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Socio-Economic Vulnerabilities and Healthcare Access in Bengaluru's Slums: A Focus on Eye Health

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Abstract

Rapid urbanization in Bengaluru has led to a rise in slum settlements, where nearly 16 per cent of the city's population resides. Many of them remain unrecognized, lacking essential services such as proper housing, sanitation and healthcare. The burden of inadequate living conditions contributes to poor health outcomes. Limited access to affordable healthcare, particularly eye care, further exacerbates these challenges. This study assesses the socio-economic vulnerabilities of slum residents, with a focus on healthcare accessibility and eye health conditions. A mixed-methods approach was employed, combining primary and secondary data sources. Geographic Information Systems were used to map 218 slums, assessing their infrastructure and access to services. A Vulnerability Index was developed based on socio-economic parameters. Surveys and health assessments were conducted to assess healthcare needs and barriers, particularly those related to vision impairment. The study reveals stark inequalities in slum conditions with inadequate housing, poor sanitation and limited access to clean water. Healthcare services, particularly eye care, remain inaccessible due to financial constraints and lack of awareness. A high prevalence of non-communicable diseases and vision impairments was observed, despite the presence of private eye care facilities. Findings highlight the urgent need for targeted interventions in slum healthcare. Policy recommendations include strengthening community-based healthcare programmes, enhancing government support and promoting awareness campaigns for eye health. Leveraging GIS and socio-economic data can aid in designing inclusive, sustainable healthcare strategies for marginalized urban population.

Key words- Healthcare, slum mapping, vulnerability, urban eye health.

I. Introduction

Urbanisation is an evolutionary phenomenon that presents both opportunities and challenges for the future. It refers to the large-scale movement of population from rural to urban areas, accompanied by significant physical and infrastructural changes in urban settings. According to the United Nations (2019), more than half of the world's population—4.2 billion people—currently resides in urban areas, a number projected to rise to 6 billion by 2041, highlighting the accelerating pace of urbanization globally (UN, 2019). However, this rapid urban growth has also led to the proliferation of slums, defined by the United Nations Expert Group (2002) as human settlements characterized by inadequate access to safe water, sanitation and infrastructure; poor housing quality; overcrowding; and insecure residential status (UN Habitat, 2003). Recognizing the challenges faced by slum dwellers, several United Nations Sustainable Development Goals (SDGs) address their needs, including Goal 11 (Sustainable Cities and Communities), Goal 3 (Good Health and Well-

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Being), Goal 6 (Clean Water and Sanitation) and Goal 9 (Industry, Innovation and Infrastructure) (John, F., 2020).

Despite the promise of urban development, studies such as those by Philippe Bacquier (2008) reveal that urban dwellers often suffer more than their rural counterparts due to poor living conditions. In India, the urban poor, particularly those in slums, lack equitable access to basic health services and government-provided curative care during illness (Banerjee, A. et al., 2012). Within this context, Bengaluru, a rapidly expanding city in Karnataka, attracts a large number of migrants from surrounding rural areas (KSDB, 2019). While the Karnataka State Slum Development Board (KSDB) recognizes approximately 600 urban slums in Bengaluru, informal estimates suggest the number could be as high as 1,600–2,000, including non-notified slums that lack formal recognition and access to essential services (KSDB, 2019).

Approximately 16 per cent of Bengaluru's population lives in slums, representing a substantial and vulnerable segment. As highlighted by Supriya Roy Chowdhury, Bengaluru's urban poor can be divided into the "old poor" and the "new poor" (TOI, 2021). The new poor, including migrants and workers in the Ready-Made Garments sector, often reside in non-notified settlements, excluding them from slum development policies despite access to general welfare benefits like the Public Distribution System and free schooling. This exclusion underscores a critical gap in addressing urban poverty. A study on the Devarajeevanahalli slum revealed precarious socio-economic conditions, with only a third of residents having access to public food and health insurance. Poor living conditions, including lack of clean water and sanitation, contribute to significant health issues with one in three residents reporting illness and half of adult deaths occurring between the ages of 20 and 59 (George, et al., 2019). Addressing these disparities requires a multi-faceted approach, including improved healthcare access, health awareness campaigns and targeted interventions.

Blindness and vision impairment are among the most pressing health challenges in these underserved communities. These conditions are exacerbated by poor living conditions, limited access to healthcare and a lack of awareness about eye health. The World Health Organization (WHO) has emphasized the importance of integrating eye health into primary healthcare systems, proposing the use of peripheral health facilities to deliver services to the marginalized population. However, establishing such facilities in urban slums is particularly challenging, as many slums are considered illegal settlements (WHO, 2011; Chande, et al., 2015). This creates a significant barrier to addressing preventable and treatable eye conditions such as cataracts, refractive errors, and infectious eye diseases, which are prevalent in slum population.

