The relevance of Urban Spatial Elements to the Environmental Aspects and Health Risk Factors of Children in Nashik City, Maharashtra

Dr. R. A. Jadhav
Assistant Professor, Department of Geography,
S. P. H. College, Malegaon, Nashik, Maharashtra.
Dr. D. A. Pawar
Assistant Professor, Department of Geography,
S. P. H. College, Malegaon, Nashik, Maharashtra.

Abstract
Health problems in cities invariably associated with close environmental conditions. Relating to urban context, the town contains double burden unwellness additionally to infectious diseases additionally as for chronic diseases as a result of life's pattern within the city more and more exacerbating. Environmental risk factors area unit related to the kind of diseases. Hence, in realization, these many varieties of diseases aren't comparable and proportional to the amount and coverage of health services. Above all children's health, their growth is extremely sensitive to environmental exposures. Therefore environmental factors may well be the necessary aspects that think about with the youngster's activities. At least, it happened in Nashik town, one in every of the center town was on the brink of the capital town of country. Through this analysis, we'd wish to see the connectedness of urban spatial parts particularly the environmental aspects with the health risk factors of kids compared to the amount of health services and their coverage. Besides, we'll conjointly conduct spatial mapping of Nashik town against the danger factors of children's health within the urban setting. The methodology that we tend to used was a mixed-method between qualitative through fortification and quantitative as well as GIS. supported the findings, it's glorious that the health risk as well as youngsters thanks to the decrease of environmental character in Nashik is split into 3 categories that area unit dominated within the unsound category. However, health facilities like hospitals, tiny hospitals' treatment services area unit low in coverage. This means that there is less integration between the spatial characteristics of the region and concrete designing specifically related to health problems.
Keywords: Health risk, Children, Nashik, GIS, Environmental Risk.

1. Introduction
As a town demanded to be vivacious, transformations that occurred area unit typically caused by dynamical demands and conditions of town inhabitants. The changes can be positive or negative ones. The best identification to support that statement is that the development of infrastructure, that indirectly affects the health standing of its voters, whether or not sensible or dangerous. The health standing of an individual or perhaps a community is that the results of the interaction of assorted factors, each internal and external factors from humans themselves. This internal issue consists of physical and social parts. An external factor contains varied factors like social, cultural society, environment, politics, economics, education, and so on. Interactive relationships between humans and their behavior influence doubtless dangerous environmental elements, conjointly called the method of unwellness incidence. Meanwhile, the method of unwellness incidence with one another has its characteristics. During this case, environmental factors play

a very necessary role. Human interaction with the setting has caused contact between germs and humans. Often, the germs that sleep in the host body then migrate to humans as a result of humans aren't ready to keep the setting clean. This is often mirrored within the high incidence of environment-based diseases that area unit still the largest pathological state of town inhabitants. To cut back the health issues caused by environmental unwellness is to set up and implement region-based disease management.

Most of the discussions during this paper area unit regarding urban health the deciding issue to be thought of is that the environmental health of the town. The impact of manufacture within the kind of exposure to pollution, misuse of innovation, and technology up to environmental threats adds health risks to town dwellers. Lack of public awareness thanks to the dynamic and air mass of town life causes the unwellness is additionally glorious at the stage that's already acute. Generally, as a result of the character of urban society is dynamic and contains a heap of harmony to the action of health is curative instead of preventive. Urban setting studies play a vital role in minimizing public health risks as well as kid health. It leads a lot of analysis to address several issues in Indian cities like Nashik that contains a combination of vectors, atmospheric condition, and also the affiliation of native setting and human behavior that triggers the fast unfolds of epidemics of infectious diseases. Youngsters become the media most in danger of exposure to diseases caused by environmental factors like poor sanitation, poor water quality to pollution. The town conditions in such how a threat to the health of kids is starting from looseness of the bowels, infection, skin diseases, and alternative infectious diseases. Thus through this paper, we wish to contribute to the spatial pattern of health standing cities like Nashik. It means that to convey the characteristics of area that area unit a risk to the child's special health. We tend to selected Nashik town to check a lot of deeply as a case study.

