

 SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016
 ISSN: 2455-7838(Online)

 EPRA International Journal of Research and Development (IJRD)
 Volume: 9 | Issue: 3 | March 2024

 - Peer Reviewed Journal

## A GEOGRAPHICAL STUDY OF HEALTH CARE INFRASTRUCTURE AND MEDICAL FACILITIES IN AHMEDNAGAR DISTRICT, MAHARASHTRA, INDIA

Deepak Janardhan Gadekar<sup>1</sup>, Mr. C. M. Bansode<sup>2</sup>, Mr. Vijay Rajendra Sonawane<sup>3</sup>

<sup>1</sup>Assistant Professor, Department of Geography, Padmashri Vikhe Patil College of Arts Science & Commerce, Pravaranagar A/P- loni Tal- Rahata, District- Ahmednagar, Maharashtra, India, 413713. Affiliated to Savitribai Phule Pune University Pune. https://orcid.org/0000-0001-5561-4737

<sup>2</sup>Assistant Professor, Department of Geography, Arts, Science &Commerce College Rahata, AtPost- Pimplas (Rahata), Dsitrict- Ahmednagar

<sup>3</sup>Assistant Professor, Department of Geography Shri Saibaba College Shirdi, Tal- Rahata , District- Ahmednagar , Maharashtra, India,

## ABSTRACT

Health is considered an important component of social welfare and human resource development. The availability of health alone cannot be considered a component of human development as health facilities need to be put to good use and their distribution needs to be in the right form so that people can use them easily. Proper distribution of health facilities and accessibility is a must as well as allocation with sync to threshold population and rage of goods. In this research paper, it is important to study the extent to which health facilities have been developed between 2014 and 2019, as well as the distribution of these facilities. It has also studied the changes that have taken place in health facilities during this period. These studies have been done according to the talukas in the district. **KEY WORD:** Health, Medical, Infrastructure, Ahmednagar, qualitative and quantitate methods.

## **INTRODUCTION**

Geographical, socio-political factors affect human health facilities as well as distribution. Also this distribution is greatly affected by the population distribution, population density, and growth rate and transport connectivity. The accessibility of health facility is one of the parameters of social well-being to improve the quality of life in the region, is considered as the best indicator for better Planning and development. In short, health facilities and distribution are considered to be the good components of human resource development. Beside the availability of the Healthcare facility are important measurement of social well-being their distributional pattern affected the overall development of the people<sup>[2]</sup>. Government Health Organization provide health facility to the masses but there unplanted location due to socio economic, cultural and political factor causes regional imbalance and inequality. Health facilities are considered to be one of the important socio-economic factors in regional development. For this, the health condition of the people in a region can be seen from the health facilities and health distribution. Availability of Health Care amenities and facilities may not be regarded as a good indicators of human resource development until and unless their proper distribution <sup>[22, 23]</sup>. As well as accessibility and allocation with reference to size of population of settlements and rage of good. Literacy, human density, population growth rate and human health are considered important factors for human resource development <sup>[4, 5, 6,7]</sup>. That population is the most important factor affecting human health facilities. Health care is an active process through which human health and personal well-being are enhanced. Good human health is considered important for economic development and growth. All these processes depend on three factors, firstly the environment, secondly human quality of life and health care facilities <sup>[17]</sup>. Healthcare is considered to be an important factor for economic development. In short, healthcare is considered to be one of the factors affecting economic development <sup>[8]</sup>. Birth rate and mortality rate of health facilities are recurring<sup>[25]</sup>. Therefore, in this research paper, the objective of study is to distribute human health facilities. It is important to study how health facilities are distributed in the tehsil wise. This study has been done on the basis of statistical information from 2014 to 2019 and this study has been done by tehsil wise in the Ahmednagar district.

### **Study Area**

The present study Ahmednagar district has been selected as a study area. It extends between  $18^{\circ} 20^{\prime}$  and  $19^{\circ} 59^{\prime}$  north latitudes and  $73^{\circ} 40^{\prime}$  to  $75^{\circ} 43^{\prime}$  east longitudes (Map.1) located in part in the upper Godavari basin. The district is very dense in shape and length of 200

# SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online) EPRA International Journal of Research and Development (IJRD) Volume: 9 | Issue: 3 | March 2024 Peer Reviewed Journal

km. a width of 210 km. This study region is divided into there are three physical divisions namely, first Sahyadri moutons ranges i.e. Kalsubai, Adula, Baleshwar and Harishchandragad, second Plateau third plains area. The Godavari, Bhima River is the main rivers in this district with the major tributaries are Paravara, Mula, Sina, Dhora, Kukdi ect.



