



SPATIAL DISTRIBUTION OF SLUMS AND ITS LOCATIONAL CHARACTERISTICS IN MYSURU CITY

Mahadeva¹ and Dr. Chandrashekara B.²

¹ Research Scholar, DOS in Geography, University of Mysore, Manasagangothri, Mysuru.

² Associate Professor, DOS in Geography, University of Mysore, Manasagangothri, Mysuru.

ABSTRACT

This study aimed to examine the distribution and its locational characteristics of slums in Mysuru city. The present study has used both primary and secondary sources of data and used GIS software ArcMap 10 for locational analysis and to map urban slums in Mysuru city.

Globally, urban slums are characterised by dense populations with poor access to basic amenities such as sanitation and clean water due to poverty and the presence of the slums mostly in public spaces. Mysuru city has 69 slums. Here many government policy and programme have been implemented but many problems remain unchanged rather it become worst. The slums in Mysuru face many problems, Such as location or situation of the slums and their ecological settings, house condition, toilets facilities, clean water availability, drainage, electricity, etc.

Results show that slums mostly situated on lowlands where sewage drains are made, open spaces in proximity of railway line, industrial site, waste dumping and city or urban waste disposal sites, river/canal, beneath the bridges and other inhospitable place. The interaction between their poor ecological setting like site and situation, and the inhabitants made poor quality of life resulting them marginalised in all dimension of life in urban setting.

KEYWORDS: *distribution, slum, locational analysis.*

1. INTRODUCTION:

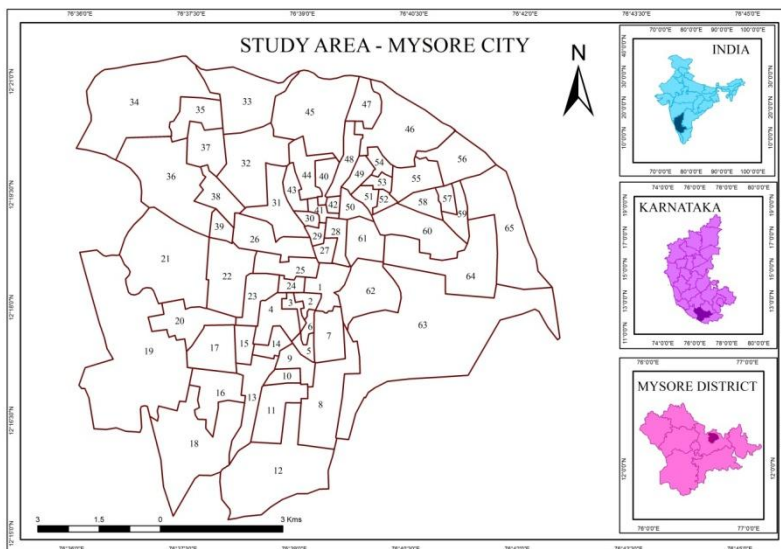
The urban context of slums studies is one of most continuous area of research in the world and in India too. It is the present issue in the field of Urban Geography and Social Science. The present study aimed to examine the distribution and its locational characteristics of slums in Mysuru city. The living condition in slums indicates the urban poverty and deprivation. Individuals and communities living in slums face severe challenges in their struggles to survive. Each slum is different in its origin, location, size, and demographic characterises. Entire characteristics are not similar for all slums in the city. It differs due to several reasons such as its appearance, economic conditions, overcrowding of buildings, tenements, population, health and sanitary conditions, morality, way of life, standard of living, isolation of other residential communities etc.

2. STUDY AREA:

Mysuru city lies in the southern part of Deccan peninsula and it forms the southernmost of district Karnataka state in India. This area lies between 76°39' east to 76°65' east longitude and 12°18' north to 12°30' north latitude and has average attitude 770 meters.



Map.1 Study area of Mysuru city.



The Mysore city covers an area of 128.422 km. The population is about 887.446 in 2011 census. Which male and female are 443.813 and 443.633 respectively. The literacy level in Mysore city is 83.8%, which is much higher than the state’s average of 76%. The gender ratio of the city is 967 females to every 1000 males and the population density is 6223.55 persons per 89 km. Among the population 76.70% are Hindus, 19% are Muslim, 2.84% are Christian and remaining belong to other. Mysore city have 65 wards and 172 slums among them and 69 slums are notified. The total Slum population were 235776 during 2011cesuces which accounts 26.5 percentage of the total population.

3. METHODOLOGY:

This paper analyses to examine the spatial distribution of slums and its locational characteristics in Mysuru city. This study is based on both primary and secondary data. Primary data collected from observation of slums and secondary data collected from Mysuru City Corporation. The GIS software is used for locational analysis and in preparing urban slums map in Mysuru city. It shows that the spatial distribution of slums, its locational characteristics, and helped to understand the interaction between the inhabitants of slum and their ecological settings (site and situation).

