

Chapter- 1

Introduction

1.1 Introduction

The definition and concept of slum depends upon the Government authority of respective countries. It is also based on the socio-economic conditions of the society as a result of this the concept and definition of slum varies from country to country. The legal definition of slum also varies from country to country.

According to Patridge , “the term slum first appeared in Veux’s Flash Dictionary in 1812, and was derived from slumber which meant a sleepy unknown back alley”

The Webster New World Dictionary , defines a slum as “a thickly populated squalid part of a city, inhabited part of a city, inhabited by the poorest of lowest class of the people.” (The International Webster New Encyclopedic Dictionary, 1973)

The United Nations report on the Urban Land Policy defines a slum as “building, group of buildings or area characterized by over-crowding, deteriorations, insanitary conditions or absence of facilities or amenities which because of such conditions or any of them, endanger the health, safety or morals of its inhabitants or the community”. (Anderson Nels., 1960)

The Government of India defines a slum as “any predominantly residential area, where the dwellings by reasons of dilapidation, over-crowding, faulty arrangement of design of buildings, narrowness or faulty arrangement of streets, lack of ventilation, light or sanitation facilities, inadequate of open places and community facilities or any combination of these factors are detrimental to safety, health or morals”.

In Census of India 2011 “three types of slums have been defined namely, Notified, Recognized and Identified.

- i) All notified areas in a town or city notified as ‘slum’ by state, Union Territories Administration or local Government under any Act including a ‘slum Act’ may be considered as Notified slums.
- ii) All areas recognized as ‘slum’ by state, Union territories Administration or local Government, Housing and slum Boards, which may have not been formally notified as slum under any act may be considered as Recognized slums.
- iii) A compact area of at least 300 populations or about 60-70 households of poorly built congested tenements, in unhygienic environment

usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities. Such areas should be indentified personally by the charge officer and also inspected by an officer nominated by Directorate of Census Operations. This fact must be duly recorded in the charge register. Such areas may be considered as Identified slums”.

Summing the above definitions, we can define slum as an area which is physically deteriorated but where economically poor human beings try to live an organized life of their own.

1.2 The Study Area

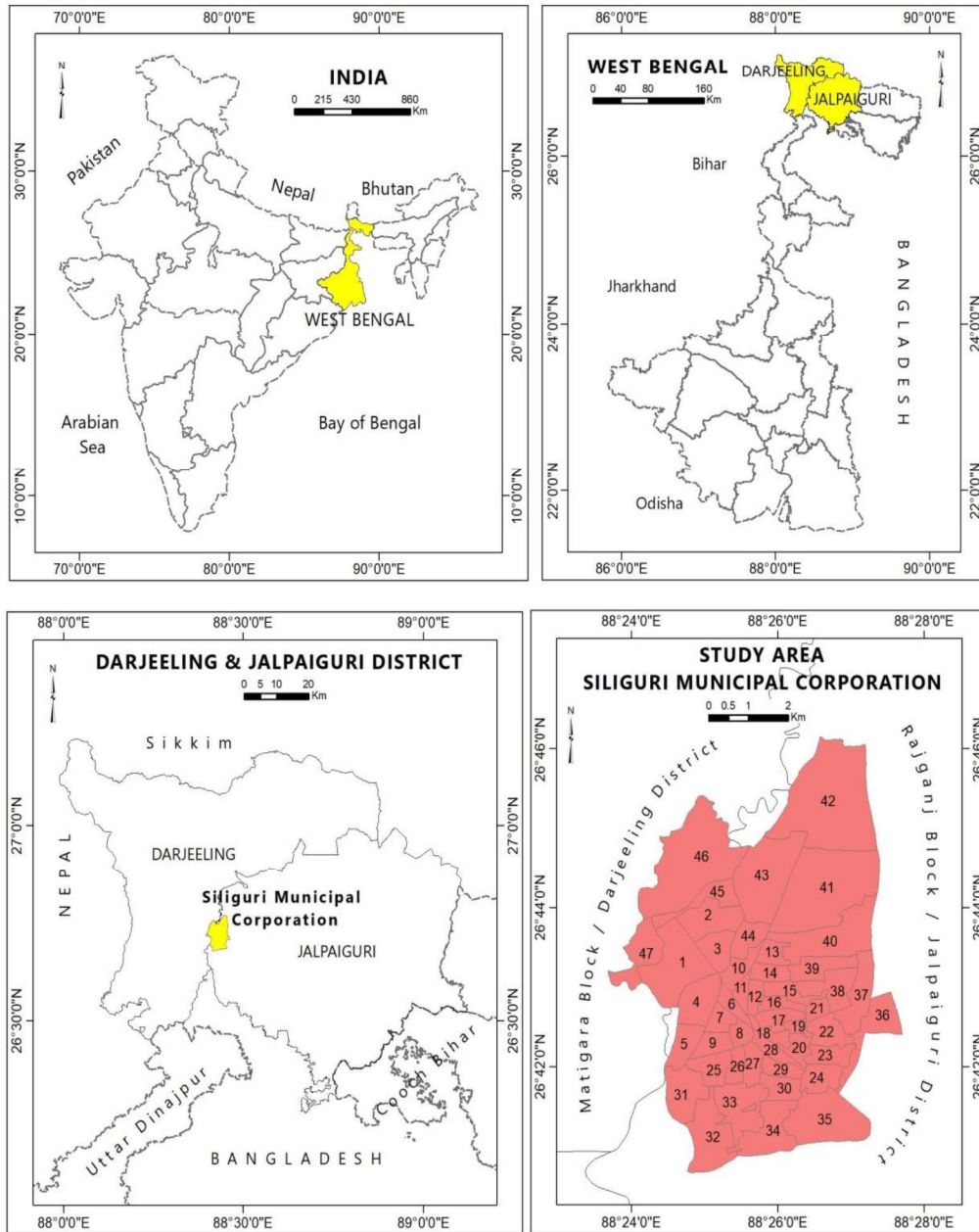
Siliguri is located in Darjeeling district of West Bengal and is one of the fastest growing cities in North Bengal. Siliguri for its strategic location has witnessed unprecedented increase in the rate of population growth during the last three decades. The Siliguri Municipal Corporation has also been extended in Bhaktinagar Police Station of adjacent Jalpaiguri district. Siliguri is located in northern part of the state, in the foothill of the Himalayan Mountains. The Siliguri Municipal Corporation lies between latitude $26^{\circ}41'E$ to $26^{\circ}46'N$ and longitude $88^{\circ}23'E$ to $88^{\circ}28'E$. Siliguri is located on the banks of the Mahananda river and spread over an area of 48.3 square kilometers. Siliguri Municipal Corporation comprises of 47 wards. Out of 47 wards, there are 14 wards which spread over adjacent Jalpaiguri district and the rest fall in Siliguri sub-division of Darjeeling district. The Mahananda river flows through the middle of Siliguri and has bifurcated it into two, namely north-western and south-eastern segments.