To address these challenges, the present study was designed to provide a comprehensive understanding of the socio-economic dynamics within slum communities in Bengaluru. It focuses on key aspects such as access to essential services, livelihood conditions, educational attainment and healthcare accessibility. The findings from this Slum Mapping Study will serve as a foundation for informed decision-making, enabling the Sightsavers India's urban eye healthcare initiatives. By analyzing the spatial distribution and socio-economic characteristics of these settlements, interventions can be tailored to effectively address the eye health needs of this underserved population. This includes improving access to eye care services, raising awareness about eye health and integrating eye health into broader urban development programmes.

II. Data and Methods

The study employed both primary and secondary data to assess slum conditions in Bengaluru. A desk review was conducted, gathering information on slum households, population, housing, and socio-economic conditions from government reports, census data, and existing studies. Primary data collection was carried out during March–April 2024 using a mixed-method approach, combining quantitative and qualitative techniques. Structured checklists and standardized

questionnaire were used to assess infrastructure, amenities, and living conditions, including access to education and healthcare.

Study sites were prioritized based on their proximity to slum communities. Additionally, Key Informant Interviews (KIIs) were conducted with relevant stakeholders to gain deeper insights and validate the findings. Geographic Information Systems (GIS) technology was utilized to map slum locations, integrating satellite imagery with on-site survey data.

Study area and respondents

The survey focused on slum areas within Bengaluru city, selected on the basis of their high population density and inclusion of vulnerable segments of the population. Out of 542 slums, 218 slums with a population of 1,000 and above were included in the study. The study respondents included stakeholders with in-depth knowledge of the slum areas such as community leaders, housing/urban development personnel, public health representatives, social workers, local government officials, business representatives, NGO representatives and healthcare professionals. A purposive sampling technique was used to select respondents from each slum area.

Method of data analysis

Vulnerability Index

To better understand the characteristics of slum areas, a comprehensive vulnerability assessment was conducted. The Vulnerability Index was developed using nine components across the following dimensions:

1. Industry and Employment.
2. Housing and Sanitation.
3. Poverty and Unemployment.
4. Healthcare and Quality of Facilities.

These components served as proxies for factors influencing slum development. The overall vulnerability score was calculated by aggregating scores from the four primary dimensions and combining them with population density data.

Table 1: Dimensions and components included in the vulnerability index

Dimensions	Components
Industry and Employment	1. Slums surrounded by industrial areas. 2. Informal employment being as the primary category of work.
Housing and Sanitation	1. Non-permanent housing structure. 2. Community toilets and no toilets. 3. Accessed Sanitation facility at somewhat and no extent.
Poverty and Unemployment	1. Poverty reported as social issue. 2. Unemployment reported as social issue.
Healthcare and Quality of facilities	1. Healthcare facilities or clinics available within settlement. 2. Healthcare accessibility in settlement.

Methodology for Calculating the Vulnerability Index

The overall Vulnerability Index was calculated using a combination of survey data and Census information. Data from the survey and Census were exported to Excel, where percentile ranks were calculated for each dimension using the formula below:

$$P = \frac{\text{rank} - 1}{N - 1}$$

Where, P was the percentile rank, and N was the total number of respondents (218).

A higher percentile rank indicated greater relative vulnerability, with 1.0 denoting the most vulnerable and 0.0 the least vulnerable. The overall vulnerability score was derived by aggregating scores from the four primary dimensions and integrating population density data from the Census 2011 *(see appendix 1).* The vulnerability index was calculated by referring to methodology developed to construct Social Vulnerability Index (SVI) for each census track in the USA (Flanagan, et al., 2011) and vulnerability index for the management of and response to the COVID-19 epidemic in India (Acharya, R. and Porwal, A., 2020).

After calculating the percentile ranks, the contributing factors were aggregated to compute a composite vulnerability index. The results were classified into four categories for clearer visualization and interpretation:

- Low (Green), (0.000- 0.250)
- Moderate (Blue), (0.251-0.500)
- High (Yellow), (0.501-0.750)
- Critical (Red), (0.751 -1.000)

III. Results

Socio-demographic profile of study participants

The study was conducted across 218 slums in Bengaluru city, where we interacted with one respondent from each slum (totalling 218 respondents). These respondents included community leaders (40.8%), departmental representatives (35.8%), community health workers, social workers, volunteers and others with in-depth knowledge of their respective slums. Out of the total respondents, 97 per cent (211) were male, while 3 per cent (7) were female. Mostly (65%), Kannadigas followed by Tamilians (27%) were residing in the slums. The level of educational attainment among residents was categorized as Low, Moderate or High. Low indicated basic education or incomplete primary education, Moderate suggested completion of primary and some secondary education and High signified completion of secondary and higher education degrees. Over 60 per cent of the slums had a low level of educational attainment among the residents, highlighting the need for improved educational infrastructure and resources. Approximately 45 per cent of the slum residents were engaged in formal employment such as office or government jobs, while 40 per cent were involved in informal occupations like street vending or domestic work. Additionally, around 14 per cent were self-employed (Table 2).

