



HEALTH CENTERS AND THEIR INFLUENCE AREA IN MALEGAON & NANDGAON TAHSILS OF NASHIK DISTRICT

Dr. Sunil Ashok Deore

MSG College Malegaon, Nashik

Corresponding Author- Dr. Sunil Ashok Deore

Email- sunildeore555@gmail.com

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Abstract

Health centers and their influence area in the Malegaon & Nandgaon tahsils of Nashik district have been studied in this research paper. The researcher has used Jackson's method to calculate the influence area have been calculated from PHCs, Sub Centre and rural hospitals wise in Nandgaon tahsil and Malegaon tahsils of Nashik district. The influence of Total Health Centre also calculated as per Jackson's method at district level.

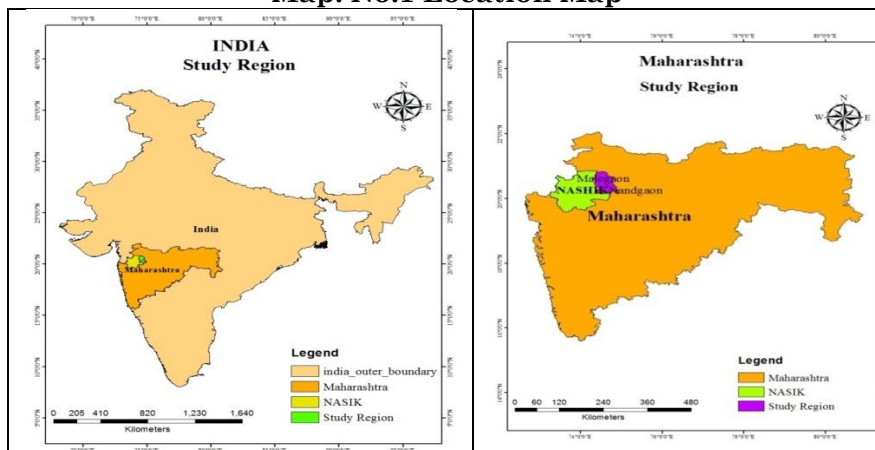
Introduction

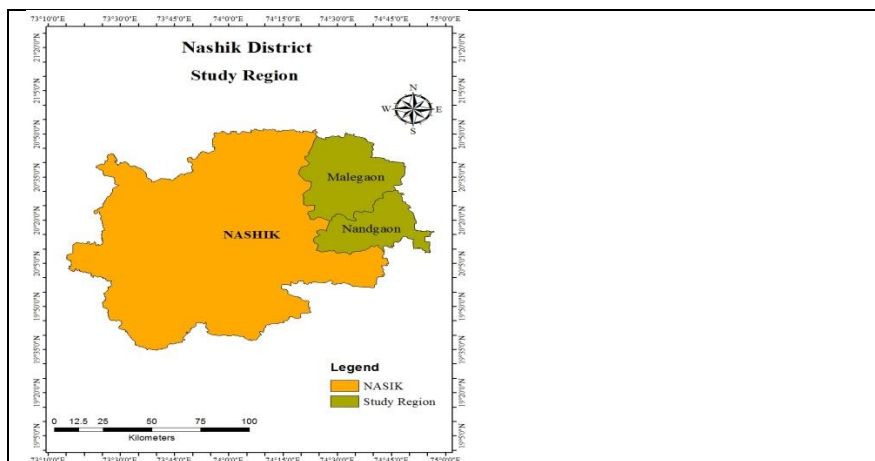
577 in Nashik district and 48, & 20 sub centers in Malegaon and Nandgaon tahsils respectively, there are 1811 total Primary health centers in Maharashtra, 103 in Nashik district and 9 in Malegaon and 5 in Nandgaon. 13332 total health centers in Maharashtra, 723 in Nashik district and 60, 27 in Malegaon and Nandgaon tahsils total health centers working respectively including government district hospital, sub district hospitals, Rural hospitals, PHCs, SCs and mobile hospitals etc. in this research paper researcher discuss about the health Staff / health employs in Primary Health centers and Sub centers only.