Siliguri has an average temperature of $35^{\circ}C$ during summers and average temperature of $10^{\circ}C$ during winters. There is heavy rainfall during the monsoon months.

The main business of Siliguri is tea, timber, tourism and transport. Siliguri is flourishing day by day in tourism industry. Large number of hotels have been established in Siliguri to cope up the rate of tourist demand.

There are three important railway stations in Siliguri. These are Siliguri Town station, Siliguri junction and New Jalpaiguri Junction. Siliguri town station is the oldest station in the city. This was opened on 23rd August 1880 during British Raj.

LOCATION MAP

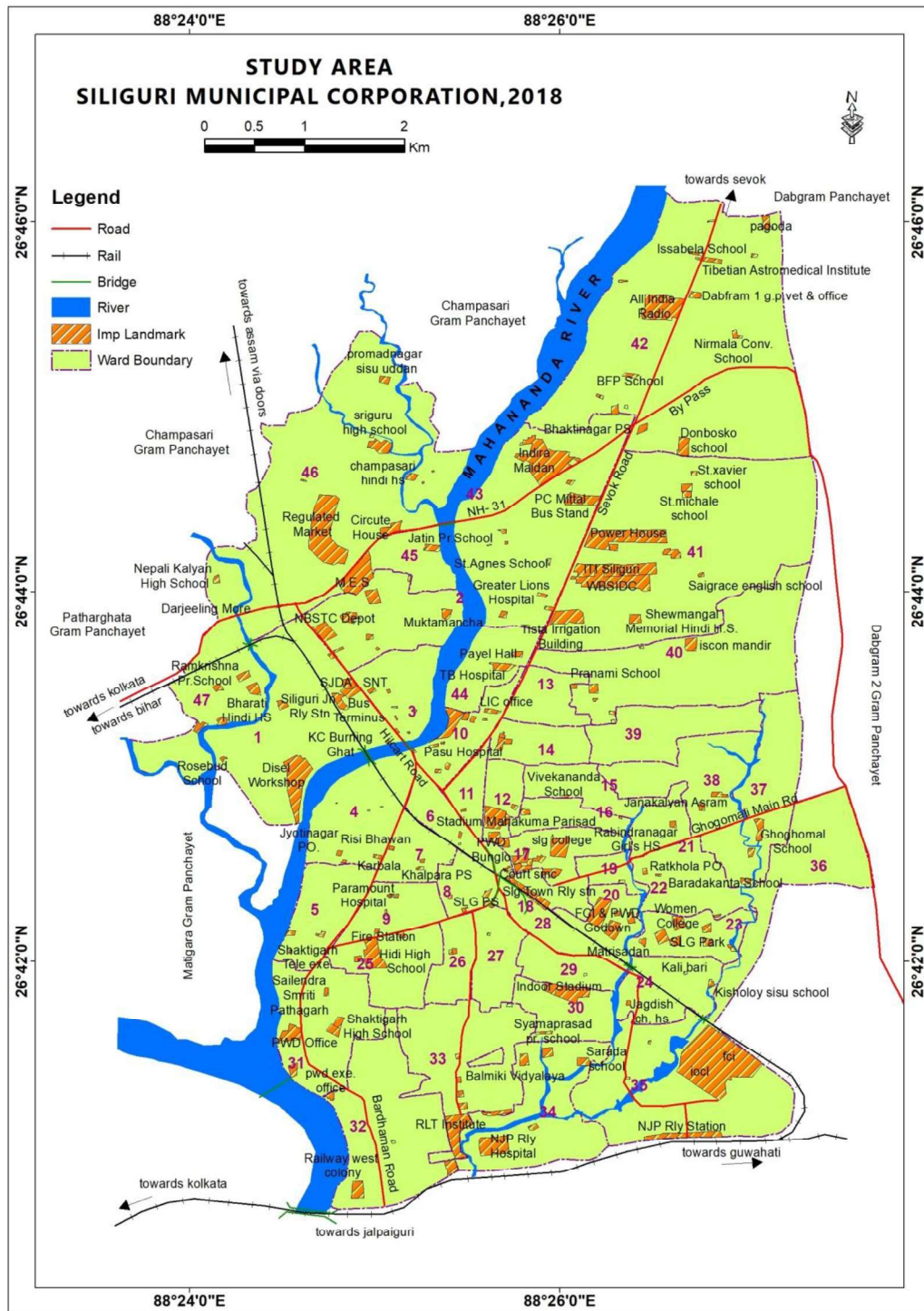


Source: Siliguri Municipal Corporation

Figure 1.1 Location Map of Siliguri Municipal Corporation

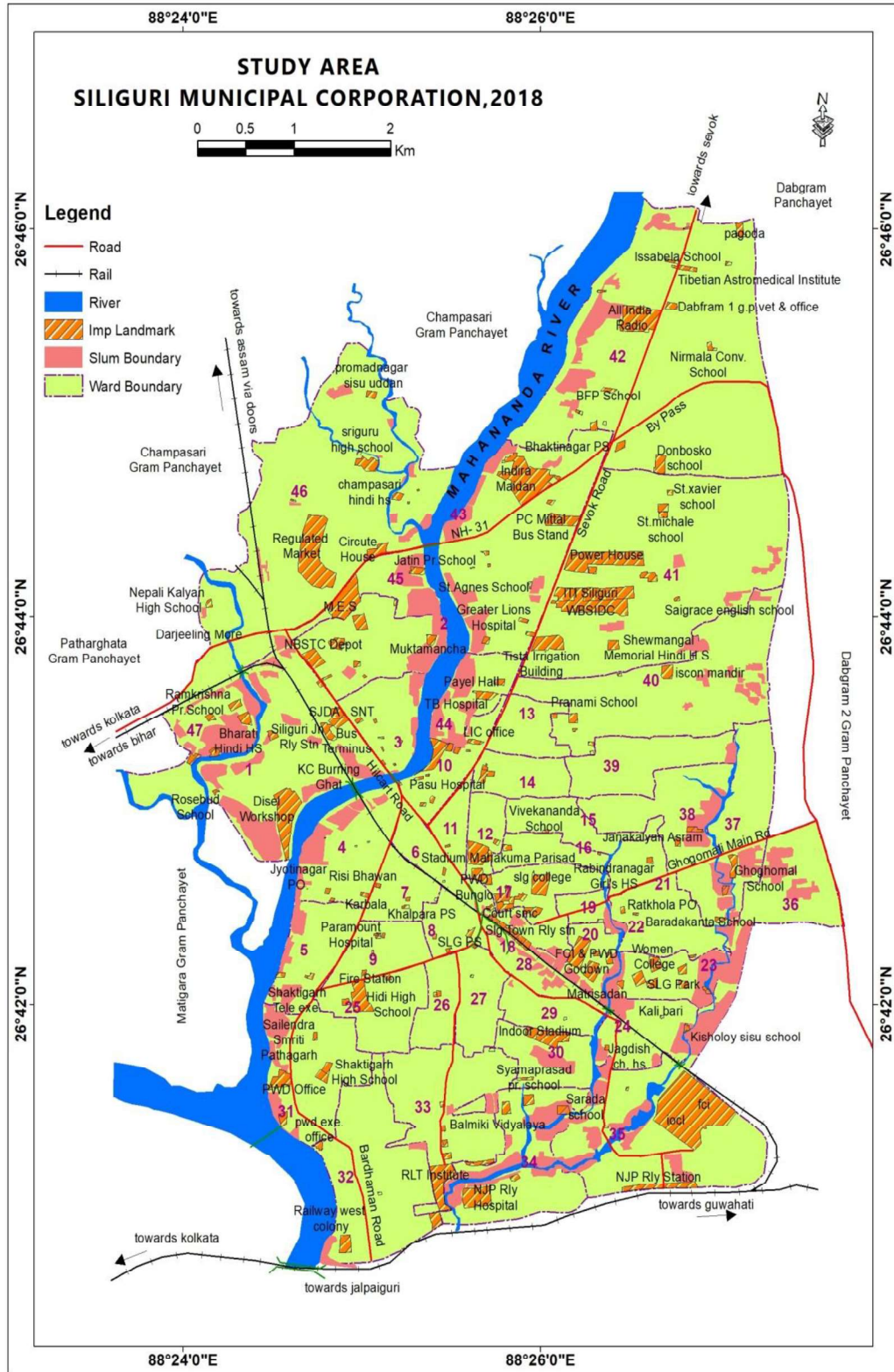
For road transport there are Tenzing Norgye Central Bus Terminus, The Royal Government of Bhutan, Sikkim Nationalised Transport (SNT), P.C. Mittal Bus Stand and local bus stand near Siliguri Town Station.

As per 2011 census, the total population of Siliguri Municipal Corporation is 509639 of which 261210 are males and 248429 are females. Total slum population is 161876 (2011 census) which covers 32 percent of the total population of the city.



Source: Siliguri Municipal Corporation

Figure 1.2 Map of Siliguri Municipal Corporation



Source: Siliguri Municipal Corporation

Figure 1.3 Slum Map of Siliguri Municipal Corporation