Characteristics of Slums based on the response received from the study participants

The study was conducted across 218 slums in Bengaluru, where we found out the current situation of the slums and challenges faced. Through our survey, we could collect information and insights about the characteristics of slums. It included type of housing structure in the slums, availability of water supply, toilet facilities, accessibility of health care services and eye health services, and areas surrounding the slums locality (Table 3).

Table 2: Percentage distribution of the respondents by their background characteristics, Bengaluru city, 2024

Background characteristics	%
Gender	
Male	97.0
Female	3.0
Type of respondents	
Community leader	40.8
Urban Development/Public health department Representative	35.8
Social worker/Community Health worker/ Volunteer	10.0
Others	13.3
Regional Identity	
Kannadigas	64.7
Tamilians	27.0
Others (Telugus/Marathis/ Malyalis/Biharis/Northeastern)	8.3
Level of education	
Low	64.2
Moderate	35.8
Employment	
Formal	45.0
Informal	39.9
Self-employment	13.8
Unemployment	1.4
Total (N)	218

Table 3: Characteristics of slums based on the response of the participant in Bengaluru city, 2024

Characteristics of slums	%
Type of housing structure	
Makeshift shelters	58.3
Temporary huts	17.4
Permanent houses	24.3
Availability of water supply	
Piped water	50.5
Hand pumps	23.9
Community taps	25.7
Type of toilet facilities	
Individual toilets	56.9
Community toilets	39.9
None	13.8
Access to sanitation	
Accessible	49.1
Somewhat accessible	50.0
Not accessible	0.9
Access to healthcare services	
Limited	78.9
Moderate	20.6
Adequate	0.5
Access to eye health facilities	
Private clinic	84.5
CHC/UPHC	10.2
Others (Pvt. hospital/optical shops/govt. hospitals)	5.3
Surrounding areas	
Residential	76.1
Commercial	15.6
Industrial	7.3
Institutional	0.9
Total (N)	218

As per findings (Table 3), 76 per cent houses in the slums were temporary and of poor quality, comprising makeshift shelters or temporary huts. Only 24 per cent were permanent houses. This indicated that the structure of houses was largely unsatisfactory and required improvement. Qualitative interviews revealed that most of the slum dwellers live in huts along with large family size which indicated densely populated slums. With respect to basic amenities such as water, half of the slums had access to piped water for their residents (50.5%). Approximately 26 per cent residents sourced water from community taps and 24 per cent relied on hand pumps. Despite the availability of piped water or community taps, water quality and scarcity remained pressing challenges for households in Bengaluru's slums.

Toilet and sanitation facilities were an important component for understanding the living conditions of slums. Findings suggested that in 57 per cent slums, individual toilet facilities were available, while 43 per cent had community toilets for residents. Regarding sanitation accessibility, 49 per cent surveyed slums reported easy access to facilities, while 50 per cent mentioned somewhat accessible sanitation facilities. However, cleanliness and hygiene were not adequately maintained highlighting the need for improvement in toilet and sanitation facilities. Other challenges faced by slum areas included social issues such as unemployment, poverty and crime. Among health issues, non-communicable diseases like hypertension, diabetes and stroke were identified as significant health concerns. Cataract, predominantly among the elderly population, was highlighted as a pressing health issue. Healthcare facilities or clinics were available in most of the slums, while few of them lacked them. Despite availability, access to healthcare services were limited and the reason reported for the inaccessibility was inability to afforest medical expenses.

Additionally, qualitative findings indicated lack of awareness regarding vision health among slum residents, coupled with financial constraints, resulting in children facing educational challenges. To address this issue, government schools should incorporate eye care awareness camps for both students and their parents.

Findings suggested that a majority of the slums had access to eye healthcare services primarily through private clinics, optical shops or private hospitals. Most eye health services were accessed through private clinics (84.5%) while remaining were accessed through CHC/UPHC, private hospitals, optical shops and government hospitals. Access to government health facilities for eye care were relatively limited in the slums. Eye care services or facilities were available within a radius of three to five kms. in most of them. As per qualitative finding, an NGO - Health care professional said, *"We have big hospitals or eye care clinics located nearby the slums. But people are not financially strong enough to visit or consult these places."* Therefore, affordability remained a significant challenge regarding the use of these services.