2. Methodology

In this analysis, we tend to use many approaches to underpin the belief of the findings. Supported the thought we tend to had, we tend to accustomed as fond to gather and analyzed the information. The approaches incorporate qualitative and quantitative techniques. It makes data from information aggregation may well be wide and depth furthermore. Moreover, the information aggregation and analysis square measure per residential zones.

In the Nashik case, we decide eleven zones to incorporate Ambad, Gangapur road, Wadala, Nashik Road, Hirawadi, Indhira Nagar, Nimani-Dindori Road, Panchvati, Old Nashik, Dwarka, and Adgaon. These eleven zones are going to be in the raw with many abstraction topics associated with health problems like potential illness or health services at town scales.

We collected the tabular and abstraction information to counterpoint the article with visualization. Every information during this analysis square measure the first and secondary sources, supported the report literature and fortification.

3. Environmental Risk to Health

Health standing in one town is incredibly littered with the physical surroundings. The higher is that the surroundings condition that the healthier those who lived on that. It's supported empirical studies on the affiliation between the health standing and also the condition of the surroundings. The connections square measure shown by the menstruation of human perform physically, mentally, showing emotion, and socially. It's been indicated from lifetime, physical incapacity, and mental incapacity, social behaviors, self-reported feelings concerning one's health, presence of illness, and assessed emotions

Furthermore, we will check the weather that confirm health standing incorporates health as physical, mental (psychic), and social well-being. The environmental risk happens once physical and socio-cultural conditions have an effect on human lives. Several environmental parts have an effect on health, like sanitation, violence, sunlight, employment opportunities, population density, and pollution. The surroundings have the foremost powerful result on health. Not solely the natural physical surroundings however additionally the synthetic engineered surroundings like park, personal and public building. The standard of building materials and instrumentality varies greatly which provides healthy living surroundings probably harmful. Staying in such a living surroundings lurking high levels of dangerous environmental factors for an extended time become a difficulty notably children's health issues that require attention. The environmental parts square measure the last word factors that outline children's health. Important things thanks to access to drinkable water, disposition, and housing conditions square measure the factors of exceptional morbidity and mortality of youngsters within the town. The approach of Environmental Risk Health Assessment was the most effective option to show the environmental standing which will be risked to ruin one's health condition.

Factors that use to be because the indicator of Environmental Risk Health Assessment in Nashik like waste disposal management, clean water existences, sanitation condition, settlement drain till hygiene behavior of Nashik's residents. This assessment additionally inserts on the indicator that is that the prevalence of symptom illness within the kid. These factors created a comprehensive approach in terms of surroundings profile.

4. Developments in Nashik and its Impact to Health Condition

Massive developments that happened in cities trigger the nation's growth. Nashik is one among the metropolitan cities that has Maharashtra's Megacities. Nashik definitely besieged and encompasses a vital impact like a rise in population. Youngster age is kind of at risk of the kind of illness either contagious or not contagious. Supported patient information in hospitals at Nashik town in 2019, for age <1 year URI (Upper tract Infectionsuffered) suffered by thirty second, followed by influenza (19%) and eczema (12%). Most of the diseases suffered by youngsters 1-4 years were URI the maximum amount as fifty one, symptom (13%), and febris (9%). information from Govt. Clinics (Health Public Center) showed that almost all of the illness suffered by youngsters <1year was URI of twenty eighth, nasopharyngitis (27%), and cough (11%). Most of the diseases suffered by youngsters aged 1-4 years were URI the maximum amount as half-hour, nasopharyngitis (23%), and cough (14%).

In Nashik, infants and toddlers also are at risk of alternative infectious diseases, some probably infectious diseases to infants and toddlers square measure dandy fever, diarrhea, leprosy, pneumonia, diphtheria, tetanus, measles, hepatitis, pertussis, and acute anterior poliomyelitis. The contagious with un-contagious were typically lead infants to the deadly attack. The death rate in Nashik town is moderate.