4. SPATIAL DISTRIBUTION OF SLUMS IN MYSURU CITY.

Slums are one of most worst and bad condition of urban area. The slum ecological condition manifests slum environment and their living condition of their inhabitants. Location refers to the slums physical environment on which the slums originated and evolved. The slums are geographical situation where are location is unattractive and dangerous sites that have become poverty’s place in the Ecology of the city.

Slums are commonly located on least demand and least/no cost spaces such as low lands, illegal or judicially problem sites, open public place which are inhospitable sites. These sites are known for air pollution, water pollution, lack of sun light, and no proper ventilation.

The acute shortage of housing facilities compels the poor people to live in slums. Slums have developed in almost all the Indian cities. Act of 1954 as predominantly a residential area, where dwelling by reason of dilapidation, overcrowdings, faulty arrangement and lack of ventilation, light or sanitary families or any combination of these factors are detrimental to safety, health and morals.

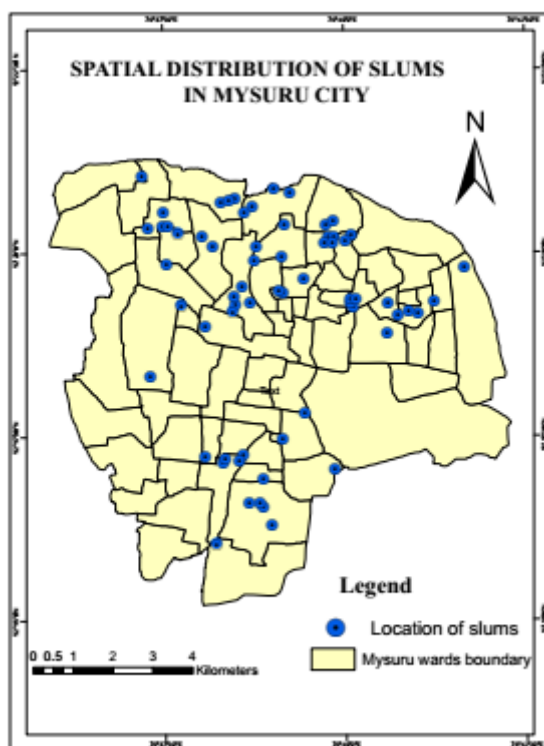
The slum dwellers live inhospitable place. These slums have extremely unhygienic conditions because of near the drain, sewage are located. This causes disease like blood dysentery, diarrhoea, malaria, typhoid, jaundice and conjunctivitis, which stalk them all the year round.

The overall condition of the slums is very bad and pathetic with respect fresh air, proper sun light, housing water supply, drainage, sewage and road etc. most of them do not have proper water supply, drainage and sewage system and the slum dwellers have to face hardships during rainy season especially the life of slum dwellers situated adjacent to storm water drains and low lying area are critical and the situation is not different in case of dwellers residing below also rampant in slum, affecting their healthy living. Most of the slum dwellers live in makes shift arrangement with no prospection from sunlight rain, wind and other weather condition.

The distribution of slums is quite uneven in the city. The factors which affect the distribution of slums are physical, cultural, and economic. This study mainly concerns with distribution of slum and its locational characteristics in different parts of the city of Mysuru.

According to national sample survey organization, area notified as slums by the respective municipalities, corporations, local bodies or development authorities were treated as notified slums.

Map-2 Spatial distribution of slums in Mysuru city:



(Source: base map is collected from Mysuru City Corporation 2016-17)

In Mysuru city, 69 slums are notified. In Mysuru city slums are found dispersed or scattered in nature. Scattered slums are found and low lands like near the drain, sewage where the natural drainage persists. The slums are found in most of the slums are located on the north eastern direction of the city and remaining slums are scattered located.

Slum household by minority communities:

In consideration with households, about 77% of the households in the slums belong to OBC and SC division of social groups of total slum households, about 43% belong to OBC group of social division. It further observed that 43% of OBC and 35% of SC households are living below poverty line.

In Mysuru city a significant proportion of minority communities are living in slums. About 46% of the slum population belong to minority communities and constitute about 45% of the minority population in slums stood below the poverty line occupying 44% of total BPL households.

Table.1 Population in slum to social groups.

Sl.No	Social groups	Total slum population	Percentage
1	OBC	103623	43%
2	ST	21931	9.30%
3	SC	78848	33.44%
4	Other	31374	13.30%
	Total	235776	100%

(Source: Mysuru City Corporation 2016-17)

As shown in the table.1 the 43% slum households are OBC, 33% of the slum dwellers are SC 9.30% and 13.30% were ST and Other social groups respectively which is more seen among OBC social group of households. Causally, they live non accessible locations.