Moreover, due to a lack of awareness, individuals tend to overlook minor health issues such as itching or blurriness in their vision. Hence, there should be concerted efforts to educate them about eye problems. Qualitative findings suggested that avoidable causes of blindness if not corrected result in vision loss. As mentioned by a medical officer, *"Eye health is important. Some people are blind since birth, but some people lose their eyesight because of deficiencies like Vitamin D, or some get cataract as they grow old."* Therefore, collaborative efforts between community health workers and public health officers (PHOs) to implement initiatives focused on improving eye health within the community such as camps for eye health check-up, treatment and awareness were found crucial. In addition, appointment of an eye specialist in slum areas was suggested to enhance the access to eye care services.

Furthermore, the surroundings of slums played a vital role in identifying the availability, accessibility and living conditions in the slum areas. As per our findings, majority (76%) of slums were situated amidst the residential areas and approximately 15 per cent were situated within commercial zones with no industrial activity. Most slums exhibited minimal to low interaction with local government authorities. Additionally, most slums lacked any form of collaboration or initiatives with local government entities aimed at improving living conditions. Conversely, only few of the

slums demonstrated evidence of either ongoing or past government interventions such as the urban poverty alleviation scheme, basic services for the urban poor (BSUP) and integrated development of small and medium towns (IDSMT). During qualitative interviews, an initiative concerning eye health was reported, wherein an eye specialist from a private facility visited the slum areas once a week to provide assistance and guidance regarding eye health. Therefore, considering the characteristics of slums, we could identify multiple challenges faced by slum areas which need to be strategically addressed for improving living conditions generally and eye healthcare specifically.

Category-wise Vulnerability Mapping of the localities

Mapping of household density: Household density vulnerability in slums was calculated using the population density (number of households per slum population), derived from Census 2011 data. The findings reveal that approximately 55 slums were classified as having a higher density, indicating "critical vulnerability," while another 54 slums were categorized as highly dense, signifying "high vulnerability (figure 1).

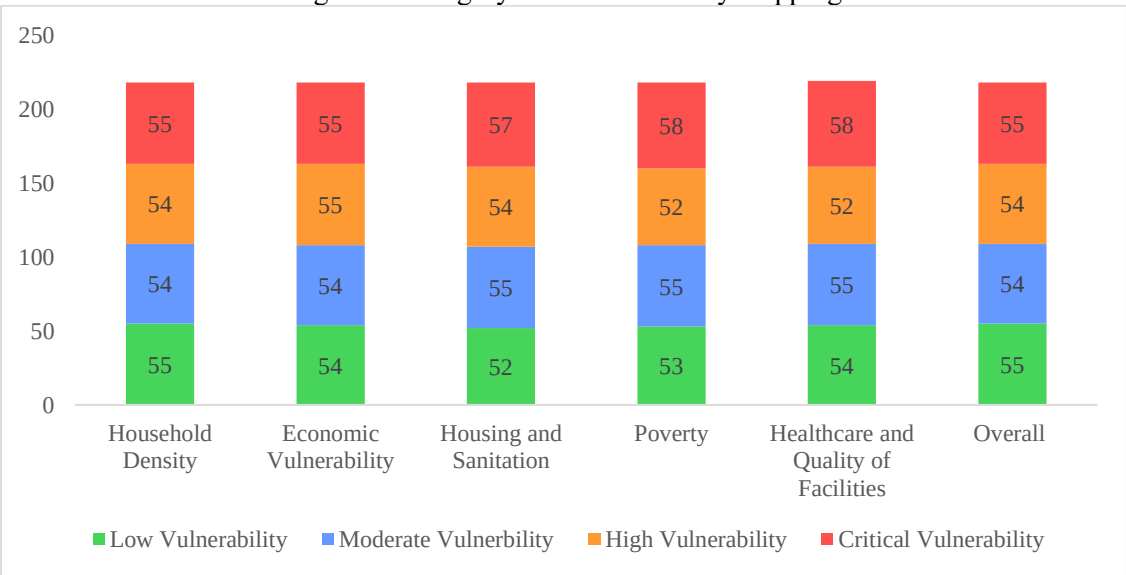
Mapping of economic vulnerability: Economic vulnerability was calculated by considering two aspects: industrial activities and employment patterns. These correspond to the questions, “Are slums surrounded by industrial areas?” and “Is informal employment the primary category of work for the majority in your settlement?” Based on these criteria, slums were classified for economic vulnerability. Out of the surveyed slums, over 100 were identified as being in the critical or high economic vulnerability category (figure 1). This indicates that these slums were primarily located near industries and rely heavily on informal employment.

Mapping of housing and sanitation vulnerability: Housing and sanitation vulnerability in 218 slums was assessed using three variables: “non-permanent housing structure,” “community toilets and no toilets,” and “access to sanitation facilities to a limited or no extent.” The mapping of housing and sanitation vulnerability in slums involved evaluating housing structures (non-permanent dwellings), toilet facilities (community toilets or lack thereof), and access to sanitation facilities (limited or no access). The results revealed that approximately 57 slums were deemed critically vulnerable, while 54 were classified as highly vulnerable, underscoring the urgent need for improvements in housing and sanitation infrastructure (figure 1).