According to 2011 census the sex ratio of Siliguri city is 951 females per 1000 males where as the slum as a whole of Siliguri Municipal Corporation has a sex ratio of 944 females per thousand males. The child sex ratio of Siliguri is 928 per thousand boys. The child forms 9.47 percent of the total population of Siliguri.

As per 2011 census the density of population in Silgiuri is 23544 person per square kilometer whereas the slum population density is 60016 persons per square kilometer. Majority of the population of Siliguri is Bengali. Other communities like Bihari, Marwari, Punjabi, Gorkhas etc. are also present. Most of the languages spoken in Siliguri are Bengali, Hindi, Nepali, English, Bihari, Marwari, Bhojpuri, Punjabi etc.

1.3 Slum Scenario of Siliguri Municipal Corporation (SMC)

Although the per capita income is higher in Siliguri city & the migrant population is also significant the number of urban poor has been on the rise resulting an increase in slum growth the rise of land prices & cost of living in urban core has pushed the urban poor in squatter settlement with inadequate amenities & services. According to 2011 census out of 47 wards in Siliguri Municipal Corporation (SMC) only 36 wards have slum population . There are 154 notified slums & 33 non notified slums identified in Siliguri Municipal Corporation. Total number of households of 154 notified slums is 35134. The total population in these slums is 161876. Among them 78162 (48.29%) are females. The remaining, 83714 (51.71%) are males . In total population scheduled caste population constitute 39.52% (63973) & scheduled tribe constitute 10% (16188) of total slum population .