5. Locational characteristics of slums in Mysuru city:

In urban contexts the location or site refers to physical environment, topographical structure, etc.

5.1 Distribution of slums by physical location:

Urban housing may broadly be classified into formal and informal settlements. Formal settlement are those which have been constructed and developed by the government agencies like municipal or corporation duly approved plans. Besides physical, social, economic and other consideration are taken in account for the development of such colonies.

Therefore living conditions become comfortable to the residents. The planners also put emphasis on environmental suitability and economic viability for the house constructed through the concerned authorities. On the other hand informal settlements are those which have come up illegally either on the government land or private land in a haphazard manner. They are unplanned and violating all norms of government planning.

They have both permanent /semi-permanent and temporary structure edging the city drains, railway tracks, and low-lying flood prone areas and also occupying agriculture land and green belts in and around the city. They lack potable water and regular electricity supply, sanitation, garbage disposal, road network, park etc. Bad houses with inadequate light, air toilet and bathing facility; extreme overcrowding and high density of population are some of the features of these informal settlements (Ali, 2006 and Bose, 1995). As such residential area are both physically and socially very much deteriorated in which satisfactory family life is almost impossible. As these settlements have come up illegally, most of them lack not basic amenities but also legal right of the occupancy even though some of them may have been in existence for a long time (centre for urban and regional excellence, 2005)

Table-2 Physical locational characteristics of slums in Mysuru city.

Sl. No.	Location of slums	Total no. of slums	Percentage of slums
1	Along nallah (major storm water drain) and Along other drains	24	34.78%
2	Along railway line	11	15.94%
3	Along major transport alignment	18	26.08%
4	Non-hazardous/ non-objectionable	16	23.18%
	Total	69	100%

(Source: Mysuru City Corporation 2016-17)

5.1.1. Along the water body:

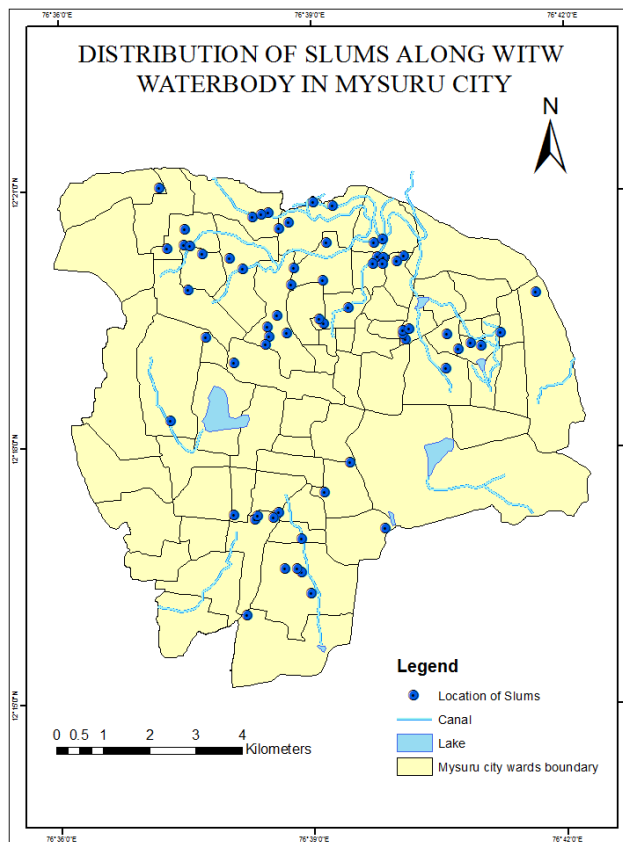
In Mysuru city, 69 slums are located different ecological setup like along the water body, along railway lines, along major transport alignment and non-hazardous / non objectionable place. Below table.3 shown that where 24 slums are located along water body like along nallah (major storm water drain) and along other drains. There are bad situation to live in along water body; but also settled poor slum dwellers. There are 14,895 people dwelled; holding around 3, 15,838 sq. meters area.

Table.3 Physical location of along the water body.