## Aims and Objective

The main objective of this study is evaluate the distributional pattern of health care facilities and Infrastructure in this study area. Also to study the changes in health facilities from 2014 to 2019.

### Methodology

The study is based on the secondary information, the health care facilities and Infrastructure data collected from Zila Arthik Samalochan from 2014 and 2019. Obtained data have been analyzed based on both qualitative and quantitate methods. The use of bar graphs to convert numerical information into qualitative information makes it easier for you to compare and also shows the difference between 2014 and 2019.

### **Result and Discussion**

The distribution of hospital, clinics, Maternity Home, Available Beds in shown Table no 01 is between 2014 to 2019 years wise. The distribution of health facilities is shown by tehsil wise.

## A) Hospital

The number of hospitals in the entire Nagar district has increased from 390 in 2014 to 1074 in 2019 year. If you think about the whole tehsil wise, you can see that the number of hospitals has increased according to the tehsil wise. The observation of table no 01 and graph number 01, the number of hospitals in Nagar tehsil has increased the most in 2019, followed by Sangamner, Shrigonda, Kopargaon and Shrirampur tehsils. According to 2019 year, the lowest number of hospitals in Shevaga(13) as well as rank wise number of hospitals in Pathardi (24) Akole (24) and Jamkhed (26). From this it is clear that there is a relationship between the total population and the total availability of the hospital. In tehsil where the population is high, the number of hospital is more. For example, Nagar Tehsil is in urban area so the population is high and the number of hospitals is also high. The graph number two shows the change in the number of hospitals from 2014 to 2019. In Nagar tehsil of Ahmednagar district, you can see the highest increase in the number of hospitals in Nagar tehsil, followed by increase in the number of hospitals in Kopargaon tehsil, followed by increase in the number of hospitals. Out of the remaining tehsil, the number of hospitals in these tehsils has increased less. Where there has been little change, it may not mean that the population has changed, or that large numbers of people may be moving to urban areas for health.

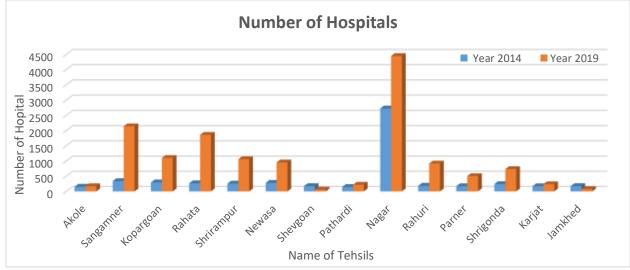


## SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online) EPRA International Journal of Research and Development (IJRD) Peer Reviewed Journal Volume: 9 | Issue: 3 | March 2024 - Peer Reviewed Journal

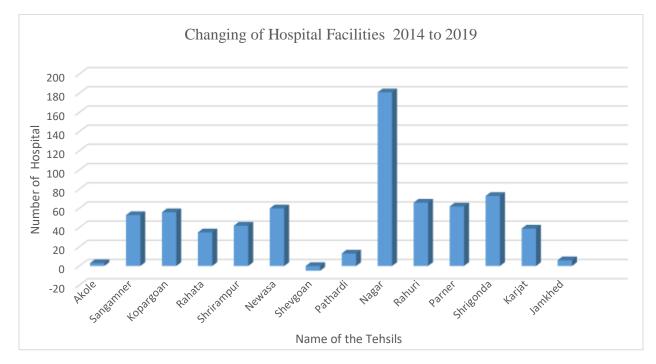
Table no 01: Number of Health Facilities and Infrastructure									
Sr.no	Name the Tehsil	Number of health facilities and Infrastructure							
		Hospital		Clinics		Maternity Home		Available Beds	
		2014	2019	2014	2019	2014	2019	2014	2019
1	Akole	21	24	46	12	16	23	152	170
2	Sangamner	42	95	49	140	33	77	338	2140
3	Kopargoan	23	79	63	30	22	80	295	1099
4	Rahata	26	61	59	71	25	47	266	1859
5	Shrirampur	31	73	126	158	23	25	256	1056
6	Newasa	24	84	66	44	26	83	278	952
7	Shevgoan	18	13	67	04	16	13	173	61
8	Pathardi	11	24	49	54	11	24	146	218
9	Nagar	96	277	36	496	89	131	2723	4449
10	Rahuri	19	85	39	64	19	26	186	914
11	Parner	16	78	38	36	15	77	170	501
12	Shrigonda	24	97	36	46	25	84	241	733
13	Karjat	19	58	29	20	16	50	169	236
14	Jamkhed	20	26	28	07	18	26	173	76
15	Total	390	1074	1063	1182	354	766	5566	14464