Mapping of poverty in slums: The poverty and unemployment vulnerability index for 218 slums was determined using the categories of unemployment and poverty, addressing the social challenges faced by residents. The analysis reveals that around 58 slums were identified as critically vulnerable to poverty, with an additional 52 slum areas categorized as highly vulnerable. These findings underscore the pressing socioeconomic challenges within these communities (figure 1).

Mapping of healthcare and quality of facilities in slums: The healthcare and quality of facilities in 218 slums were assessed using two variables: “Healthcare facilities or clinics available within the settlement” and “Healthcare accessibility in the settlement.” Approximately 110 slums were classified as critically or highly vulnerable based on the presence and reach of healthcare facilities or clinics (figure 1).

Figure 1: Category-wise vulnerability mapping



Overall Vulnerability Index

The comprehensive vulnerability index for 218 slums, calculated by integrating individual scores for household density, industry and employment, housing and sanitation, poverty levels and access to healthcare, shows that 55 slums were identified as being in a critical situation across these dimensions, with an additional 54 slums exhibiting high vulnerability (figure 2).

Figure 2: Comprehensive Vulnerability Index for urban slums

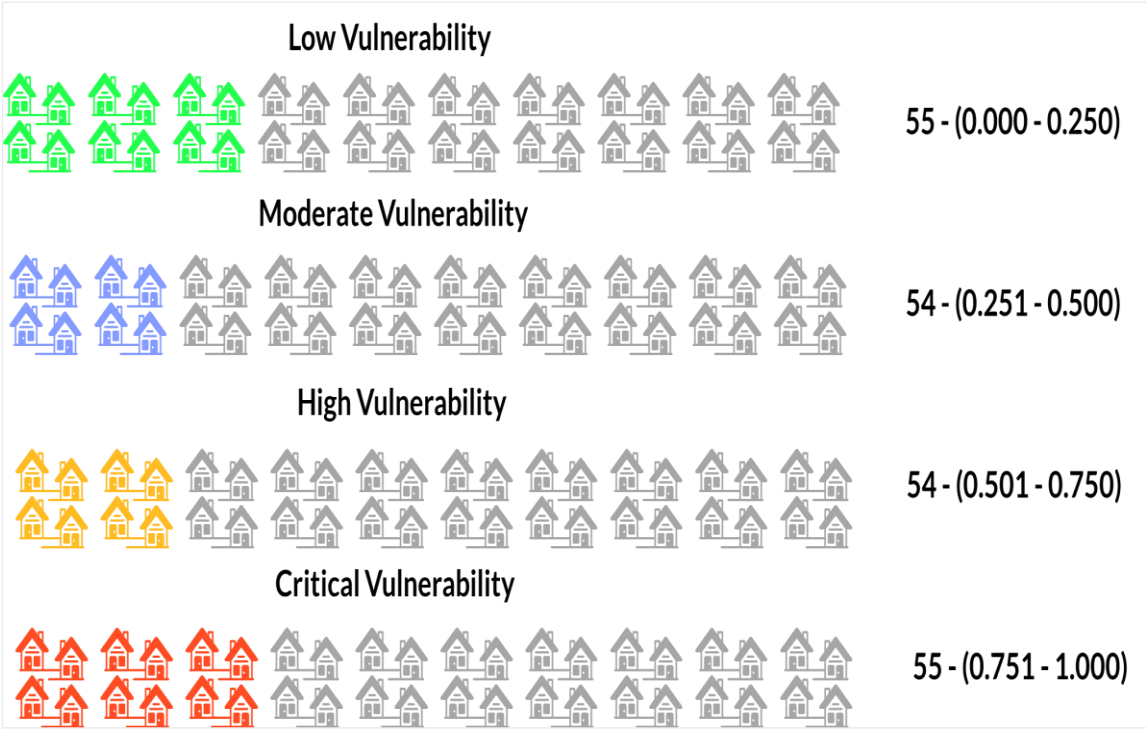
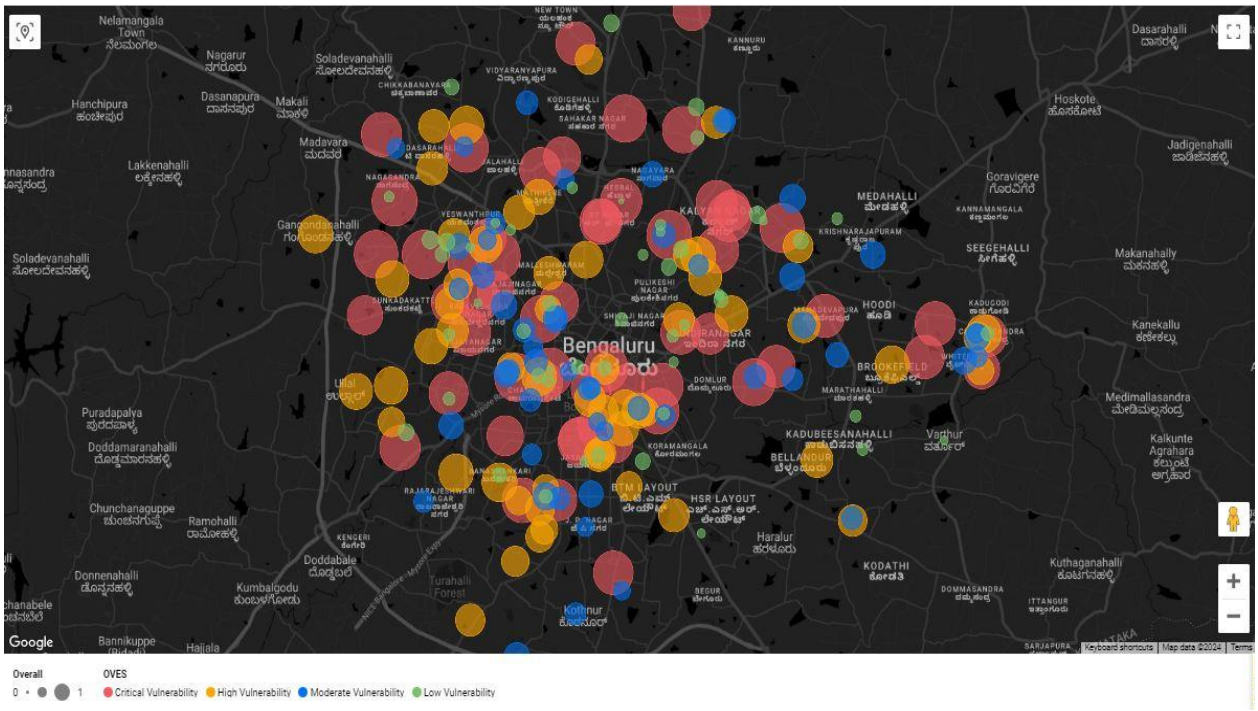