Sl. No.	Wards No.	Name of slums.	Area (sq.meters)	populatio n	Ecological setup.(along the water body)
1	10	Sarvajanika hostel behind	22326.18	308	Along nallah
2	23	Coffee board behind	10438.59	547	Along nallah
3	28	P.K. syanitoriam behind	8842.03	374	Along other drains
4	28	South of kumberkoppalu p.k.synitoriyam behind 2 nd main	6353.54	432	Along other drains
5	29	Metagalli harijana colony and adhijambava colony	12775.86	963	Along other drains
6	29	Part of metagalli	10240.30	465	Along other drains
7	30	Manjunathapura	15888.11	900	Along other drains
8	31	Gokulam 2 nd main	9924.60	279	Along other drains
9	32	Vanivilasa mohalla 16 th cross	1569.37	558	Along nallah
10	34	Yashavanthagara	3486.41	218	Along nallah
11	42	Raja soap factory	26600.47	418	Along nallah
12	42	Budabudakeri pulikeshi road	13159.74	1438	Along other drains
13	44	Shivarathreshavaranagara bannimantapa	21942.71	386	Along other drains
14	45	Ellamma slum	6200.12	228	Along other drains
15	46	Kesare near slater house	7838.85	1258	Along other drains
16	47	Kesare bovi colony	26600.47	95	Along other drains
17	48	Rajendranagara, kesare, kurimandi block	2955.72	370	Along other drains
18	51	Siddappaji cross road 1,2,3	15582.13	881	Along other drains
19	51	Chamundeshvari road Gandinagara	29713.24	967	Along other drains
20	51	Durgamba temple behind	13822.62	707	Along other drains
21	51	Siddapaji cross block a	20394.44	1038	Along other drains
22	61	Kyatamarahalli masidi road	8245.79	693	Along nallah
23	62	Jothinagara	19420.90	1278	Along nallah
24	30	Joganakere	1515.80	94	Along other drains

(Source: Mysuru City Corporation 2016-17)

Map.3 Distribution of slums along with water body in Mysuru city.



(Source: Mysuru City Corporation 2016-17)

Map.3 shows that which slum location are along water. We can find out that clearly on map. Around 24 slums are under this category of the slums such as Ellamma slum, Joganakere, Chamundeshvari road gandinagara, Kyatamaranahalli masidi road, Kesare bovi colony, Raja soap factory, Sarvajanika hostel behind, Coffee board behind and other.

5.1.2. Along Railway line:

Table.4 Show that which location are along the railway line with an area of just over 315838 sq. meters. Holding a population of around 6081. Area of Bamboo bajar, medhrs block, raja rajeshwari rice mil behind and other are situated railway lines, the south west Railways. Most of the people are working as daily wage workers, rage pickers, house cleaners, vegetable venders, as well as old age beggars and others.

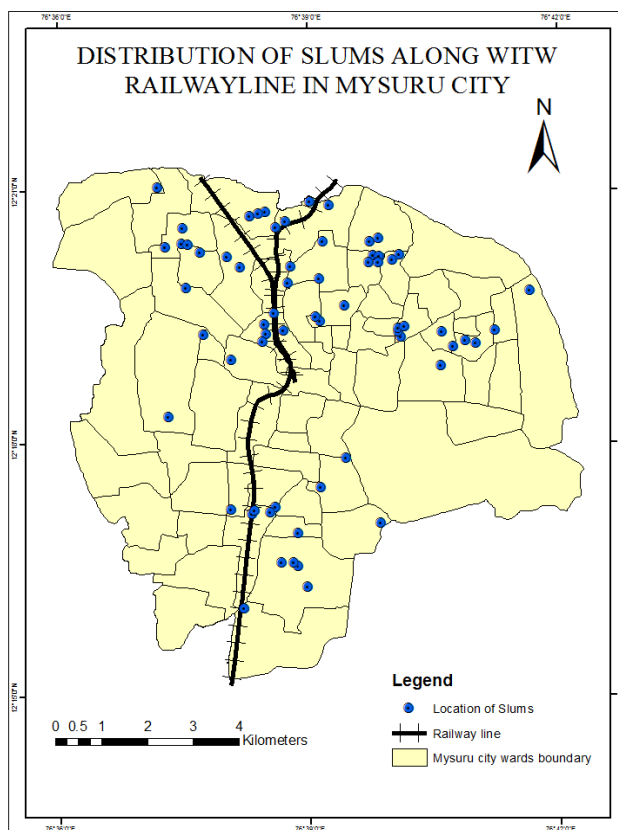
Table.4 Physical location of along the railway line.