Source: Zila Arthik Samalochan, 2014 and 2019









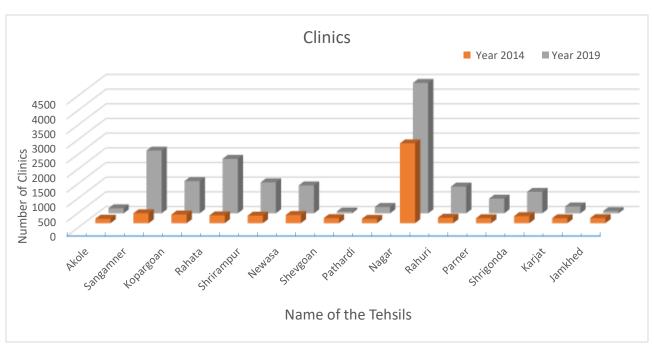
## Graph no 02: Changing of Hospital Facilities (2014 - 2019 Year)

## **B**) Clinics:

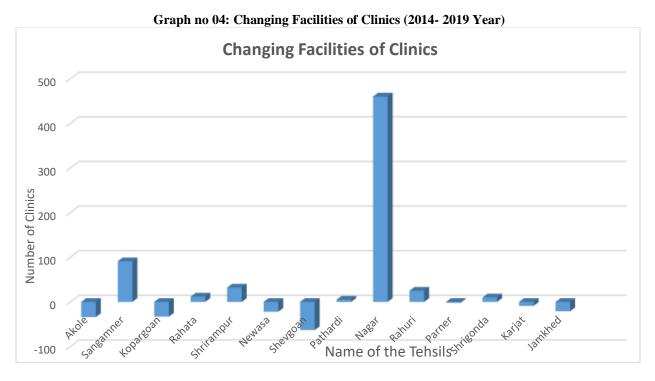
The government or co-operative clinics limitation to provide health facilities to the people, private clinics provide health facilities to a large number of people and play an important role in human resource development. In short, where there are difficulties in providing health services through government or semi-government hospitals, private hospitals contribute a lot or private hospitals provide services to the people. Table number one shows that Nagar tehsil has the largest number of clinics. The according to 2014 year shows that there were fewer healthcare services or fewer clinics in 2014 year than in 2019 year. In 2014 year, they said that the number was 1063 clinics, it was 2019 year, and it was 1182 clinics, which means that it has increased by 119 clinics dailies in 2019 year as compared to 2014 year. Graph No. 4 shows the study of the change of clinic from 2014 to 2019 years. Clinics decaling in Akole, Kopargaon, Shevgaon, Parner, Karjat and Jamkhed tehsils in 2019 than in 2014 year. Nagar tehsil has witnessed the most positive changes followed by Sangamner, Shrirampu,r Rahuri, Shrigonde tehsils. The number of clinics in these tehsils has increased by 2019. The most important reason is that in these tehsils the nature dispensaries should have different types of technology available so that people are attracted to these areas. You can see that the transport system as well as various geographical, socio-economic and political factors have affected the tehsils.



## SJIF Impact Factor (2024): 8.675 | ISI I.F. Value: 1.241 | Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online) EPRA International Journal of Research and Development (IJRD) Volume: 9 | Issue: 3 | March 2024 - Peer Reviewed Journal



