

**Public Health Issues in Urban Planning:
Understanding JnNURM in Bhubaneswar City,
Odisha**

Dissertation submitted to Jawaharlal Nehru University
for award of the degree of

MASTER OF PHILOSOPHY

GOLAK B. PATRA



Centre of Social Medicine and Community Health

School of Social Sciences

Jawaharlal Nehru University

New Delhi – 110 067

2012

DATE:

CERTIFICATE

This dissertation entitled, “**Public Health Issues in Urban Planning: Understanding JnNURM in Bhubaneswar City, Odisha**” is submitted in partial fulfillment of the requirement for award of the degree of MASTER OF PHILOSOPHY, of Jawaharlal Nehru University. This dissertation has not been submitted for any other degree of this university or any other university and is my original work.

Golak B. Patra

We recommend that this dissertation be placed before the examiners for evaluation.

Prof. Ritu Priya Mehrotra

(Chairperson)

Dr. Sanghmitra S. Acharya

(Supervisor)

Acknowledgements

In my endeavour to explore the health situations of the people in Bhubaneswar city through the dissertation on “Public Health Issues in Urban Planning: Understanding JnNURM in Bhubaneswar city, Odisha”; I am indebted to many who helped me directly and indirectly in completion of this work.

At the onset I would like to express my deepest sense of gratitude to my supervisor, Dr. Sanghmitra S. Acharya, without whom this dissertation would not have been possible. Her constant support and guidance at every stage of my work enabled me to develop the understanding of the subject and successful completion of the dissertation.

I am also thankful to all the faculty members of CSMCH, who over the two years taught me and nurtured my thought process, which gives me ideas to study issues differently and develop my own perspective.

I will also like to extend my sincere thanks to Prof. S. Peppin, XIMB, Shri S. K. Rout, RAY Cell, BDA and Dr. P. Rout, whose consultations helped me in planning for the field study and getting information from the field, comfortably.

I also thank to the Deputy Mayor of BMC, Ms. Bharati Singh and the in-charge of JnNURM cell at BMC for their cooperation in providing the right information and related documents during my primary field study.

I am grateful to the ‘SPARC’ NGO, Bhubaneswar, for their help and providing information related to my study.

My sincere thank to the other staff of CSMCH for their cooperation and support in my study. I extend thanks to Dinesh Ji and Ganga Madam of the Documentation Unit, for their valuable help throughout these two years in finding books, journals, articles and study material related to my dissertation that accelerated my work.

I also take this opportunity to thank all my classmates for their cooperation and help not only in this work but also during these two years in other academic activities which supported my study and made it simple here at JNU.

I extend my thanks to the senior colleagues on the campus for their valuable inputs in writing this dissertation. In this regard I would like to thank Ranvir, Kanhaiya, Kalai, Jagannath, Binod, Nilu, Sarada, Krishna and Kshirod for their valuable and constant help.

I would always be indebted to the 'NISWASS', the pioneer social work institute in Odisha. I had been getting secondary data from their library during and before my primary field study.

Last but not least, I like to give special thanks to my aunt, Mrs. Sabita for her help in this work. Because of her presence in Bhubaneswar all my works became easy right from inception to end of this work. She made me familiar to the field for easy movement and helped in collecting data, giving information over the phone and personal communications.

Finally I am indebted to the respondents, for patiently interacting with me and supply the empirical evidence. My work would have remained incomplete without their response. Any omissions, however, if there, I take the responsibility.

I thank the centre for giving me the opportunity to enhance my learning and knowledge.

Golak B. Patra

CONTENTS

Sl. No.	Contents	Page No.
1	Acknowledgement	i
2	Contents	iii
3	List of Tables	vi
4	List of Figures (Graphs)	viii
5	List of Maps	viii
6	Abbreviations	ix
7	Chapter- I: Conceptual Framework and Research Design	01-21
	1.1 Conceptualisation and Theoretical Framework	01
	1.1.1 Introduction	01
	1.1.2 Background of the Study	01
	1.1.3 Defining key Concepts	02
	1.1.4 Defining Public Health	02
	1.1.5 Urban, Urbanisation and Urban Process	04
	1.1.6 Defining Urban Slum	06
	1.1.7 Urban Planning	08
	1.1.8 JnNURM in Urban Development in India	09
	1.1.9 JnNURM in Bhubaneswar City	11
	1.1.10 Theoretical Perspective	11
	1.2 Methodology and Study Design	14
	1.2.1 Rationale of the Study	15
	1.2.2 Statement of the Problem	15
	1.2.3 Research Question and Hypothesis	16
	1.2.4 Purpose of the Study	16
	1.2.5 Research Design	17
	1.2.6 Problem in Collecting Primary Data	20
	1.2.7 Limitations of the Study	20
	1.2.8 Chapterisation	21
8	Chapter- II: Urban Planning in Bhubaneswar: Evolution to JnNURM	22- 42
	2.1 Physiographical Characteristics of the City	22
	2.1.1 Topography	22
	2.1.2 Climate	23
	2.2 Historical Milestones of Bhubaneswar City	24
	2.2.1 Bhubaneswar in Ancient Time	24
	2.2.2 Kalinga Under the King Ashoka	24
	2.2.3 Odisha Under British	25
	2.2.4 Odisha as a State	26

