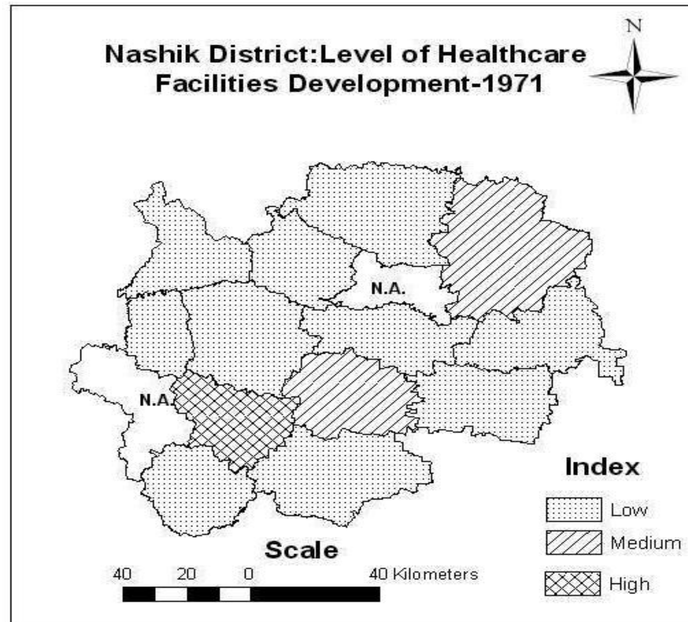
Table No.4 -The level of development of Healthcare facilities in Nasik District. (1971 - 2011)

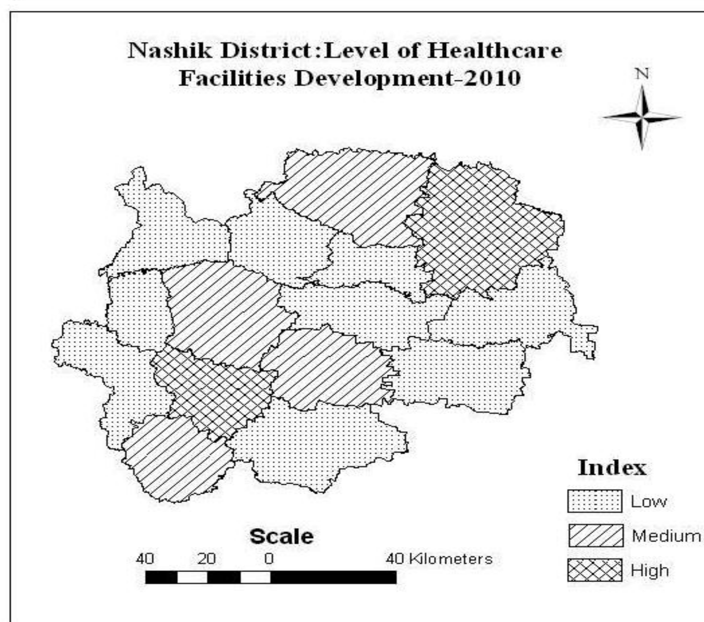
Level of government health care facilities development	**Spatial pattern in 1971**	**Spatial pattern in 2010**
Low	**Peth, Surgana**, Nandgaon, **Igatpuri,** Chandwad, Baglan**, Kalwan**, Yeola, **Dindori**, Sinnar	**Peth, Surgana,** Nandgaon, Chandwad**, Kalwan**, Yeola, Sinnar, **Trambak**, Deola
Medium	Malegaon & Niphad	**Dindori**, Baglan, Niphad, **Igatpuri**
High	Nasik	Nasik, Malegaon

Source: Calculated by Researchers-2015

Table No.3 shows that, Nasik tahsil is always in the category of highly develop tahsil in case of government healthcare facilities. Malegaon tahsil show a change and move to high develop category from the medium developed category. Tribal tahsil like Dindori and Igatpuri are shows positive change in the development process. Both the tahsil are located near to Nashik Tahsil so implementation of government schemes is easier. The fringe effect of Nashik Urban center also positively affects the expansion of health

care facilities in Igatpuri and Dindori. This means only 2 out of 6 tribal tahsil shows improvement in its states. Other 4 tribal tahsil remain in same low development category after 40 years of efforts. These 4 tahsil are little away from the Nashik Tahsil. The transport and communication facilities were not as good as Igatpuri and Dindori has. Tribal tahsil like Peth, Surgana, and Trambak & Kalwan are characterized by hilly region. The decisions about the establishment of government healthcare facilities are largely influenced by political reasons. Nasik and Malegaon are the tahsil, which are always politically strong, so they attract more such facilities. Malegaon tahsil got more political benefit because, two of the former Health Ministers of the Maharashtra state were represents this tahsil. Other two former health ministers are closely related to Nasik tahsil. This table also shows that all tribal tahsil came under the Low development category in 1971 , where as in 2011 Dindori and Igatpuri shows some improvement and moved in to medium development category.





CONCLUSIONS

1. In 1971 the health care facilities were very unevenly distributed and tribal region had very little access to government health care facilities.

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2. In the study span of 40 years, government health care facilities increase in good quantity.
3. The increase is more rapid in tribal region in case of Maternity homes, PHC, Nurses and Beds.
4. The increase is slightly rapid in non-tribal region in case of doctors.
5. Considerable decrease is recorded in number of dispensaries as many of them were converted in to either PHC or in hospitals.
6. Number of PHC is considerably increases in tribal region than the non tribal region because the deferent norms. (1 P.H.C for per 20000 population in tribal region and 30000 in case of other population, mainly rural).[3]
7. Dindori, Igatpuri, Baglan and Malegaon tahsil were made remarkable progress in establishment of Government health care facilities.
8. The population norms for deferent health care services recommended by Bhore Committee or The national health plan (1983) are not maintain in study area but in few cases health facilities are according to norms.

RECOMMENDATIONS

1. The population norms for deferent health care services recommended by Bhore Committee or The national health plan (1983) should be implemented.
2. Dindori tahsil require 16 P.H.C. according to the norms but it has actually only 10 PHC, so more PHC should established in this tribal tahsil in near future.
3. Tribal tahsil Kalwan and non tribal tahsil like Sinnar, Niphad & Yeola were well short in case of P.H.C. establishment so attention should be given to establish more P.H.C. in these tahsil.
4. Doctors prefer urban areas for service. Few rural health centers don't have medical officer and few are not resides in the location of health center. This can affect the quality of health service at rural or tribal level. Doctors should be encouraged to work at tribal region by giving more incentives and facilities.
5. Development of good road network in tribal region can minimize the need of establishment of new health centers.
6. Establishment of health centers and granting the post of medical personnel should not be affected by political power.

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