## Graph no 03: Number of Clinics Facilities (2014 and 2019 Year)

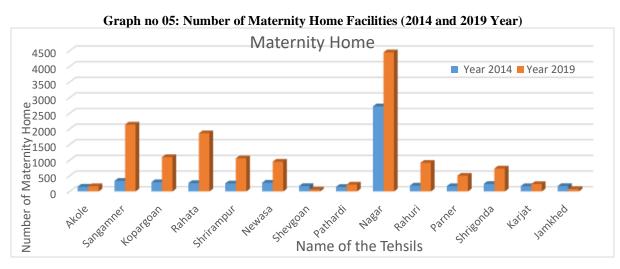


## C) Maternity Home

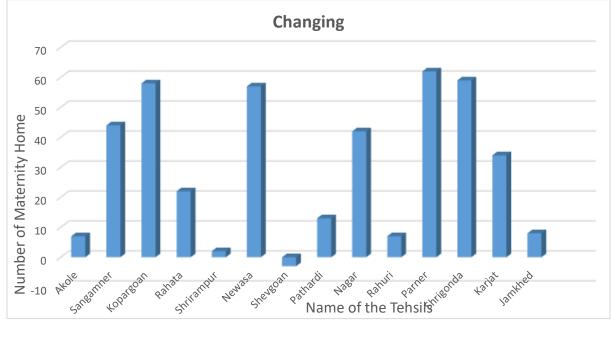
Table number 01 and customer number 05 show the number of maternity home in the Nagar district. This shows that in 2014 year, Nagar tehsil (89) in Ahmednagar district had the highest number of maternity home facilities, followed by Sangamner (33), Nevasa

## SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online) EPRA International Journal of Research and Development (IJRD) Volume: 9 | Issue: 3 | March 2024 - Peer Reviewed Journal

(26), Shrigonda (25) and Rahata (25). In the same year you see the lowest maternity home facilities in Pathardi (11) followed by Parner (15) and Akole (16) Shevgaon (16) Karjat (16) tehsils. But in 2019 year, you can see a huge increase in maternity home facilities in some tehsils. Considering the entire Ahmednagar district, in 2014 year there were 354 maternity home facilities and in 2019 year there were 766 maternity home, so you can see an increase of 412 maternity home. The highest number of maternity home are in Nagar tehsil (131) in the year 2019 year, followed by in Shrigonde (84), Nevasa (83) and Kopargaon (80). In the same year, the lowest maternity home facility is in Shevgaon tehsil (13) followed by, Akole (23) Pathardi (24), Shrirampur (25) and Jamkhed (26). Graph number six shows the difference between maternity home between 2014 and 2019 years. You can see that the number of maternity home has increased in Parner tehsil in 2019 year. Then you can see that the number of maternity home facilities on average increasing in Kopargaon, Nevasa, Parner and Shrigonda tehsils. Also, Sangammer, Nagar, Karjat tehsils has increased the number of maternity home on 30 more than the average during the same period. But in maternity home, Shevgaon tehsil, you see less, in 2014 year, there are 16 facilities, and in 2019 year 13 maternity home, that is they appear to have three maternity home are decreased.



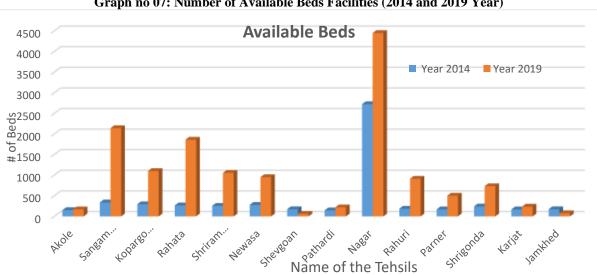
Graph no 06: Changing Facilities of Maternity Home (2014- 2019 Year)



#### SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online) EPRA International Journal of Research and Development (IJRD) Volume: 9 | Issue: 3 | March 2024 - Peer Reviewed Journal