Sl. No.	Wards No.	Name of slums.	Area (sq. meters)	popul ation	Ecological setup.(along railway line)
1	12	Nachanahallipalya j p nagara 2 nd main	26173.67	444	Along railway line
2	29	Metagalli janata colony	8164.45	1181	Along railway line
3	29	Metagalli harijana colony and adhijambava colony	12775.86	963	Along railway line
4	34	Janatha samil behind	3201.72	267	Along railway line

5	34	Mysore samil front	6529.33	397	Along railway line
6	34	Raja rajeshwari rice mil behind	2870.80	241	Along railway line
7	34	Medhrs block	10744.18	1091	Along railway line
8	34	Bamboo bajar	9174.52	Along railway line	
9	34	R.M.C board	2268.23	414	Along railway line
10	34	Yadhavagiri arasikere railway track near	5961.17	253	Along railway line
11	45	Vanthematharm	7560.06	383	Along railway line

(Source: Mysuru City Corporation 2016)

Map.4 Physical location of along the railway line



(Source: Mysuru City Corporation 2016-17)

Map.4 shows the slum area location with railway line in city. Where there is railway line there will be slum area. In Mysuru city also around 11 slums are located surround the railway track. It is place of the railway and around the railway track will be not used by the railway in that place people will build their huts which clustered will be become slum area. The huts are builted with the help of coconut leaves and bamboo sticks and mud. Thus slums are Bamboo bazaar, yadavagiri arasikere railway line are the highest concentration of slum population.

5.1.3. Along major transport alignment:

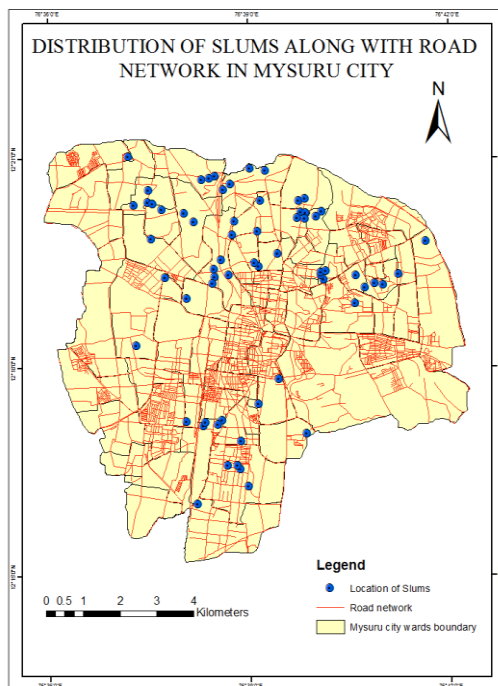
Slums are located in along major transport alignment; socio-economically backward people are build their small house like huts and mad house. Table.5 Shown that 7934 people are settled and hold around 24046512 sq. meters slum area.

Table.5 Physical location of along transport alignment.

Sl. No.	Wards No.	Name of slums.	Area (sq.meters)	popu	Ecological setup. (Along major transport alignment)
1	4	Madhubana	11954.91	259	Along major transport alignment
2	9	Nellurushed part a	29998.51	866	Along major transport alignment
3	9	Nellurushed part b	19531.56	594	Along major transport alignment
4	9	Ashokapurm	19263.27	336	Along major transport alignment
5	9	Ashokapurm 13 th cross	17829.51	987	Along major transport alignment
6	11	Dhramasing colony	10201.60	374	Along major transport alignment
7	11	Dhramasing colony b block	8437.45	221	Along major transport alignment
8	11	Vishvashvaranagara	18841.67	524	Along major transport alignment
9	35	Women medical college behind k r s road	2353.29	143	Along major transport alignment
10	44	k.s.r.t.c. behind	4540.11	560	Along major transport alignment
11	46	Belavatha janata nagara	13837.75	529	Along major transport alignment
12	46	Kesare 1 st main	3598.19	247	Along major transport alignment
13	47	Kesare 3 rd main	3725.28	230	Along major transport alignment
14	47	Kesare 2 nd main	7293.89	98	Along major transport alignment
15	47	Kesare ambedkara nagara	1373.60	57	Along major transport alignment
16	48	Kesare park	25323.93	451	Along major transport alignment
17	11	D. Devaraja area colony	38472.21	895	Along major transport alignment
18	33	Part of paduvaralli	3888.43	563	Along major transport alignment

(Source: Mysuru City Corporation 2016-17)

Map.5 Physical location of along transport alignment.



(Source: Mysuru City Corporation 2016)

Map.5 shows the slum area located with major roads in the city. Road communication is an important public civic requirement for both economic activity and movement of men and goods and inter-linkage with inter land. Road as a community service facilities mobility. The street pattern of the city is more or less grid iron in patterns with arterial roads from the centre of the city outward in all directions. Palace is the focal point from where all the major roads start and radially leading to outside of cities.

5.1.4. Non-hazardous/ non-objectionable:

Some slums are non-hazardous/ non-objectionable located in Mysuru city. It is around 16 slum are located along non-hazardous/ non-objectionable place. There are 16,666 people settled and holding around 245918.6 sq. meters slum area of the city.