Study Area

Study area are situated in the east part of the district, lies between 20° 00' N To 20° 53' North latitudinal and from 74° 21' E to 74° 56' East longitudinal extension, with the total geographical area of 2919.62 sq. km. According to census 2011, 1244442 total population of the study area, to the east of study area is Jalgaon & Dhule district, on the western side are Satana, Deola and Chandwad tahsils (Nashik District) Aurangabad is at the south east, Yeola Tahsil is south. Malegaon and Nandgaon both tahsils are situated in the east part of the district.

Map. No.1 Location Map





Methodology-

Methodology is one of the significant part of analysis result of analysis highly depend on the methodology will be used for the data analysis purpose. The present study is based on the secondary source of data.

Objectives

1. To study the health centers and their influence area in the study area
2. To study the influence area by using Jacksons method.

Discussion

To ensure the fulfillment of the needs of the people of the country, the basic services of different types are considered to be very important by the government. Many health service centers have been created have in the country from the urban areas to the rural areas. The population of each service center is influenced by that population. It is

considered important to study the impact areas of these service centers in geography research. Because the effectiveness of a service center is understandable only after studding the impact center in the study area, the areas of health centers have been identified. Due to the influence of services and service centers in different regions, different-different geographers are set up methods to determine the impact areas. In this case, Jackson’s method has been used to remove the impact of health centers, health centers and rural health centers.

The influence area by Jackson’s method :

Jackson the removal of the effectiveness of health centers in Nashik district. According to Jackson method of influence area

Following formulas use for this method

$$1) \text{ influence area according to village} = \frac{\text{total village}}{\text{total numbers of medical centers}}$$

$$2) \text{ influence area according to area} = \frac{\text{total area}}{\text{total numbers of medical centers}}$$

$$3) \text{ influence area according to population} = \frac{\text{total population}}{\text{total numbers of medical centers}}$$

Total Health Centers Influence Area 2011

The following table No. 1 mention in the influence area of each sub-center, primary health centers and rural hospital it means total health centers of Malegaon

and Nandgaon tahsils. On how much area, haw many villages and how many population wise impact area it has been shown.

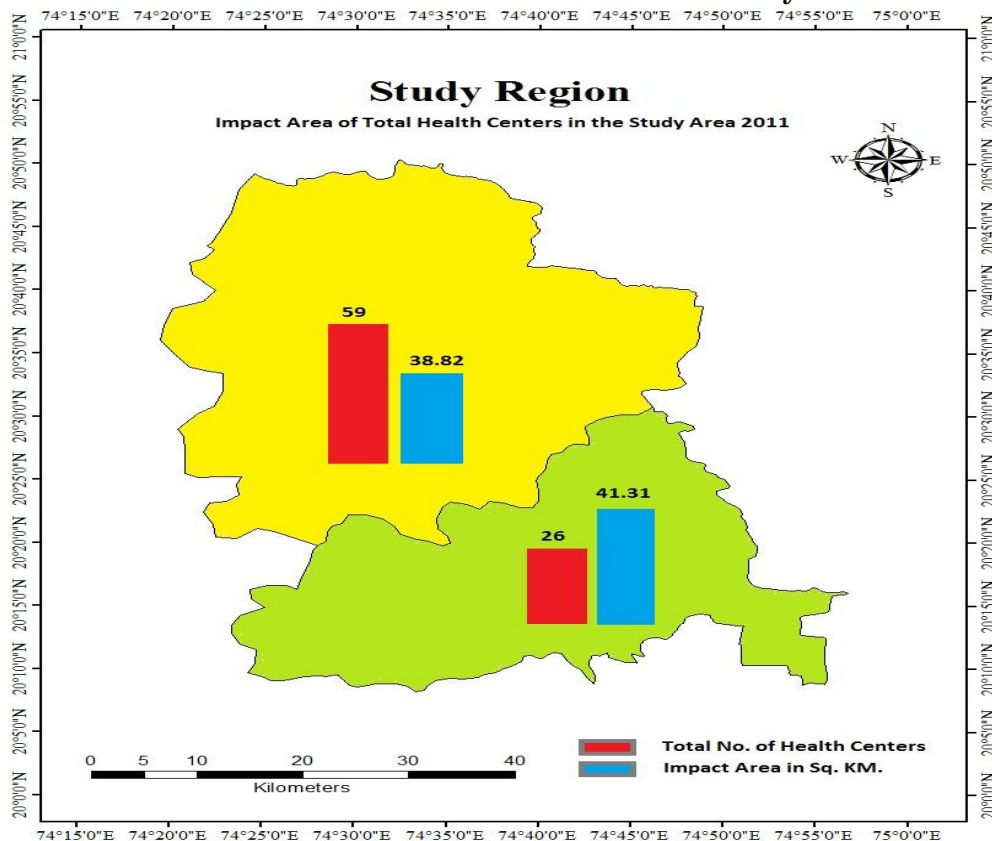
Table No. 1: Total Health Centers Influence Area 2011