Table 1.1 Slum Profile of Siliguri Municipal Corporation (SMC) (2011)

Sl. No	Description	Number
1	Total slum	187
2	No of notified slum	154
3	No. of non notified slum	33
4	No. of notified slum households	35134
5	Male	83714
6	Female	78162
7	Scheduled caste population	63973
8	Scheduled tribe	16188
9	Total slum population	161876

Source: The Urban Poverty Elevation (U.P.E.) cell Report, Siliguri Municipal Corporation

Siliguri Municipal Corporation (S.M.C) comprises of 47 wards. Out of these 47 wards, 14 wards spread over in the adjacent Japaiguri district while the rest fall in the Siliguri sub-division of Darjeeling district, According to 2001 census, out of 47 wards there are only 33 wards where slum areas have been identified, The wards of Siliguri municipal corporation which have no slum population are ward no. 8,9,11,12,13,14,15,16,17,21,22,25,26,27. These 14 wards have non- slum population But according to 2011 census, non notified slums have been identified in ward no-8, 14, 22. Since the growth of slums is linked to the city itself so the city is divided into spatial units for easy classification of the slums . On the basis of spatial classification Siliguri Municipal corporation has been segregated in terms of Core, Intermediary & Periphery zones .

City Zones of Siliguri Municipal Corporation (SMC)

The spatial classification of Siliguri Municipal Corporation (SMC) is associated with characteristics like population density , distribution of employment, distance from city centre etc.

On the basis of spatial classification Siliguri municipal corporation is divided into 3 city zones i.e. 1> core, 2> Intermediary 3> periphery.

The city centre area which covers major commercial/ employment centers like city market , bus or rail station etc are treated as core zone . The area falling in between the core & periphery zone is the intermediary zone. The area near city boundary or rural urban fringe are treated as periphery zone .

On the basis of city zone Siliguri Municipal Corporation has distributed the wards in following way.

Table1.2 Distribution of Municipal wards having Slum population by city zone .

Sl.No.	City zones	Ward Number	Total Number of Wards
1	Core	6,7,8,14,18,19,20,28,29,30	10
2	Intermediary	1,2,3,10,22,33,43,44,45	9
3	Periphery	4,5,23,24,31,32,34,35,36,37,38,39,40,41,42,46,47	17
4	All Zone	Total	36

Source: Siliguri Municipal Corporation Report (2017)

From the above table it is seen that the total number of wards in core zone is 10 , in intermediary zone is 9 and in periphery zone 17 wards are present .Maximum number of wards are located in periphery zone

1.Distribution of Slums By City Zones

The slums located in different wards of Siliguri Municipal Corporation are distributed by city zones in the following table

Table1.3 Distribution of Slum by city zones

Sl. No.	City zones	No. of slums	
		Notified	Non-Notified
1	Core	31	7
2	Intermediary	39	7
3	Periphery	84	19
4	All Zones	154	33

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

According to 2001 census out of 47 wards of SMC only 33 wards had slum population. But according to 2011 census out of 47 wards 36 wards have slum population.

Wards number 8, 14 & 22 which had non – slum population earlier came under the list of slum population 4 non – notified slums namely M.R. Compound , 12 Dayananda Marg , Kella patty & Dohabi Gali slums have developed in ward No. 8. Only 1 non notified slum, Harijan Bustee , Asram Para have developed in ward 14. In ward No. 22, 4 new non –notified slum i.e. Subhasnagar Rathkhola , Phuleshwari Unnayan, East Arobinda, Dip char have developed.

On the basis of distribution of slum by city zones , 31 notified & 7 non – notified slums are located in core , 39 notified & 7 non-notified slums are located in Intermediary and 84 notified, 19 non-notified slums are located in periphery zone of Siliguri Municipal Corporation .

The slums in the core area are older and smaller as they cannot expand horizontally whereas the slums developed in periphery are new. Maximum number of notified & non – notified slums are located in periphery zone of SMC.

Table 1.4 Ward-Wise Distribution of Slum Population in Siliguri Municipal Corporation (2011)

Sl.No	Ward No.	No. of Total Slums	No. of slum Households	% of Slum Population to total population of ward
1	1	13	1900	50.95
2	2	5	989	34.43
3	3	3	694	31.63
4	4	8	1873	45.14
5	5	3	2033	62.31
6	6	1	258	19.34
7	7	2	529	33.15
8	10	1	153	18.91
9	18	5	1757	93.09
10	19	1	61	9.16
11	20	6	1134	62.27
12	23	2	238	18.63
13	24	5	766	13.71
14	28	6	1719	97.41
15	29	2	46	2.01
16	30	1	297	18.95
17	31	3	1023	35.38
18	32	2	646	28.37
19	33	2	496	16.98
20	34	9	1897	55.59
21	35	9	2017	63.75
22	36	5	1067	36
23	37	5	2201	69.96
24	38	1	403	15.4
25	39	1	262	10.56
26	40	10	1171	23.1
27	41	5	714	20.46
28	42	4	943	24.5
29	43	8	1400	42.89
30	44	4	1532	64.68
31	45	3	870	61.92
32	46	14	2815	45.8
33	47	5	1230	65.63
TOTAL		154	35134	

Source: Compiled by the Researcher from secondary data

2. Distribution of Slums by Slum status

Table 1.5 Zone -wise Distribution of Slums by Slum status

Zone	Slum Status	Number of Slums
Core	Intitutional	1
	Residential	37
Intermediary	Industrial	1
	Residential	45
periphery	Industrial	5
	Institutional	1
	Residential	97
Total		187

Source :The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

From the table it is clear that out of 187 slums (notified and non-notified) 6 are industrial slums, 179 are residential slums and 2 are institutional slums.

3. Distribution of Slums By Notification

Table 1.6 Zone -Wise Percentage Distribution of Slums By Notification

Sl.No.	Notification	City Zones							
		Core		Intermediary		Periphery		Total	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Non-Notified	7	18.42	7	15.21	19	18.45	33	17.65
2	Notified	31	81.58	39	84.78	84	81.55	154	82.35
Total		38	100	46	100	103	100	187	100

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

Table 1.6 shows the zone wise distribution of slums by notification, It is evident from the table that out of 187 slums 82.35 percent are notified slums and 17.65 percent are non-notified slums. Zone wise it is found that in core zone 81.58 percent slums are notified and 18.42 percent are non-notified slums. The percentage of non-notified slums are highest in Periphery zone where as notified slums are found highest in intermediary zone (84.78 percent).