Impact to Health Condition

Metropolitan cities, therefore Nashik had a control on Maharashtra's development mechanically. However, the densest one is within the middle of Nashik. The speedy changes are shown from the composition of land uses that are developed in Nashik. The settled square measures are dominated the land use map for the last a pair of decades. Exploitation due to development ablated the standard of surroundings these things cause a negative impact. This result additionally strengthens the finding from the environmental health risk assessment map. It concludes the middle space of Nashik that is recent Nashik, Wadala, and Panchvati was within the category of unsound zones exposed by the environmental degradation.

Table 1: Infant Mortality Index by Zones year 2019-2020

No	Zones	Infants Deaths (per 1000 live births)	Mortality Index
1	Panchvati	13	Very High
2	Hirawadi	3	Low
3	Indhira Nagar	5	Moderate
4	Wadala	14	Very High
5	Nashik Road	6	Moderate
6	Adgaon	3	Low
7	Gangapur road	0	Low
8	Old Nashik	14	Very High
9	Nimani-Dindori Road	5	Moderate
10	Dwarka	12	Very High
11	Ambad	6	Moderate

Source: Health department Nashik Municipal Corporation

Due to the densest district in Nashik, Old Nashik and Dindori Road have the largest slum area. The data from Settlement and Housing Agency Nashik stated that almost 6 percent of Old Nashik is slum and squatter. Even though the percentage is small but it is the highest number among the whole city in Nashik. The characteristics of slum areas contribute to the high risk of environmental health. Although it is not automatically related to health issues,daily practices tendentious to have un-hygienebehavior. So, it affects the exposure having the disease.
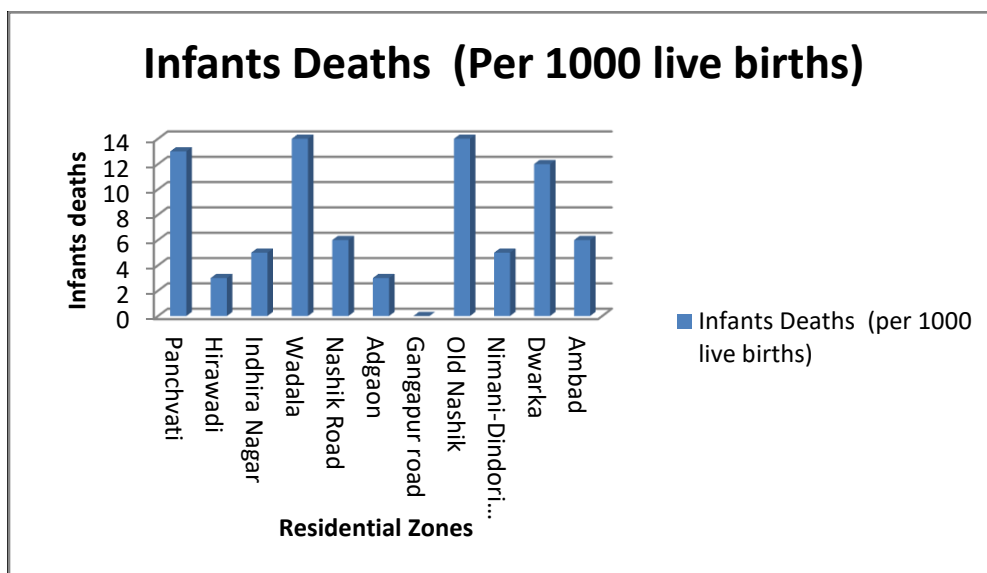
Infants Deaths (Per 1000 live births)

Fig. 1: Infant Mortality Index by Zones

Nashik Health Data in 2019 states that the coverage of healthy homes in Nashik has reached 85.93%. Community access to clean water is filled from groundwater and Water Supply from the municipality. Residents who have access to clean water use health standards as much as 74%. Fulfillment of sanitation (latrines) healthy in Nashik declared feasible as muchas 73.5%. In addition to the environmental factors ofsocial behavior also affect the health status of society. The coverage of clean and healthy households in Nashik city by 2019 is 77.5%.