Tehsils name	No. of Total Health Centers	Village Wise Influence Area	Sequenc e (class)	Area Wise Influence Area	Sequenc e (class)	Populatio n Wise Influence Area	Sequenc e (class)

Surgana	47	4.04	2	17.46	12	3607	13
Kalwan	52	2.88	8	16.61	13	4007	11
Deola	31	1.61	15	17.66	11	4662	9
Baglan	66	2.57	9	22.02	7	5102	8
Malegaon	59	2.42	11	30.82	4	6240	6
Nandgaon	26	3.84	4	41.81	1	7122	3
Chandvad	32	3.46	5	29.78	5	6578	5
Dindori	68	2.32	12	19.39	10	4643	10
Peint	36	4.02	3	15.46	15	3329	15
Trimbakeshwar	41	3.04	7	21.95	8	3814	12
Nashik	32	2.28	13	27.85	6	5498	7
Igatpuri	56	2.08	14	15.48	14	3530	14
Sinner	40	3.25	6	33.59	3	7027	4
Niphad	52	2.57	10	20.16	9	8054	1
Yeola	28	4.42	1	37.82	2	7904	2
Dist., Average	666	2.99	-	24.53	-	5408	-

(Source – Computed By Researcher)

Map No. 1 Influence Area of Total Health Centers in the Study Area 2011



As per Jackson's method, there is a great deal of disparity in the study of total health centers according to the tahsils of Nashik district. There are 85 health centers in the rural areas, out of which 3 are rural hospital, 14 primary health centers, and 68 sub centers.

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It is important to study the average of all health centers in tahsil wise villages of the district, it is important to see that there is a disparity in the effect of every health center in the district on the villages. There are 1922 villages in the district in 2011, and every health center in the district shown an average of 2.99

villages. The number of villages under the primary health center of Yeola is much higher than the average of the district, hence new health centers should be started there. The district has the lowest Deola tahsil in the district and it is observed that the services of health center are concentrated. Village of Deola tahsil of the district show influence of villages between 1 to 2, whereas villages of 2 to 3 in Niphad, Igatpuri, Nashik, Dindori, Malegaon, Baglan and Kalwan tahsils are affected, Chandwad, Trimbakeshwar, Nandgaon and sinner tahsils between 3 to 4, villages have an impact, and in more than 4Yeola, Peint, Surgana tahsils affected.

All health centers in the field of study have found an average impact area of 24.55 sq. km. area. There is great deal of inequality in the field of study. Yeola, sinner, Nashik, Chandwad, Nandgaon and Malegaon those tahsils every health centers is that the average all health centers in the district are more than the area of influence. And Niphad, Igatpuri, Trimbakeshwar, Peint, Dindori, Baglan, Deola, Kalwan and Surgana those tahsil are less impact area of the district average. The study of tahsil wise of the average population of the district, under the influence of total health center, shows that the population of the study area is 3509814 and the effect of a total health center is on the average 5415 population. As per the effect of every total health center in Niphad tahsil there are 8054 populations, and the lowest population in the district is in Peint tahsil, i.e. 3329. Nashik 5498, Yeola 7904, Sinner 7027, Niphad 8054, Chandwad 6578, Malegaon 6347, Nandgaon 7122, tahsils population is much more than the total population of the district, so the new health centers should be started in the tahsil of the district. The population is low compared to the average of the district in the Peint 3329, Surgana 3607, Igatpuri 3530, Deola 4662, Kalwan 4007, Baglan 5102, Dindori 4643 and Trimbakeshwar 3814. In the study area, 7122 in Nandgaon tahsil and 6347 in Malegaon tahsil is depend on the total health center and it is necessary to start a new health center in the tahsils.