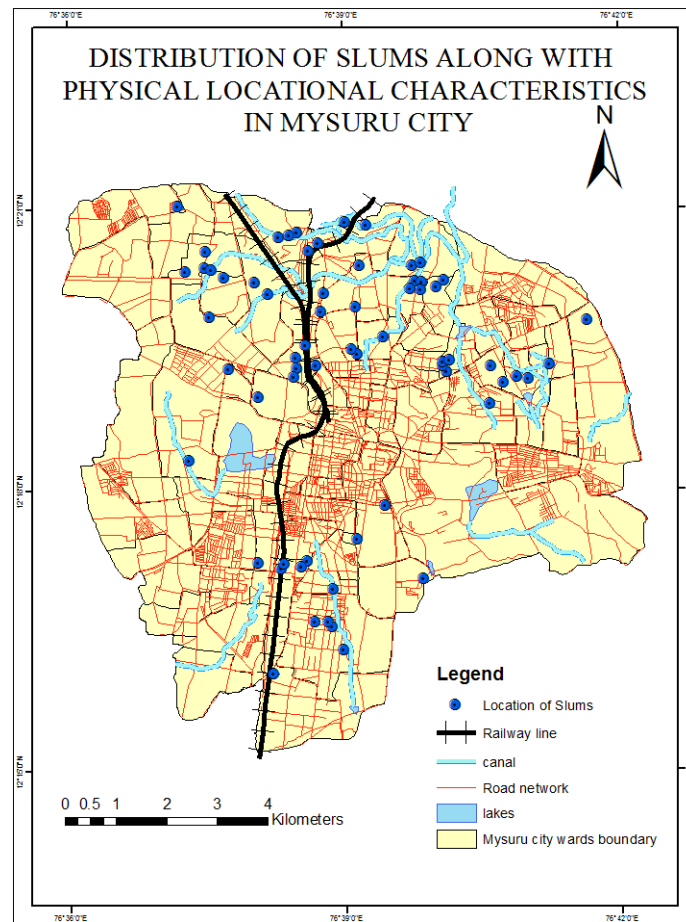
Table.6 Physical location of non-hazardous/non-objectionable

Sl. No.	Wards No.	Name of slums.	Area (sq.meters)	Popu	Ecological setup.
1	4	Gopika gudisalu	5395.65	102	Non-hazardous/ non-objectionable
2	5	Chamundi bettadha padha	39465.52	444	Non-hazardous/ non-objectionable
3	27	Hebbal colony	4885.94	156	Non-hazardous/ non-objectionable
4	28	Part of kumbarakopalu	14423.58	525	Non-hazardou /non-objectionable
5	42	Budabukeri chikkavirna road	20425.81	803	Non-hazardous/non-objectionable
6	42	Jail behind	2916.67	240	Non-hazardous/non-objectionable
7	44	Halim nagara	23488.32	882	Non-hazardous/non-objectionable
8	45	Hanumanthanagara ambedker colony	3384.95	120	Non-hazardous/non-objectionable

9	45	Savith ambedkar colony	4849.01	173	Non-hazardous/non-objectionable
10	45	Ekalavya nagara	25866.18	1383	Non-hazardous/non-objectionable
11	52	Kalyanagiri usmain block	29615.42	2067	Non-hazardous/non-objectionable
12	56	Sathagalli	12728.17	2509	Non-hazardous/non-objectionable
13	58	Gousiya form house	14017.68	1730	Non-hazardous/non-objectionable
14	59	Kyatamaranahalli a.k. colony	23142.35	1781	Non-hazardous/non-objectionable
15	59	Gousiyanagara a block	17755.37	3657	Non-hazardous/non-objectionable
16	28	Mahadheshvara colony	3558.00	94	Non-hazardous/non-objectionable

(Source: Mysuru City Corporation 2016)

Map.6 Physical locational characteristics of slums in Mysuru city.



(Source: Mysuru City Corporation 2016-17)

Result shows that out of 69 notified slums, 54 slums are located in core area such as in old city and in other residential areas and remaining 15 slums are located in urban fringe. With respect to the physical location, around 34.78% of slums are located along major and minor nallahs, 15.94% along the railway lines. In addition, 26.08 % of slums are location along major transport alignment, around 16 slums and 23.18% of the slums are non-hazardous/non-objectionable areas (map.6). The location of slums with respect to various physical settings is shown in the map. After the ground verification and thorough consultation with stake

holders and official the slums which around 88.40 present of slum population are non-prone to floods and hazard along nallah, drains and railway line. Only 34 slums are considered as tenable with respect to floods and other hazards.