4. Distribution of Slums by Ownership of Land

Table 1.7 Zone -Wise Percentage Distribution of Slums by Ownership of Land

Sl.No.	Ownership	City Zones							
		Core		Intermediary		Periphery		Total	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Local Body	7	18.42	0	0	5	4.85	12	6.42
2	Railways	18	47.37	13	28.26	13	12.62	44	23.53
3	State Government	13	34.21	29	63.03	77	74.76	119	63.64
4	Not Known	0	0	2	4.35	5	4.85	7	3.74
5	Others	0	0	2	4.35	3	2.91	5	2.67
Total		38	100	46	100	103	100	187	100

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

Table 1.7 shows the zone-wise distribution of slums by Ownership of land. It is evident from the table that out of total 187 slums 63.64 percent are owned by state government. Zone –wise it is found that in core zone majority of the slums (47.37 percent) are owned by Railways. In intermediary zone 63.04 percent slums are owned by state Government and in periphery zone also 74.76 percent slums are owned by state Government. The highest percentage of slums owned by local bodies are found in core zone (18.42 percent).

5. Distribution of Slums by Physical Location

Table 1.8 Zone –Wise Percentage Distribution of Slums by Physical Location

Sl.No.	Physical Location Of Slums	City Zones							
		Core		Intermediary		Periphery		Total	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Along Other Drains	1	2.63	16	34.78	0	0	17	9.09
2	Along Railway Line	25	65.79	13	28.26	7	6.80	45	24.06
3	Along River/ Water Body Bank	5	13.16	8	17.39	44	42.72	57	30.48
4	Others(Hazardous/Objectionable)	7	18.42	0	0	3	2.91	10	5.35
5	On River/Water Body Bed	0	0	7	15.22	2	1.94	9	4.81
6	Others(Non-Hazardous/Non-Objectionable)	0	0	2	4.35	3	2.91	5	2.67
7	Along Major Transport	0	0	0	0	6	5.83	6	3.21

	Alignment								
8	Along Other Drains	0	0	0	0	37	35.92	37	19.79
9	Along Storm Water Drain/ Nallah	0	0	0	0	1	0.97	1	0.53
Total		38	100	46	100	103	100	187	100

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

From above table it is seen that 30.48 percent of the slums are located along river/ water bodies. 24.06 percent slums are located along the Railway lines. Only 0.53 percent slums are found along the storm water drain / nallah.

6 .Distribution of Slums by Connectivity to water

Table 1.9 Zone -Wise Percentage Distribution of Slums by Connectivity to water

Sl.No.	Water Connectivity	City Zones							
		Core		Intermediary		Periphery		Total	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Not Connected	14	36.84	5	10.87	34	33	53	28.34
2	Fully Connected	1	2.63	1	2.17	10	9.71	12	6.42
3	Partially Connected	23	60.53	40	86.96	59	57.28	122	65.24
Total		38	100	46	100	103	100	187	100

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

Table 1.9 shows the zone wise distribution of slums by connectivity to water. It is evident from the table that out of total 187 slums of Siliguri Municipal Corporation 65.24 percent slums are partially connected to drinking water and only 6.42 percent of slums are fully connected.

Zone – wise it is found that in core zone 60.53 percent are partially connected to water and 2.63 percent are fully connected. In intermediary zone 2.17 percent are fully connected and in periphery zone 9.71 percent are fully connected.

7 .Distribution of Slums by Connectivity to Drains

Table 1.10 shows zone wise distribution of slums by connectivity to drains. It is evident from the table that out of 187 slums 62.03 percent slums are partially connected and only 8.56 percent are fully connected.

Table 1.10 Zone –Wise Percentage Distribution of Slums by Connectivity to Drains

Sl.No.	Drainage Connectivity	City Zones							
		Core		Intermediary		Periphery		Total	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Not Connected	14	36.84	10	21.74	31	30.09	55	29.41
2	Fully Connected	2	5.26	4	8.70	10	9.71	16	8.56
3	Partially Connected	22	57.89	32	69.57	62	60.19	116	62.03
Total		38	100	46	100	103	100	187	100

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

Zone-wise it is found that in all the zones the percentage of partially connected to drains are highest and fully connected to drains are lowest.

8 .Distribution of Slums by Connectivity to Sewage disposal

Table 1.11 Zone -Wise Percentage Distribution of Slums by Connectivity to Sewage disposal

Sl.No.	Sewage Disposal Connectivity	City Zones							
		Core		Intermediary		Periphery		Total	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Not Connected	37	97.37	45	97.83	90	87.38	172	91.98
2	Fully Connected	0	0.00	0	0.00	7	6.80	7	3.74
3	Partially Connected	1	2.63	1	2.17	6	5.83	8	4.28
Total		38	100	46	100	103	100	187	100

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

Table 1.11 shows the zone-wise distribution of slums by connectivity to sewage disposal. It is evident from the table out of total 187 slums in SMC 91.98 Percent slums are not connected to sewage disposal mechanism only 3.74percent slums are fully connected to sewage disposal.

Zone-wise it is found that in all the three zones the percentage of not connected to sewage disposal are found highest. In core and intermediary zone none of the slums are fully connected to sewage disposal mechanism. In all the three zones the percentage of partially connected to sewage disposal is low .

9 .Distribution of Slums by Slum Age

Table 1.12 Zone –Wise Percentage Distribution of Slums by Slum Age

Sl.No.	Slum Age	City Zones							
		Core		Intermediary		Periphery		Total	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	Less Than 10 Years	0	0.00	0	0.00	5	4.85	5	2.67
2	10 Years To 30 Years	7	18.42	12	26.09	42	40.78	61	32.62
3	30 Years To 50 Years	18	47.37	23	50.00	42	40.78	83	44.39
4	More Than 50 Years	13	34.21	11	23.91	14	13.59	38	20.32
Total		38	100	46	100	103	100	187	100

Source : The Urban Poverty Elevation (U.P.E) cell, Siliguri Municipal Corporation.