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Result

Sub Centers Influence Area 2011

In the influence area of each sub-center of Malegaon and Nandgaon tahsils of the Nashik district. On how much area, how many villages and how many population wise impact area it has been shown. There are large numbers of disparities in the study of the impact of sub centers in Nashik district. There are 1922 villages in the district in 2011, and every sub center in the district shown an average of 3.57 villages. The number of villages under the sub center of Yeola is much higher than the average of the district, hence new sub health centers should be started there.

The district has the lowest Deola tahsil in the district and it is observed that the services of primary health center are concentrated. Villages of Deola, Dindori, Nashik and Igatpuri tahsils of the district show influence of villages between 2 to 3, whereas villages of 3 to 4 in Niphad, Sinner, Malegaon, Trimbakeshwar, Baglan and Kalwan tahsils are affected, Nandgaon and Chandwad tahsils between 4 to 5, villages have an impact, and in more than 5 Yeola, Peint and Surgana tahsil, i.e. 5.63, 5.17 and 5.13 respectively, in the district are affected. The impact area of Niphad, Igatpuri, Dindori, Nashik, Malegaon, Baglan, Deola and Kalwan tahsils is less than the average area of the district. And the impact of tahsils of Surgana, Nandgaon, Chandwad, Peint, Yeola, Trimbakeshwar, and Sinner is much higher than the average area of the district.

The study of tahsil wise health sub centers of Nashik district, there is a large scale disparity. Every health sub centers influence area has an average 30.43 sq. km. of the district. Igatpuri 18.84, Kalwan 19.63, Peint 19.88, Surgana 22.17, Deola22.81, Dindori 23.97, Niphad 24.96, Trimbakeshwar 27.28, Baglan 27.95, those district are less than district average influence area. And Nashik 31.83, Chandwad 35.29, Malegaon 38.68, sinner 40.72, Yeola 48.13 and Nandgaon 54.36 those tahsils are more than impact area of district average. 15530 sq. km. The total

geographical area of the district. In the study area Malegaon and Nandgaon district impact area 68.64 & 54.36 respectively. The study of tahsil wise of the average population of the district, under the influence of sub center, shows that the population of the study area is 3509814 and the effect of a sub center is on the average 6706 population. As per the effect of every sub health center is the higher in Yeola tahsil there are 10060 populations, and the lowest population in the district is in Peint tahsil, i.e. 4279. Yeola 10060, Sinner 8517, Niphad 9973, Chandwad 7796, Nandgaon 9259 and Malegaon 7832 tahsils population is much more than the total population of the district average, so the sub health centers should be started in the tahsil of the district. The population is low compared to the average of the district in the Peint 4279, Igatpuri 4297, Nashik 6283, Trimbakeshwar 4738, Baglan 6475, Surgana 4582, and Dindori 5740, Kalwan 4735 and Deola 6022. In the study area, 7832 in Malegaon and 9259 in Nandgaon is depend on the primary health center and it is necessary to start a new health center in the tahsils.

Primary Health Centers Influence Area 2011

In the influence area of each primary health center of Malegaon and Nandgaon tahsils of the Nashik district. On how much area, how many villages and how many population wise impact area it has been shown. It is important to study the average of each primary health center in tahsil wise villages of the district, it is important to see that there is a disparity in the effect of every primary health center in the district on the villages. There are 1922 villages in the district in 2011, and every health center in the district shown an average of 19.50 villages. The number of villages under the primary health center of Yeola is much higher than the average of the district, hence new primary health centers should be started there. The district has the lowest Deola tahsil in the district and it is observed that the services of primary health center are concentrated.