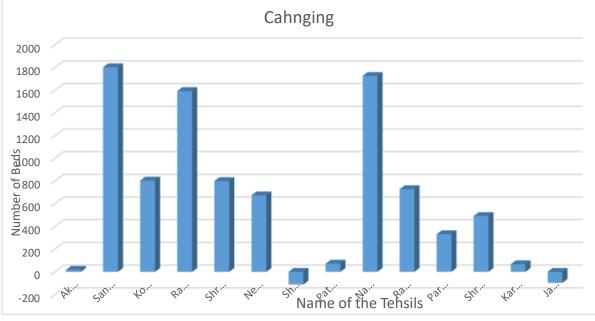
## D) Available of Beds

Table number 01 and graph number 07 show the number of beds available between 2014 and 2019 years. While there were 5566 beds in 2014 year, there are 14464 beds in 2019 year which means 8898 beds have been added in this entire districts. As per 2014 year, most time is available in the Nagar tehsil (2723), then you can see the number of beds available in all the Kopargaon (295) Shrigonda (241) and Sanganmer(338). In terms of population, you can see the lowest number of beds in Pathardi tehsil (146), followed by, Akole (152), Karjat (169) Parner (170) Shevgaon(173), Jamkhed(173) tehsils. As per 2019 year, the highest number of beds is in Nagar tehsil (4449), followed by Rahata (1859) Sanganmer (2140), Shrirampur(1056) tehsil and Kopargaon (1099). Shevgaon tehsil (61) has the lowest availability of beds in terms of population, followed by Jamkhed (76) and Akole (170). Graph No. 08 shows the difference in the number of beds between 2014 and 2019 years. It is clear from this that you can see that the highest number of beds has increased in Sanganmer tehsil followed by Rahata, Kopargaon, Shrirampur. The lowest increase of beds is in Akole Karjat and Pathardi tehsils. But in Shevgaon, Jamkhed and Karjat talukas, the number of beds seems to be less in 2019 than in 2014 year.





Graph no 08: Changing Facilities of Available Beds (2014- 2019 Year)



## SJIF Impact Factor (2024): 8.675 | ISI I.F. Value: 1.241 | Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online) EPRA International Journal of Research and Development (IJRD)

Volume: 9 | Issue: 3 | March 2024

- Peer Reviewed Journal

## CONCLUSION

2014 and 2019 years, this two years have been selected to study health facilities in Ahmednagar district. According to the statistics of 2014 and 2019 years, the health facilities in Ahmednagar district were less in 2014 but increased in 2019. However, you can see that all these facilities have increased in some tehsils. Considering the population, there are very few health facilities in Shevgaon, Jamkhed, Karjat, Shrigonda and Akole tehsils. You can find most of the health facilities in Ahmednagar district because of district place. Health facilities should be enhanced in Akole, Shevgaon, Karjat, Jamkhed, Pathardi and Parner areas so that development can take place in these tehsils.

## REFERENCE

- 1. Ashok Hanjag, Priya Srihari and Rayamane, (2007) A Public Health Care Information System Using GIS and GPS: A Case Study of Shiggaon, GIS for Health and the Environment: Development in Asia Pacific Regions, 2 (7) Pp243-255 DOI: 10.1007/978-3-540-71318-0\_18
- 2. Ateeque Ahmad and Md.Julfikar Ali (2010), Accessibility of Health Facilities in Malda District A Micro- Level Regional Planning, The Deccan Geographer 48(1) 9-17.
- 3. Devidas Dhondiram Dabhade (2022) Transport Network Analysis of Ahmednagar District, Maharashtra State, India International Journal of Food and Nutritional Sciences, 11(8) 2088- 2095.
- 4. Dibyendu Ghosh and Soumyananda Dinda (2017), Health Infrastructure and Economic Development in India, A volume in the Advances in Finance, Accounting, and Economics (AFAE) Book Series, Published in the United States of America by IGI Global, Pp 99-119.
- 5. Dighe Pradeep Machindra (2023) Physico-Chemical Parameter: An Indicator of Water Quality, Samdarshi 16 (4) 1155-1160.
- 6. Gadekar Deepak J (2016), A Temporal Study of Human Resources Development in the Akole Tahasil", International Journal of Research, Vol. 3, Issue. 5, Pp 273-280., 2016.
- 7. Gadekar Deepak J (2017) Regional Disparities of Socio- Economic Development in Ahmednagar District, Maharashtra (India), International Journal of Recent Research and Applied Studies 4 (5), 30-36
- 8. Gadekar Deepak J (2018), Level of Human Resources Development in the Akole Tahsil District- Ahmednagra Maharashtra". Unpublished Ph. D Thesis, Savitribai Phule Pune University.
- 9. Gadekar Deepak Janardhan (2016) Regional Disparities of Agricultural Development in Ahmednagar District, MS, India, International Journal of Research in Social Sciences, 6(8), 389-403.
- 10. Giri Sanjay Pralhad (2020), Level of Development In Tribal Area-A Case Study of Akole Tehsil, Ahmednagar District, Maharashtra State, India. Mukt Shabd Journal, Volume IX, Issue VIII Pp 297-306
- 11. Jabir Hasan Khan, Nisar Ahmed and Shamshad (2013), A geographical Analysis of Availability of Amenities in Scheduled caste Households in India, American International Journal of Research in Humanities, Arts and Social Sciences, 4(1) 56-65.
- 12. Jafar Aghajani (2017) Impact of geographical information system on public health sciences, Biomedical and Biotechnology Research Journal (BBRJ) | Published by Wolters Kluwer Medknow 1(2) 94-100. DOI: 10.4103/bbrj.bbrj\_34\_17
- 13. Joseph Maina and Paul O. Ouma (2019) A spatial database of health facilities managed by the public health sector in sub Saharan Africa, Scientific Data 6 (134) Pp 1-8 doi .o rg/10 .10 38/s41597-019-0142-2
- 14. Kalpana Vamanrao Palghadmal (2022) Variation of Flora in Ahmednagar District, Maharashtra, India, International Journal of Food and Nutritional Sciences, 11(11) 73-78
- 15. Kharde M. N (2022) Agricultural area and Food Nutrition in Akole tehsil, Ahmednagar District of Maharashtra State, India, India International Journal of Food and Nutritional Sciences, 11 (11) 1067-1076
- 16. Koutelekos J., Geographic Information Analysis And Health Infrastructure, Health Science Journal, 3
- 17. M.E. Shejul (2020) Temporal Analysis of Human Resources Development (HRD) in Pathardi Tehsil of Ahmednagar District, Maharashtra State, India, International Journal of Scientific Research in Multidisciplinary Studies Vol.6, Issue.8, pp.34-38
- 18. Mulla I.A (2014), Health care infrastructure and medical facilities, A case study of Haveri District, Indian Streams Journal, 4(2) Pp 1-5.
- 19. P.H Mhaske et al.(2011), Land Use & Economic Activity in Shirdi. Rahata Taluka, District Ahemadnagar M.H, International Referred Research Journal, Research analysis and Evaluation, Vol. 2, Issue.18, pp.75-76,
- 20. Pandit Anand P, Aher A.B and karale M.R (2013), Analytical study of social amenities and Rural Development A case study in Shrigonda Tahsil of Ahmednagar District (M.S.) Indian Streams Journal, 3(1) Pp 1-12
- 21. Rede H.N(2012), A study of spatial distribution of health care facilities Osmanabad District, Indian Streams Journal , 2(11) Pp 1-6.
- 22. Rounaq Basu and Arnab Jana (2016), A Health Care Facility Allocation Model for Expanding Cities in Developing Nations: Strategizing Urban Health Policy Implementation, Appl. Spatial Analysis, Springer Science+Business Media Dordrech. DOI 10.1007/s12061-016-9208-0
- 23. S.D Gulave (2020), "Use of Landsat ETM+ Data for Delineation of Vegetation Cover Area in Akole Thasil", International Research Journal of Engineering and Technology, Volume 7, Issue 2, pp.57-61.
- 24. Salunkhe J.B, Kalgapure and Salunkhe (2013), Medical Facilities in solapur District, Indian Streams Journal, 3(11) Pp 1-3.