Figure 3: Mapping of overall vulnerability index for slums



IV. Conclusion and recommendations

The results of the Bengaluru slum mapping underscored the conditions and vulnerabilities prevalent in slum areas, encompassing aspects such as environmental surroundings, socioeconomic status, livelihood conditions, housing structures, infrastructure, healthcare facilities and accessibility. These insights will prove invaluable to Sightsavers in strategizing and executing interventions aimed at addressing eye healthcare needs within these marginalized communities. The assessment employed a mixed-method approach, incorporating desk review, key informant interviews and quantitative surveys, covering a total of 218 slum areas with population of 1000 and above.

The surveyed slum areas were primarily inhabited by Kannadigas, with a minority comprising of Tamil migrants. The educational attainment among slum residents ranged from low to moderate. While most slums were surrounded by residential zones, a few were situated near industrial areas. Over half of the residents were engaged in informal employment, self-employment or were unemployed. These findings starkly underscore the economic vulnerability prevalent in the slum areas. In the slums, housing structures were predominantly temporary and of substandard quality, accompanied by high population density. While slum residents had access to piped water or community taps, the adequacy and quality of water remained a significant concern. Similarly, while toilet facilities (both individual and communal) were available, issues regarding cleanliness and hygiene persisted. The residents of the slums cited unemployment, poverty and crime as the primary social challenges facing their communities. These findings emphasize the urgent socioeconomic issues prevalent within these areas.

While healthcare facilities were available in the slums, access to them remained a significant concern due to affordability issues. In terms of eye health, slum residents primarily depended on private facilities, as access to government health facilities for eye care was relatively limited. However, the affordability of accessing eye-related services in private facilities remained a major concern. Lack of awareness and insufficient attention were cited as reasons for slum residents tending to neglect eye health or overlook minor eye-related issues. To improve access to eye healthcare services, suggestions were made to organize eye care awareness camps for both students and their parents and in the community. Additionally, recommendations were put forward to facilitate

collaborative efforts between community health workers and public health officers to deliver eye health services within the community. The implementation of activities or actions aimed at improving living conditions or healthcare from Government was limited.

Overall, a majority of slum areas lack fundamental infrastructure and amenities, including essential healthcare and eye care services. The vulnerability index findings show that the slum areas require greater attention across various determinants such as household density, industry and employment, housing and sanitation, poverty and access to healthcare.