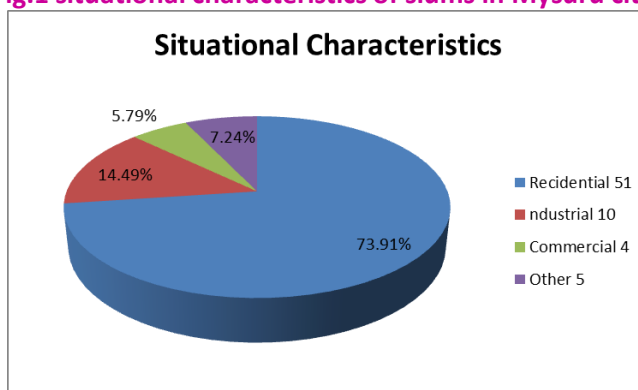
5.2 Situational characteristics of slums: This is another feature of unextending the relative location with reference to show activity/function performed by them.

Table-7 Situational characteristics of slums:

Sl. No.	Situational characteristics of slums:	Total no. of slums	% of slums
1	Residential	51	73.91%
2	Industrial	10	14.49%
3	Commercial	4	5.79%
4	Other	5	7.24%
	Total	69	100%

(Source: Mysuru City Corporation 2016-17)

Fig.1 situational characteristics of slums in Mysuru city.



The above fig.1 reveals 73.91% of the slums are near residential area and performing only residential function hence they have residential land use who are madhuvana, coffee board behind, nellurushed part a and b, vishveshvarangara, sarvajanika hostel behind and other slum area people; followed by 14.49% slums located near industrial center which are metagalli harijana colony and adhijambava colony, raja soap factory, budabudakeri chikkaviranna road, medhrs block and other are slums people who are working as industrial worker and other jobs; 5.79% slums are located in close proximity to commercial activities slums like r. m. c board, yadhavagiri arasikere railway track near, k.s.r.t.c. behind; 7.24% on other lands and institutional area. Such as goppika gudisalu, ekalavya nagara, halim nagara. These slums are both public and private owned.

5.3 Low lands and flood prone slums:

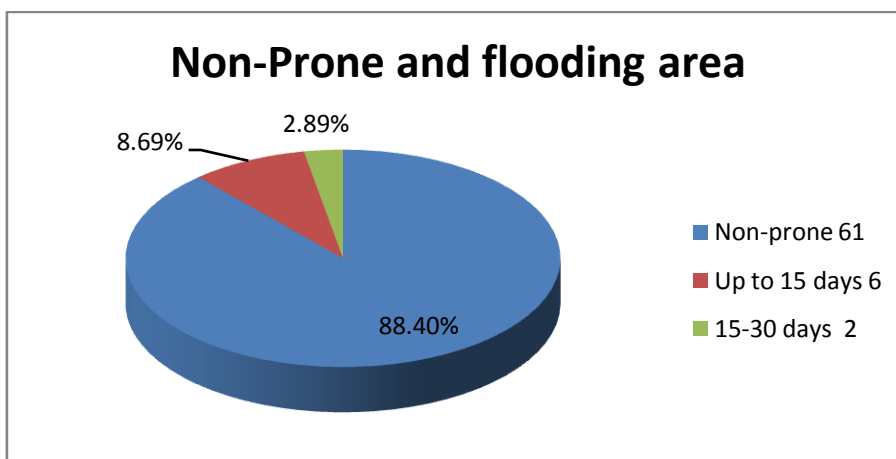
Average altitude of Mysuru city is 770 Mts. Most of slums are under 720 Mts. elevation indicating that mostly the slums in Mysuru are originated and developed on low lands.

Table-8 Flood prone slums area.

Sl. No.	Non-Prone and flooding area	Total no. of slums	% of slums
1	Non-prone	61	88.40%
2	Up to 15 days	6	8.69%
3	15-30 days	2	2.89%
	Total	69	100%

(Source: Mysuru City Corporation 2016)

Fig.2 Non-prone and flooding area of slums in Mysuru city.



As indicate in the table.8 and pie chart shows that 61 (88.40%) slums are found non prone to flood which are madhuvana, D. Devaraja area colony, dhrmasing colony; 6 slums are prone to flood up to 15 days that slums are ellamma slum, metagalli janata colony, bubabudakeri pulikeshi road, shivarathreshvaranagara bannimatapa, gousiya form house and the remaining 2 or sathagalli and chinnagirikoppalu slums are found to be flood prone during rains annually for 15-30 days or more annually, indicating lack of safety to the slum dwellers. But also settled there because of their poor socio-economic condition of people.

6. Economic characteristics of slums in Mysuru city: more or less, most of the slum dweller are economically backward in nature; lack of literature, no skill, and without trained people earned low wages.