## ٢

## SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online) EPRA International Journal of Research and Development (IJRD) Volume: 9 | Issue: 3 | March 2024 Volume: 9 | Issue: 3 | March 2024 - Peer Reviewed Journal

- 25. Shanmathi Rekha et,al (2017) Accessibility Analysis of Health care facility using Geospatial Techniques, Transportation Research Procedia 27, 1163–1170
- 26. Shejul M. E et al., (2020) "A Geographical Study of Human Resources Development in Ahmednagar District, Maharashtra, India". EPRA International Journal of Multidisciplinary Research, vol., 6 Issue. 03 pp 86-93. doi.org/10. 3671 3/epra4116
- 27. Shejul M. E, "Level of Human Resources Development A Conceptual and Review Exposition", International Journal for Research in Applied Science & Engineering Technology, vol.8, Issue 03, pp.687-691. 2020.doi.org/10.22214/ijraset.2020.3130
- 28. Sonawane V. R. et., al. (2020), "A Geographical Study of Crop Combination in Tribal Area of Nashik District, Maharashtra, India". Studies in Indian Place Names, Vol., 40 Issue 3, pp.3915-3940.
- 29. Sonawane V. R. et., al. (2020), "Analysis of Chemical Properties of Soil under Sugarcane Crop: A Case Study of Khandala, Shrirampur, Ahmednagar District, Maharashtra State, India". Our Heritage Vol. 68, Issue, 30, Pp.6522-6547.
- 30. Vasudev S Salunke et., al. (2020) Application of Geographic Information System (GIS) for Demographic Approach of Sex Ratio in Maharashtra State, India, International Journal for Research in Applied Science & Engineering Technology, 8(11) Pp 259-275. doi. Org /10.22214/ijraset.2020.31722