Recommendations for future action

To address the multifaceted challenges faced by slum communities, a comprehensive approach should prioritize (1) economic empowerment through skills training and vocational programmes to reduce informal employment, (2) educational support to uplift attainment levels, (3) housing upgradation for sustainable living conditions and (4) water and sanitation improvements to ensure basic hygiene. Healthcare access must be strengthened via (5) outreach programmes, mobile clinics and health education, (6) expanding government eye care facilities to tackle vision impairment and (7) targeted interventions to focus on critically vulnerable locations to maximize resource impact and enhance overall well-being.

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Appendices

Table 1: Final overall score (survey and census)

Slum name	Final score (our survey and Census)	Ranking based on prevalence	P=(rank–1)/(N–1)
Raj Gopalnagar Slum-13	3	164	0.751
Corporation Colony Slum-15	3	165	0.756
Vijayananda Nagar(Notified) Slum-16	3	166	0.760
Ward No 60	3	167	0.765
Kengunte Slum-27	3	168	0.770
Kundalahalli Colony Slum-33	3	169	0.774
Gangondanahalli Slum-37	3	170	0.779
Bangarappa Nagar-38	3	171	0.783
Jb Kaval Kammagondanahalli Slum-40	3	172	0.788
Sudhama Nagar Slum-48	3	173	0.793
Ksrtc Slum-58	3	174	0.797
Gandhipura Slum-65	3	175	0.802
Krishnananda Nagar (Notified) Slum-68	3	176	0.806
Bhavaninagara Slum-69	3	177	0.811
Muneshwara Block Slum-74	3	178	0.816
Rajajinagar Slum-76	3	179	0.820
Maruthi Nagar Slum-84	3	180	0.825
Farooquiya Nagar Slum-85	3	181	0.829
Mominpura Slum-94	3	182	0.834
Binnamangala Slum-97	3	183	0.839
Kamalanagar Slum-98	3	184	0.843
Nakkalbande Slum-100	3	185	0.848
Channasandra-101	3	186	0.853
Hombegowda Slum-104	3	187	0.857
Lbs Nagara Slum-112	3	188	0.862
A. K. Colony Slum	3	189	0.866
Vijayacollege Slum-114	3	190	0.871
Bakshi Garden Slum-118	3	191	0.876
Maruthinagar-119	3	192	0.880
Arundati Nagar (Kengeri)-121	3	193	0.885
Polluramma Slum-125	3	194	0.889
Jayantinagar Slum-134	3	195	0.894
Rajagopala Nagara Slum-137	3	196	0.899
Someshwara Slum-139	3	197	0.903
Nallurahalli Slum-140	3	198	0.908
Indira Gandhi Slum-142	3	199	0.912
Jairajnagar Slum-143	3	200	0.917
Ward No 171	3	201	0.922
Khata Nagar Slum-155	3	202	0.926
Palthundur Agrahara Slum-158	3	203	0.931
Mutharayanagar Slum-166	3	204	0.935
Anjaneya Swamy Gudda Slum(Kamalanagar)-179	3	205	0.940
Chelkere Colony Slum-180	3	206	0.945
Rudrappa Garden-208	3	207	0.949
Chamundinagar Slum-209	3	208	0.954
Ward No 7	2	209	0.959
Indiranagar Slum-32	2	210	0.963
Kamalanagar Slum-36	2	211	0.968
Ward No 96	2	212	0.972
Bhuwaneswarinagar Slum-83	2	213	0.977
Muneshwara Nagar Slum-108	2	214	0.982
Ashok Nagar Slum-167	2	215	0.986
Anjanappa Garden A And B Lane Slum-170	2	216	0.991
Sriramnagar Slum-182	2	217	0.995
Shivapura Slum-215	2	218	1.000

Note- Overall score (census and survey) for critical vulnerability: 0.751-1.000.