5. Health Infrastructure Service in Nashik

Nashik is that the fourth largest town in geographic area in terms of population once urban center, Pune, and Nagpur. Per the Census of Asian country, 2011, Nashik had a population of one, 486,053. Males represent 782,517 of the population and females 703,536. The Metropolitan Nashik population was one, 561,809 during which 821,921 were males and 739,888 were females. This variety is large enough for a developed town like Nashik. Consequently, enough public facilities square measure required to be fulfilling for way of life. This additionally includes health facilities and infrastructures. However, the actual fact isn't as correct because the designing. The amount and distributions of health facilities were enough for the present condition however still failed to meet the perfect condition. It exacerbated for illness impacts exposure. The symptom already occurred once environmental risk is high and it ought to treat as shortly as potential by the health services. This role ought to be taken by the govt. or personal sector to supply hospitals, clinics, and health centers. Moreover, youngsters because the most vulnerable exposed by this risk would like special treatment to contend with the environmental degradation.

Table 2. Public Health Care Service by District

Sr.No.	Zones	Health Care Service Centers	Percentage of Settlement (%)
1	Panchvati	3	10.8
2	Hirawadi	2	6.92
3	Indhira Nagar	2	8.8
4	Wadala	3	13.73
5	Nashik Road	2	4.9
6	Adgaon	2	3.92
7	Gangapur road	1	2.96
8	Old Nashik	6	15.61
9	Nimani-Dindori	4	11.76
10	Dwarka	3	10.7
11	Ambad	2	9.9

Source: Health department Nashik Municipal Corporation

Based on the table on top of describes that recent Nashik has the most important variety of health infrastructures. Not solely in an exceedingly matter of quantities however have additionally had the entire vary of services from Public Health Services and Hospitals. Hospital because the first-grade health services centralized in Gangapur, Nimani, and Dwarka as seen within the distribution. From the table on top of we will additionally see the distribution either disperse or centralized at few places.

6. Health Risks Status of Nashik

Discussing in terms of health status, we must have a comparison analysis between the problems and potential solutions. In this context, problems will be the environmental risk that affects health and the other side potential solution will be the health services facilities.

Table. 3 Health workers and health risk comparison

Zones	Settlement (%)	Slum(%)to total city Settlement	Environme ntIndex	Infant Mortality	Health Cares(%)	Health Workers(%)	Distribution of HealthCares
Panchvati	10.8	1.20	High Risk	Very High	11.76	8.22	Disperse
Hirawadi	6.92	-	High Risk	Low	3.92	1.86	Rare
Indhira Nagar	8.8	-	Very High Risk	Moderate	13.73	18.55	Centralized
Wadala	13.73	0.40	High Risk	Very High	3.92	1.24	Disperse
Nashik Road	4.9	2.73	Very High Risk	Moderate	11.76	14.40	Disperse
Adgaon	3.92	4.82	High Risk	Low	9.80	3.36	Disperse
Gangapur road	2.96	-	Low	Low	19.61	21.20	Centralized
Old Nashik	15.61	5.82	Very High Risk	Very High	9.80	2.74	Disperse
Nimani-Dindori Road	11.76	3.87	High Risk	Moderate	9.80	14.75	Disperse
Dwarka	10.7	2.94	High	Very High	1.96	1.24	Rare
Ambad	9.9	-	High	Moderate	3.92	12.46	Rare

Source: Health department Nashik Municipal Corporation

Based on the image on top of the very best variety of medical examiners and practitioners were in Gangapur Road and recent Nashik. Each of those spaces have a similarity that dominated by settlement area. Although, the distinction between them is related to environmental risk exposures. Recent Nashik encompasses a high rank of health harmful, in the meantime Gangapur Road slightly below for the risks. The most effective one is Hirawadi and Adgaon, with an occasional risk of environmental harmful however it's a moderate variety of medical examiners and practitioners.