Table 1.12 shows the zone –wise distribution of slums by slum age. It is evident from the table that out of 187 slums in SMC the highest percentage of slums age ranges between (30 years to 50 years). Only 2.67 percent slums have age less than 10 years. Zone-wise it is found that in all the three zones majority of the slums have age between 30 years to 50 years. In core and intermediary zone none of the slums age is less than 10 years. Slums having more than 50 years of age are found highest in Core zone(34.21 percent). Followed by intermediary zone (23.91 percent) and then periphery zone (13.59 percent) . Therefore the core zone is dominated by older slums and periphery zone by newly formed slums.

1.4 Scope of the proposed study

A large number of scholars, geographers, city planners etc. are drawn to the living condition of slum dwellers . The present study on socio economic condition of slums in SMC is unique and different in many respects from the previous studies on slums. The Urban Poverty Elevation (UPE) cell of SMC looks after the slums. UPE Cell of SMC revealed that there are 154 notified slums and 33 non-notified slums which are

owned either by central, state or local bodies. Slums as elsewhere even in Siliguri are suffering from insanitary conditions, lack in basic infrastructural facilities like sanitation, drinking water, internal roads, drainage, waste disposal mechanism, electricity supply, poor health and hygiene etc. There are many schemes launched by Government of West Bengal and Siliguri Municipal Corporation for the development of infrastructural facilities in the slums. But these schemes and programmes have not been implemented properly in the slums. This point can be proved if the data gathered by the authorities are verified. There is no single department in Siliguri Municipal Corporation who has a complete data about slums. The Urban Poverty Elevation (UPE) cell do not seem to have all information regarding slums in Siliguri Municipal Corporation. The departments of SMC has no comprehensive picture about the nature of problems faced by the slum dwellers.

This study attempts to examine the character of slums, the growth of slums in Siliguri Municipal Corporation during the last decades, demographic structure of slum dwellers, socio-economic status, infrastructural facilities in the slums, health status of slum dwellers, and different government schemes for slum improvement in Siliguri Municipal Corporation.

The socio- economic condition of slum dwellers will be assessed by analyzing the available facilities in slum areas like house type, toilet facilities, sewerage system, drainage system, education facilities, health and hygiene of slum dwellers. An attempt shall be made to see the present infrastructural facilities in the slum areas and to explain the absence of required infrastructure needed in the slum pockets of SMC. The study would also assess the level of satisfaction of various facilities enjoyed by slum dwellers in SMC.

Finally, different government schemes for slum improvement and effort made by SMC in improvement of slums will be discussed. A sustainable development plan can be prepared for improvement of slum dwellers after analysing the datas and information on socio economic condition of slum dwellers. Hence, to know the gap between promise & performance of government policy implementation, socio economic conditions of slum dwellers in SMC need to be studied thoroughly.

1.5 HYPOTHESIS

The hypothesis have been formulated to test the following propositions:

1. Socio- economic characteristics of the slum dwellers have no relationship with the building/house occupied.

2. Educational status of slum dwellers is related with family size.
3. There is no significant relation in the level of residents satisfaction with infrastructural facilities in the slum areas.
4. Environmental, Socio- economic & physical factors affect the health condition of slum dwellers.

1.6 OBJECTIVES

In order to fulfil the above mentioned hypothesis, the present study is based on the following objectives: -

1. To study the Growth of slums in Siliguri.
2. To study the Demographic characteristics of slum dwellers in Siliguri.
3. To study the Socio-Economic aspects of slum dwellers .
4. To assess the Infrastructural facilities in slum areas.
5. To assess the Health status of slum dwellers.
6. To assess the implementation of Government schemes for the improvement of slums.
7. To suggest necessary remedial measures to improve the conditions of slum dwellers.

1.7 METHODOLOGY

In any research work methodology is one of the significant criteria. The following methodology will be adopted to study the Socio-Economic conditions of slum dwellers in Siliguri Municipal Corporation:

I. Data sources: The entire study will be based on primary and secondary data.

II. Data collection: a) Primary Data:

Primary data is collected from household survey. The field work for household survey was carried on the basis of sampling procedure that was applied. Out of total 154 notified and 33 non-notified slums samples are drawn by applying stratified random sample technique. Siliguri Municipal Corporation is divided into three zones namely Core , Intermediary and Periphery. This three zones are stratas. Siliguri Municipal Corporation has divided the slums of Siliguri into 3 city zones on the basis of their location. The sample size is drawn by taking 12 percent of total slums from each city zones by applying stratified random sampling technique.. Finally, 5 percent of household of each selected slum are surveyed on the basis of random sample technique. The necessary informations are entered into schedule that was

used during the survey. The sample description of study area is entered in Table below.

Table 1.13.a Sample Description of Study Area

City Zones	Total No. of slums in City Zones(strata)	Selected No. of slums from each zones (12% slums from each zone)	Total No. of Notified slum Households in each zone	Total Number of Sampled households
Core	38	5	1785	99
Periphery	103	12	3172	172
Intermediary	46	6	1458	85
Grand Total	187	23	6415	356

Source: Compiled by Researcher from secondary data

Table 1.13.b Slum-wise sizes of Sample Households

City Zones	Sampling Wards	Sl.No.	Name Of Slums	No. of households	No. of sample Households	Total Population of surveyed H.H	Total Males	Total Females
Core Zone	7	1	Vivekananda Colony	346	17	90	46	44
	18	2	Sraban Nagar	968	48	245	123	122
		3	Rana Bastee	187	9	47	25	22
	28	4	Matangini Colony-II	284	14	73	38	35
		5	Phuleshwari Colony(N.N slum)	NF	11	61	33	28
Core Total				1785	99	516	265	251
Periphery Zone	31	6	Sitala Para	565	28	142	79	63
	23	7	Fuleshwari Unnayan Colony	76	4	22	12	10
		32	8	Tinbati Colony	321	16	83	43
	35	9	Sahid Colony- B	352	18	92	47	45
		10	Ramnagar	117	5	30	16	14
	34	11	Surya Sen Colony BlokE-I-A	277	13	67	28	39
		12	Surya Sen Colony Blok E-II-A	182	9	48	19	29
	40	13	Sarat Pally	223	11	56	29	27
	42	14	Bhupendra Nagar	115	6	33	18	15
46	15	Shibnagar Colony	601	30	154	78	76	