2.3	Trade, Commerce and Industries	26
2.3.1	Stone Carving	26
2.3.2	Salt Manufacture	27
2.4	Health Infrastructures and Services	27
2.4.1	Diseases Common to the District	27
2.4.2	Health Care Facilities	28
2.4.3	Government Infrastructures and Health Care	28
2.4.4	Private Initiatives in Health Care	28
2.5	Public Health Facilities	29
2.5.1	Water Supply	29
2.5.2	Sewerage System	29
2.5.3	Toilet Facilities	30
2.5.4	Solid Waste	30
2.5.5	Street Lighting	31
2.5.6	Traffic and Transportations	31
2.6	Planning Process in Bhubaneswar City	31
2.7	Planning Process Since Independence	33
2.7.1	The Temple City (up to 1948)	34
2.7.2	The New Capital (1948- 56)	34
2.7.3	Growth of Institutions (1956- 68)	35
2.7.4	Master Plan (1968- 88)	35
2.7.5	Comprehensive Development Plan (1988- 2001)	36
2.7.6	Perspective Plan (Vision 2030)	36
2.7.7	The CDP and Present Bhubaneswar	38
2.8	Slums in Bhubaneswar City	39
2.8.1	Slum Improvement Programmes in the City	40
2.10	Conclusion	42
9	Chapter- III: Socio-Economic and Demographic Profile	43- 79
3.1	Socio Demographic Characteristics	42
3.2	Work and Occupational Characteristics	49
3.3	Income and Household Characteristics	54
3.4	Basic Infrastructure Available to Households	57
3.5	House rent and Basic Infrastructures	68
3.6	Social Disparities in Access to Basic Infrastructures	70
3.7	States Initiatives Towards Reducing Disparities	74
3.8	Conclusion	79
10	Chapter- IV: Health Care Services, Expenditures and Utilisation: A correlation Analysis	80- 110
4.1	Classification of Diseases	80
4.1.1	Minor vs. Major Illnesses	80
4.1.2	ICD and Disease Classification	81

4.2	Demographic Profile and Morbidity	81
4.2.1	Age Structures and Morbidity Pattern	81
4.2.2	Sex Composition and Morbidity	82
4.2.3	Work Status and Morbidity	83
4.2.4	Source of Water and Morbidity	85
4.3	Morbidity and Health Care	89
4.3.1	Place of Treatment	89
4.3.2	Health Expenditures	92
4.3.3	Health Expenditure and Insurance	101
4.3.4	Mortality	102
4.4	Correlations of Household Level Variables	103
4.5	Regression Analysis	105
4.5.1	Result of Multivariate Analysis for Morbidity	105
4.5.2	Result of Multivariate Analysis for Health Exp.	107
4.6	Conclusions	110
11	Chapter- V: Health Enhancing Factors; Findings and Conclusions	111- 129
5.1	Benefits From Various Schemes	111
5.2	Factors Influencing Access to Health Care	114
5.2.1	Socio-economic Condition	114
5.2.2	Influence of the Place of Origin	116
5.2.3	Health Infrastructures	116
5.2.4	Free Medicines vs. Paid Treatment	117
5.2.5	Health Differences in between the Living Places	177
5.3	Summaries of the Study	121
5.4	Major Findings	122
5.4.1	Demographic Characteristics	122
5.4.2	Basic Facilities	124
5.4.3	Health Status	126
5.5	Conclusions	127
12	Bibliography	130- 136
13	Annexures	137- 150
14	Appendix	151- 166

LIST OF TABLES

Table No.	Name of the Table	Page No.
1.1	Growth of urban India (1901 – 2011)	06
2.1	Populations growth in Bhubaneswar city	39
2.2	Growth trends of slums in the Bhubaneswar city	40
3.1	Age and sex composition of the surveyed population	44
3.2	Duration of stay in the particular slum by the surveyed population	47
3.3	Social groups, major religions and household size	47
3.4	Household income and type of house	51
3.5	Educational qualifications and working status	51
3.6	Primary occupations and household income	52
3.7	Social groups and households' primary occupations	53
3.8	Social groups and domestic help / labour	54
3.9	Incomes at individual and household level	55
3.10	Household size and household income	55
3.11	Social groups and household income	56
3.12	Household incomes and house rent	57
3.13	Social groups and Record of Right (RoR) of homestead lands	58
3.14	Social groups and ownerships of the houses	59
3.15	Ownership of houses and house property elsewhere	59
3.16	Ownership of the house and distance from the source of water	60
3.17	Households by type of ventilations in rooms	60
3.18	Household size and rooms per household	61
3.19	Household income and distance from the source of water	62
3.20	Household income and treatment of drinking water	62
3.21	Main source of water and treatment of it for drinking purpose	63
3.22	Distance from the main source of water	64
3.23	Primary occupations and toilet facilities	66
3.24	House rent per month by electricity and toilet facilities	69
3.25	House rent per month and sources of water	70
3.26	Social group and type of houses and cooking places	71
3.27	Social groups and ownership of houses elsewhere	72
3.28	Social groups and distance from the source of drinking water	72
3.29	Disposing of household waste water by social groups	73
3.30	Toilet facilities by social groups	74
3.31	Social groups and housing benefits under JnNURM	75
3.32	Possession of voter ID cards and ration cards	76
3.33	Social groups and access to pension benefits	77