To add up the findings, we will classify into 3 categories relating to the health and environmental standing among eleven residential zones in Nashik. The 3 categories in districts can be:

1. Manageable however unsafe incorporates Ambad, Nimani-Dindori road, Hirawadi, Nashik Road, and Indhira Nagar.

2. Manageable incorporates Gangapur Road, Adgaon

3. Uncontrollable and risky incorporates recent Nashik, Wadala, Dwarka, and Panchvati

The manageable however unsafe suggests that, the zone has already enough modal to manage the health problems albeit the harmful potentialities from the environmental degradation still wide open. Nashik has five zones during this class.

The Uncontrollable and risky are going to be the worst case. Double burden problems like fewer health services combined with the unsound environmental degradation. Nashik has four districts during this class

The last ought to be the most effective one is that the manageable. It suggests that the amount of health services is enough compare to the low risk of health problems. Within the Nashik case, there square measure solely a pair of districts during these categories.

7. Conclusion

Based on the findings, it's illustrious that the health risk together with youngsters thanks to the decrease of environmental character in Nashik is split into 3 categories that square measure a vicinity with manageable however risky standing, district with manageable standing, and district with the unmanageable and risk standing. This means that there's less integration between the abstraction characteristics of the region and concrete designing specifically associated with health problems.

8. References

1. Bawdekar, M., & Ladusingh, L. (2008). Contextual correlates of child malnutrition in rural Maharashtra. Journal of Biosocial Science, 40(5), 771.
2. Bhamare, V. N. Solid Waste Management through Community Participation in the Urban city of Nashik. THE KONKAN GEOGRAPHER Vol. No. 05 Nov. 2013 ISSN 2277–4858.
3. Coyne, I. (2006). Consultation with children in hospital: children, parents' and nurses' perspectives. Journal of clinical nursing, 15(1), 61-71.
4. Deshpande, S., Hattangadi, V., Obla, H., Mohan, B., Jadhav, N., Tawade, S., & Pillai, A. (2017). Healthcare Challenges in Rural India. Indian Journal of Public Health Research & Development, 8(4).
5. Duggal, R., Dilip, T. R., & Raymus, P. (2005). Health and Healthcare in Maharashtra. A Status Report by Cehat (Centre for Enquiry into Health and Allied Themes) p, 15.
6. Ghoshal, A., Talawadekar, P., Palleri, A., Marston, J., & Muckaden, M. (2018). Impact of educational training in improving skills, practice, attitude, and knowledge of healthcare workers in pediatric palliative care: Children's palliative care project in the Indian state of Maharashtra. Indian journal of palliative care, 24(4), 411.
7. Katsaliaki, K., & Mustafee, N. (2011). Applications of simulation within the healthcare context. Journal of the operational research society, 62(8), 1431-1451.
8. Maji, K. J., Dikshit, A. K., & Deshpande, A. (2016). Human health risk assessment due to air pollution in 10 urban cities in Maharashtra, India. Cogent Environmental Science, 2(1), 1193110.
9. McDonald, L. C., Gerding, D. N., Johnson, S., Bakken, J. S., Carroll, K. C., Coffin, S. E.,& Wilcox, M. H. (2018). Clinical practice guidelines for Clostridium difficile infection in adults and children: 2017 update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA). Clinical Infectious Diseases, 66(7), e1-e48.
10. Ninis, N., Phillips, C., Bailey, L., Pollock, J. I., Nadel, S., Britto, J., ... & Levin, M. (2005). The role of healthcare delivery in the outcome of meningococcal disease in children: a case-control study of fatal and non-fatal cases. BMJ, 330(7506), 1475.
11. Sonowal, C. J. (2011). Factors Affecting the Nutritional Health of Tribal Children in.
12. YOGESH, S. (2018). A STUDY OF PROBLEMS AND PROSPECTUS OF SLUM DWELLERS IN NASHIK MUNICIPAL CORPORATION AREA A SOCIOLOGICAL ASPECT.