		16	Rajibnagar Colony	343	17	86	44	42
		17	Ujamu Shib Nagar(N.N slum)	NF	15	80	43	37
Periphery Total				3172	172	893	456	437
Intermediary zone	1	18	Rajendranagar	509	25	128	66	62
		19	Panchanan Colony	320	16	85	44	41
		20	Mahananda Colony	75	4	24	14	10
	2	21	East Baghajotin Colony	434	21	108	56	52
	33	22	Sing Para(N.N slum)	NF	13	65	33	32
	43	23	Prakashnagar	120	6	33	18	15
	Intermediary Total				1458	85	443	231
Grand Total				6415	356	1852	952	900

Source: Compiled by Researcher from secondary data.

II).Data collection: b) Secondary Data:

Secondary data will be collected from District Census Hand Book, Published Reports, Official records, District Statistical Hand Book.

III. Data Processing & Analysis:

The filled up schedules were scrutinized after the completion of field work & the data was tabulated for analysis. The obtained data was analyzed by Statistical and Cartographic techniques. Statistical measures like Chi-square test, Lorenz curve, Pearson Correlation and other statistical techniques were used. Data was also represented with the help of several cartographic techniques under GIS platform.

List wise different techniques used

1. To show the relation between area, population pearson correlation is used.
2. To measure the socio-economic status income quintile is calculated. Income quintile divided population into 5 income groups where quintile 1 represented lowest income group and quintile 5 highest income group. Lorenz curve has been drawn to show income inequality of slum dwellers.
3. Socio- Economic Opportunity Index (SEOI) is calculated to find the degree of deprivation of slum dwellers.
4. Karl pearson co-rrelation has been used to show co-rrelation between income, household expenditure pattern and household assets.
5. Choropleth mapping by normal distribution method has been used to show population distribution and sex ratio.

6. To show the relation between socio-economic characteristics and house occupied by slum dwellers pearson chi-square test is applied.
7. To show the relationship between educational status and family size pearson chi-square is used.
8. Pearson chi-square test is also applied to show residents satisfaction level with infrastructural facilities and to show the affect of Physical, Socio-economic and Environmental factors on health condition of slum dwellers.
9. Primary and secondary data has been tabulated with the help of MS Excel and Microsoft office Access. The datas have been represented with table and cartograms.
10. For preparing Maps GIS software (Global Mapper, Map Info) has been used. Office Picture Manager photoshop software has been used for editing field survey photographs.

1.8 Review of Literature

There are several studies on slums and different people have given conclusions with many findings. Therefore I have taken an attempt to review some of the works on slums and their socio economic aspects.

Bureau of Economics and statistics (1981), Government of Andhra Pradesh have surveyed the socio economic condition of slums dwellers of 13 cities of Andhra Pradesh and published data during the period 1976-1977. It was found in the data that about 19.9percent of the households in the slums had no drinking water facilities and 38.8percent of the households were living in bad structures. It was also observed that about 40.2percent of the households had no sanitation facilities and 38 percent were dependent on community latrines.

Das, Biswaroop (1992) conducted a census survey of 294 slums in the Surat City, Gujrat during the year 1992. He studied the living conditions of the slum dwellers in Surat City. In his study he found that 35% of the households were living below poverty line and they were engaged in variety of jobs. In his study he described the work force in slums. The total number of jobs he found was 478. He also found that 37 percent were textile workers and 40percent were self-employed.

Dubey and Ranjay, Vardhan (1998) from CRRID survey (1998) studied the socio economic condition of slum dwellers in Chandigarh city. In CRRID survey there was 100percent coverage of slum households. Total 45 slums were surveyed. Out of 45,

26 slums were unauthorized and 19 slums were authorized. Total number of households were 55670 and population was 2,26,230. He calculated the deprivation Index. The slums were classified as high, medium and low deprivation based on value of deprivation index. In his findings 46.26 percent slums belonged to high deprivation.

Gangadharan, k (2005) studied the utilization of health services by different social classes in Kannur district. He studied the health behavior of both slum and non-slum areas. He found that age group 36 to 55 accounted high morbidity but rate of illness was high among children and above 55 age group. The study revealed that education and household size is inversely related with morbidity. He also linked morbidity with occupation. Here he found that among the employed the business class had chronic disease whereas unskilled works had infectious illness. The unemployed groups also had high morbidity of chronic illness,. He also found that maximum use of allopathic medicine is seen among children and above 60 years age. The study also revealed that utilization of health facilities depends on level of education. The utilization of public health facilities comes down with increase in level of education. The study observed that low and very low social class households. were educationally backward than middle and high class and availed government health facilities for low financial status.

Karn, S. K. Shigeo, Shikura & Harada, Hideki (2003) conducted survey of 1070 slum households in Mumbai to examine the relationship between health status and living environment. The study showed that employment of dwellers is related with the location of dwellings and education level. There is difference in the housing structures of slums, pavement and squatter settlements. From the study it was observed that 39percent were semi pucca, 33percent were kutcha and only 28percent were pucca houses. The study revealed that none of the slum dwellers used scientific devices for pathogen killing nor they used clean drinking water. Poor personal hygiene, insanitary living condition, uncleaned food lead to water related diseases. The study revealed that there is impact of education, income, environmental factors like sanitation, waste disposal on the morbidity of people. The study proved the effect of environmental and socio economic factors on health of slum dwellers.