Table 2: Domain-wise Vulnerability Mapping Index

Slum name	Industry and Employment	Housing and Sanitation	Poverty and Unemployment	Healthcare and Quality of Facilities	Overall	HH members	Final score (our survey and Census)
Raj Gopalnagar Slum-13	0.037	0.590	0.866	0.184	0.687	0.410	0.751
Corporation Colony Slum-15	0.493	0.594	0.871	0.194	0.917	0.018	0.756
Vijayananda Nagar(Notified) Slum-16	0.498	0.599	0.046	0.198	0.691	0.419	0.760
Ward No 60	0.516	0.613	0.074	0.226	0.696	0.438	0.765
Kengunte Slum-27	0.521	0.618	0.083	0.235	0.700	0.442	0.770
Kundalahalli Colony Slum-33	0.535	0.627	0.101	0.258	0.705	0.465	0.774
Gangondanahalli Slum-37	0.553	0.636	0.115	0.276	0.710	0.488	0.779
Bangarappa Nagar-38	0.088	0.880	0.120	0.281	0.714	0.493	0.783
Jb Kaval Kammagondanahalli Slum-40	0.558	0.645	0.129	0.286	0.719	0.498	0.788
Sudhama Nagar Slum-48	0.585	0.664	0.903	0.309	0.935	0.078	0.793
Ksrtc Slum-58	0.613	0.677	0.189	0.355	0.742	0.539	0.797
Gandhipura Slum-65	0.636	0.687	0.207	0.378	0.751	0.567	0.802
Krishnananda Nagar (Notified) Slum-68	0.645	0.332	0.940	0.392	0.756	0.576	0.806
Bhavaninagara Slum-69	0.134	0.691	0.945	0.396	0.760	0.581	0.811
Muneshwara Block Slum-74	0.143	0.889	0.230	0.419	0.770	0.599	0.816
Rajajinagar Slum-76	0.664	0.700	0.240	0.424	0.774	0.604	0.820
Maruthi Nagar Slum-84	0.691	0.894	0.272	0.051	0.783	0.618	0.825
Farooquiya Nagar Slum-85	0.696	0.724	0.963	0.442	0.949	0.138	0.829
Mominpura Slum-94	0.705	0.903	0.309	0.470	0.954	0.152	0.834
Binnamangala Slum-97	0.198	0.908	0.323	0.479	0.793	0.654	0.839
Kamalanagar Slum-98	0.714	0.369	0.972	0.484	0.797	0.659	0.843
Nakkalbande Slum-100	0.724	0.378	0.982	0.488	0.802	0.664	0.848
Channasandra-101	0.728	0.912	0.327	0.065	0.806	0.668	0.853
Hombegowda Slum-104	0.737	0.756	0.336	0.493	0.811	0.677	0.857
Lbs Nagara Slum-112	0.765	0.926	0.369	0.926	0.820	0.700	0.862
A. K. Colony Slum	0.212	0.931	0.373	0.525	0.825	0.705	0.866
Vijayacollege Slum-114	0.770	0.935	0.378	0.530	0.963	0.180	0.871
Bakshi Garden Slum-118	0.783	0.940	0.392	0.544	0.968	0.189	0.876
Maruthinagar-119	0.788	0.945	0.396	0.078	0.829	0.714	0.880
Arundati Nagar (Kengeri)-121	0.797	0.765	0.406	0.553	0.839	0.719	0.885
Polluramma Slum-125	0.221	0.949	0.424	0.567	0.843	0.728	0.889
Jayantinagar Slum-134	0.834	0.954	0.465	0.599	0.972	0.217	0.894
Rajagopala Nagara Slum-137	0.244	0.959	0.991	0.608	0.977	0.221	0.899
Someshwara Slum-139	0.843	0.779	0.484	0.618	0.848	0.774	0.903
Nallurahalli Slum-140	0.249	0.963	0.488	0.622	0.853	0.779	0.908
Indira Gandhi Slum-142	0.848	0.783	0.498	0.627	0.857	0.788	0.912
Jairajnagar Slum-143	0.853	0.788	0.502	0.631	0.862	0.793	0.917
Ward No 171	0.862	0.797	0.516	0.641	0.866	0.806	0.922
Khata Nagar Slum-155	0.889	0.968	0.558	0.659	0.982	0.249	0.926
Palthundur Agrahara Slum-158	0.899	0.972	0.571	0.111	0.876	0.829	0.931
Mutharayanagar Slum-166	0.304	0.977	0.608	0.687	0.880	0.853	0.935
Anjaneya Swamy Gudda Slum(Kamalanagar)-179	0.935	0.834	0.668	0.719	0.885	0.894	0.940
Chelkere Colony Slum-180	0.940	0.986	0.673	0.124	0.889	0.899	0.945
Rudrappa Garden-208	0.977	0.862	0.802	0.834	0.899	0.968	0.949
Chamundinagar Slum-209	0.982	0.866	0.806	0.839	0.903	0.972	0.954
Ward No 7	0.502	0.604	0.876	0.207	0.922	0.429	0.959
Indiranagar Slum-32	0.530	0.622	0.889	0.253	0.926	0.461	0.963
Kamalanagar Slum-36	0.548	0.631	0.899	0.272	0.931	0.484	0.968
Ward No 96	0.594	0.673	0.908	0.327	0.940	0.516	0.972
Bhuwaneswarinagar Slum-83	0.687	0.719	0.959	0.438	0.945	0.613	0.977
Muneshwara Nagar Slum-108	0.756	0.917	0.350	0.512	0.959	0.691	0.982
Ashok Nagar Slum-167	0.912	0.816	0.995	0.691	0.986	0.857	0.986
Shivapura Slum-215	0.995	1.000	0.834	0.866	1.000	0.995	1.000

Note: Domain-wise and overall vulnerability index by slums (critical vulnerable: 0.751-1.000).