Villages of Deola, Igatpuri and Niphad tahsils of the district show influence of villages between 10 to 15, whereas villages of 15 to 20 in Baglan, Malegaon, Nandgaon and Dindori tahsils are affected, Surgana, Kalwan, Chandwad, Peint, Trimbakeshwar, Nashik and sinner tahsils between 20 to 25, villages have an impact, and in more than 25 Yeola tahsil, i.e. 31 in the district are affected. The impact area of Niphad, Igatpuri, Dindori, Malegaon, Baglan and Deola tahsils is less than the average area of the district. And the impact of tahsils of Surgana, Kalwan, Nandgaon, Chandwad, Peint, Trimbakeshwar, Nashik and sinner is much higher than the average area of the district. Every primary health center in the field of study has found an average impact area of 163.32 sq. km. of distance. According to the tahsil wise of the district, there is a great deal of inequality in the field of study. Nasik tahsil 297.14, Yeola 264.75, sinner 223.96, Nandgaon 217.46, Malegaon 202.04, Chandwad 190.61 those primary health centers in this tahsils is that the average primary health centers in the district are more than the area of influence. This means that these six primary health centers are available for more area. Therefore, if people make new health center available in sex tahsils to get health facilities at low distance, then they will be able to get population friendly.

The effect of the primary health centers in the tahsil Trimbakeshwar 150.04, Baglan 132.12, Dindori 131.87, Kalwan 123.42, Niphad 116.51, Igatpuri 108.37, Deola 109.52 & Surgana 102.58 Peint 79.52 district. Of the district is less than the average of the district, which means that this nine tahsils primary health centers is available for less than area of the district. Primary health centers in each area wise the effect of Nashik district, an area of less than 100 sq. km. Peint tahsil, in the primary health center under. Between 100 to 150 sq. km. there are Surgana, Kalwan, Deola, Baglan, Dindori, Igatpuri and Niphad of the tahsils primary health centers. Between 150 to 200 sq. km. there are Chandwad, Trimbakeshwar both tahsils

primary health centers. Between 200 to 250 sq. km. there are Malegaon, Nandgaon and Sinner tahsils primary health centers. Between 250 to 300 sq. km. there are Nashik & Yeola both tahsils primary health centers. There are no more than 300 sq. km.

the primary health centers in any of the tahsils of the district. The study of tahsil wise of the average population of the district, under the influence of primary health center, shows that the population of the study area is 3509814 and the effect of a primary health center is on the average 36023 population. As per the effect of every primary health center in Nashik tahsil there are 58649 populations, and the lowest population in the district is in Peint tahsil, i.e. 17120. Nashik 58649, Yeola 55330, sinner 46539, Niphad 46539, Chandwad 45101, Malegaon 40904, Nandgaon 37037, tahsils population is much more than the total population of the district, so the primary health centers should be started in the tahsil of the district. The population is low compared to the average of the district in the Peint 17120, Surgana 21190, Igatpuri 24711, Deola 28904, Kalwan 29766, Baglan 30612 and Dindori 31571. In the study area, 37037 in Nandgaon tahsil and 40904 in Malegaon tahsil is depend on the primary health center and it is necessary to start a new health center in the tahsils.

Influence Area of Rural Hospital 2011

In rural areas, there are lesser rural hospitals in each of the tahsils of Nashik district. There are large scale disparities in the study of the impact of rural hospital. There are 23 rural hospitals in the Nashik district. Every rural hospital in the district has an average impact of an average of 86.84 villages. Kalwan 150 is the highest impact area of villages and lowest tahsil of the district of Deola tahsil i.e. 25. And the study area Malegaon tahsil has 71.5 and Nandgaon tahsil has 100 impact of the total area of villages. Rural hospital in the district has an average impact of an average 694.44 sq. km. area. Sinner tahsil is highest impacted tahsil of the district. I.e. 1343.79 sq. km. area has been impacted. And Deola has been lowest

impacted tahsil of the district. I. e. 273.8 sq. km. area. 3509814 is total rural population of the district. And population of the district the average impact 159681.1 populations. The most affected tahsil of the district is Niphad the affected population is 418853. And lowest affected tahsil is Deola 72261.

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