Madhusoodhanan, V (2008) conducted a survey in Trivandrum city in his study he examined the various problems of urban poor and the governmental schemes for their rehabilitation. He said that growth of slum depends on both push and pull factors. The

pull factors are job related migration, good social infrastructures etc and push factors are family related. He found that there is decadal increase in slum population, area and number of households. The increase is due to natural growth of population and net in migration. In Trivandrum there is discrimination among the slum dwellers on the basis of political affiliations. The study observed that the slum dwellers have very low income as one-third of the studied households had no furniture and one sixth of the households did not have access to electricity, sanitation and drinking water. It was revealed that the slum dwellers who had no pattayam were denied from the government development schemes. These households are more vulnerable than those who got benefit of government schemes.

Paul, Wiebe (1975) is of the opinion that the poor condition of slum dwellers was a product of economic system. He viewed the growth of slums from socio-economic angle. He studied the living condition of slum dwellers and focused on their education, employment, housing, basic infrastructural facilities like sanitation, drinking water, drainage, waste disposal etc. The study showed that highest percentage of slum dwellers were engaged in informal sector

Retnaraj, D (2001) examined the growth of slums in Kerala. He related the unprecedented growth of slums is due to hike in price of land & pucca shelters in urban centers. He said that as the urban poor people of Kerala can not bear the high price of house and land in urban centres they are forced to live in slums. The study revealed that there is positive relation between urban land price and urbanization. The study also revealed that there was inflow of enormous foreign remittances in Kerala during 1980's and beginning of 1990's which led to increase in land prices and this led to slum growth.

The town and country planning organization (1975) Delhi reported that about 65percent workers in slums are engaged in construction work.

There are many studies made on slum problems like housing, environmental problems etc. Studies were also made on different government schemes for slum improvement. It is seen that among many vulnerable sectors in Siliguri, slums dwellers of Siliguri is most neglected. There are very few studies on socio-economic conditions of urban slums in Siliguri. Against this background a detailed study has been made on socio-economic conditions of slums of Siliguri.

1.9 Conclusion

Siliguri city has no founder like there was Job Charnok for Kolkata. Siliguri was only a tiny hamlet on the foot hills of the Himalayas during British period. It was surrounded by thick forest. After independence many refugees came from Bangladesh, Assam and settled in Siliguri. For its strategic location and the beauty of Himalayan foothills surrounding the city it turned to a place of tea, timber and tourism. Soon Siliguri became the trader's hub. The growing importance of Siliguri with good weather, money from trade attracted people from other areas. People of different religion and ethnicity settled in the city making it a cosmopolitan population and culture.

References

1. Anderson Nels., 1960. *Urban Community*, London, Routledge And Kegan Paul, p.44.
2. Bandyopadhyay, Abir, & Agarwal, Vandana. (2013). Slums in India: From past to present. *International Refreed Journal Of Engineering & Science*, 2(4), pp.55-59.
3. Bureau of Economic Statistics. (1981). Socio- economic conditions of slum-dwellers in the 13 cities of Andhra Pradesh. Government of Andhra Pradesh, p 11.
4. Census of India 2011. Office of the Registrar General and Census Commissioner. Ministry of Home Affairs, Government of India.
5. Das, Biswaroop. (sep 1999). Slum dwellers in Indian Cities: A case study of Surat. *Man and Development*, 21(3) , pp. 92-142.
6. Desai, A.R., & Pillai, S.D. (Eds). (1970). *Slums And Urbanization*. Bombay: Popular Prakashan, pp. 9-48.
7. Dubey, P., & Vardhan, Ranjay. (Sep 1999). Socio- economic profile of slum-dwellers in Chandigarh. *Man and Development*, 21(3), pp. 125-143.
8. Gangadharan, K. (2005). *Utilization of Health Services in Urban Kerala: A Socio Economic Study*. New Delhi: Serials publications, pp 1-353.
9. Hatekar, Neeraj., & Rode, Sanjay. (2003). Truth about hunger and disease in Mumbai, malnourishment among slum children. *Economic and Political Weekly*, 38 (43), pp 4604-4610.
10. *The International Webster New Encyclopedic Dictionary*, 1973 New York, Tabore House, , p. 913.

11. Karn, S.K., Shigeo, Shikura., & Harada, Hideki.(2003).Living environment and health of urban poor: A study in Mumbai. *Economic and Political Weekly*, 38(34), pp 3575-3586.
12. Madhusoodhanan,V., Nair, K.N., & Gopikuttan ,G.(Eds). (2006). Rehabilitation measures for Slum dwellers in Thiruvananthapuram City. *Housing in Kerala*. New Delhi : Daanish Books,pp 125-141.
- 13.Ministry Of Urban Development, Govt. Of India, *Compendium On Indian Slums*, Town And Country Planning Organisation, New Delhi,1985,p.11.
14. M.M, Naveed, M., Anwar.(Nov 2014).Socio-economic condition & health status of urban slums: A case study of Jogo Chak , Sialkot. *Asian Journal Of Social Sciences & Humanities*, 3(4),pp.279-283..
- 15.Patridge, E., 1958. Origins: A short Etymological Dictionary of modern English. P.633.
16. Retnaraj, D (2001).Fast growing cities, spurt in land prices and urban slums: The kerala experience. *IASSI Quaterly*, 20(2), pp. 23-133.
17. Shukla, Arti., & Singh, Neetu.(Oct 2012).Constraint of family structure in youth progress:A study of urban slum of Lucknow District, India. *International Research Journal Of Social Sciences*,1(2),pp.6-9.
18. Singh, Vikram.(2015).Slums in Haryana: A geographical study. *Global Journal For Research Analysis*,4(11),pp.207-209
19. Sufaira, C.(May.-Jun.2013).Socio economic conditions of urban slum dwellers in Kannur municipality. *IOSR Journal Of Humanities And Social Science*,10(5),pp.12-24
20. Town and Country Planning Organisation. (1975). Jhuggi-Jhompuri Settlements in Delhi: A Sociological study of low-income migrant communities. Ministry of Works and Housing, Government of India, pp. 116-117.