6.1 The Occupational status of households of slums.

Table.9 Occupational status of households of slums.

Sl. No.	Occupation of HHs	No. of Households	% of households
1	Self employed	1588	10.78%
2	Salaried	1756	11.92%
3	Regular wage	4049	27.49%
4	Casual labour	6269	42.56%
5	Other	1065	7.23%
	Total	14727	100%

(Source: Mysuru City Corporation 2016)

The occupation status has base of economic stability of a person. In Mysuru city slums, occupation status 42.56% of the household are found to be working as casual labour and 27.49% on regular wage earners, which includes domestic help, rag pickers, and vegetable vendors. Only 11.92% is actually working on monthly salary, indicating a secured position and skilled employment and 10.78% of household are working as self-employed.

Therefore, nearly 77.28% of the slum households do not have access to a dependable occupation and secure income but they are addicted for alcohol, smoking and other bad habits. It effects the physical, mental, status of the individual and also effect the socio-economic characteristics of the society in general.

The physical setting of slum influences on their income, occupation, health status and their socio-economic background. Hence the poor physical setting results in poor outcome of quality of slum dwellers.

6.2 Housing condition of slums.

Table.10 Housing condition of slums.

Sl. No.	Type of house	No. of house	% of house
1	Pucca house	3398	32.34 %
2	Semi pucca house	3819	36.35%
3	Katch house	3287	31.29%
	Total	10504	100%

(Source: Mysuru City Corporation 2016-17)

One of the prime indicators to assess the existing living condition of slum dwellers are their housing.

In Mysuru the total no. of dwelling units in the slums are 10504. Out of 32.34% of dwelling units are pucca constructions, 36.35% units are semi-pucca and remaining 31.29% are katcha in nature.

Above table.10 depicts the current housing structure condition in the slum of Mysuru. The semi-pucca and katcha houses were greater than 67.64% then it is considered as poor housing because of their poverty. These houses are very congested in nature. Therefore no proper ventilation and lack of fresh air and they suffer from various kinds of diseases. These show that their poor status of housing, income, health results in socio-economic backwardness and unrest prevails among the slum dwellers lead to social tension.

7. CONCLUSION AND SUGGESTIONS:

After the study of slum distribution and its location characteristics the living of poor people are revealed. Slums are located in inhospitable places such as near sewage drains, open spaces in proximity of railway line, industrial site, waste dumping, nallah, transport alignment, and other. The main reasons of attracting of slum inhabitants are due to low land cost or no cost, open spaces which are mostly public owned.

By studying the total 69 notified slums in Mysuru. Most of the slums are very worst and in bad condition. It is true that more than half of the slum people living on near the railway line, drain, nallah, sewage area. It causes billions of flies and mosquitoes swarming over these drains help in spreading infections. The people living nearby suffer from many kinds of health problem. They are earning low income. Most of dweller resides in semi pucca and katcha house because of shortage of money. They are addicted alcohol, smoking, and other. They need basic amenities and they expect to attain good health and happiness to lead peaceful life.

- This study suggests that Government to provide site, sanitation and create good environment to slum people because “Good location or environment leads to good healthy life”
- There is need to create awareness among people on healthcare, cleanliness through family welfare program.
- “Slum free city” concept is should be accepted and implemented because to lead a good life.
- Sanitation, drainage, pure drinking water facilities should be provided.

REFERENCES:

1. <https://orionmagazine.org/article/slum-ecology/>
2. Fernandez Rosa F. (2011) Physical and Spatial Characteristics of Slum Territories Vulnerable to Natural Disasters. Les Cahiers de l'Afrique de l'Est, , 44, p.5-p.22.
3. Bhimasen Hantal Essay (2005) Slum Population: Meaning, Characteristics and Other Details.
4. M Ishtiyag. Sunil Kumar (2011) Typology of Informal Settlements and Distribution of Slums in the New Delhi. Journal of Contemporary India Studies; Space and Society, Hiroshima University Vol 1:37.46.

5. Ali, S. (2006): Managing Slums in Delhi. Sabir Ali ed.: Managing Urban Poverty, Uppal Publishing House, New Delhi, 432- 517.
6. Bose, A. (1995): Urbanisation and Slums. Prodipto Roy and S. D. Gupta ed.: Urbanization and Slums, Har-Anand Publication, New Delhi, 19-42.
7. Mysuru City Corporation 2016-17.
8. <http://www.fau.usp.br/iphs/abstractsAndPapersFiles/Sessions/02/FAIRBANKS.pdf>
9. Population data 2011.

**Mahadeva**

Research Scholar, DOS in Geography, University of Mysore, Manasagangothri, Mysuru.