3.34	Voter ID cards and access to the ration cards	78
3.35	Voter ID cards and access to the pension benefit	78
4.1	Age group and morbidity patterns	82
4.2	Sex composition and morbidity pattern	83
4.3	Work status and morbidity pattern	83
4.4	Main source of water and morbidity pattern	86
4.5	Primary occupations and reported morbidity	87
4.6	Age groups and disease category	88
4.7	Morbidity pattern and place of treatment	90
4.8	Source of treatment by education	91
4.9	Source of treatment by duration of residence in slum	92
4.10	Morbidity pattern and health expenditure	93
4.11	Health Expenditures by age groups	95
4.12	Social groups and health expenditures	96
4.13	Household size and health expenditures	97
4.14	Primary occupations and health expenditures	98
4.15	Monthly household income and health expenditures	99
4.16	Type of house and health expenditure	99
4.17	Disease category and health expenditures	101
4.18	Death due to diseases of any members since last three years	103
4.19	Correlations of the household level variables	104
4.20	Result of binary logistic regression for morbidity at household level	106
4.21	Result of binary logistic regression for health expenditures	108
5.1	Benefits through various government schemes	112
5.2	Major health enhancing factors	118

LIST OF FIGURES (GRAPHS)

Figure No.	Name of the Figure	Page No.
1.1	Designing of sample and data collection mechanisms	19
3.1	Marital status of the surveyed population	45
3.2	Sex composition and educational qualification	46
3.3	A Tribal household in <i>Saliasahi</i> (Site- 6) in Bhubaneswar city	48
3.4	Age group and working status by sex	49
3.5	Electrification to the households	65
3.6	Disposal of household's waste water	66
3.7	Households with toilet facility details	68
3.8	Social groups and life insurance	77
4.1	Disease classifications by working status	84
4.2	Place of treatment	89
4.3	Health Expenditures at household level	93
4.4	Mode of treatment and place of treatment	94
4.5	Loan taken/borrowed for treatment by the households	97
4.6	Households having life insurance and health insurance	102

LIST OF MAPS

Map No.	Name of the Map	Page No.
2.1	Bhubaneswar in Odisha outlined map	23
2.2	Map of Bhubaneswar (Current growth directions of the city)	33
2.3	The BCUC Perspective plan (Vision 2030)	37

ABBREVIATIONS

AAV	-	Antyodaya Anna Yojana
AIIMS	-	All India Institute of Medical Sciences
BBSR	-	Bhubaneswar
BCUC	-	Bhubaneswar Cuttack Urban Complex
BDA	-	Bhubaneswar Development Authority
BMC	-	Bhubaneswar Municipal Corporation
BPL	-	Below Poverty Line
BSUP	-	Basic Services to the Urban Poor
CBO	-	Community Based Organisation
CDP	-	City Development Plan
CHC	-	Community Health Centre
Col.	-	Column
DLHS	-	District Level Household and Facility Survey
DWCUA	-	Development of Women and Children in Urban Area
Exp.	-	Expenditure
FGD	-	Focused Group Discussion
Gen.	-	General
GoI	-	Government of India
GoO	-	Government of Odisha (Orissa)
Govt.	-	Government
HH	-	Household
ICD	-	International Classification of Diseases
ICDS	-	Integrated Child Development Services
IGM	-	Indira Gandhi Memorial
Indiv.	-	Individual
INR	-	Indian Rupees
JnNURM	-	Jawaharlal Nehru National Urban Renewal Mission
Ki	-	Key Informant
LPCD	-	Litres Per Capita Per day

LED	-	Light-Emitting-Diode
MDG	-	Millennium Development Goal
MLD	-	Million Litres Per Day
Mtrs.	-	Metres
NFHS	-	National Family Health Survey
NGO	-	Non Government Organisation
NH	-	National Highway
NISWASS	-	National Institute of Social Work and Social Sciences
Nos.	-	Numbers
NSDP	-	National Slum Development Plogramme
NUHM	-	National Urban Health Mission
OBC	-	Other Backward Classes
PDS	-	Public Distribution System
PHC	-	Primary Health Centre
PHEO	-	Public Health Engineering Organisation
PPP	-	Public Private Partnership
Prov.	-	Provisional
PRUDA	-	Planning and Resources for Urban Development Affairs
Pvt.	-	Private
RAY	-	Rajiv Awas Yojona
RGI	-	Registrar General of India
RoR	-	Record of Rights
RSBY	-	Rashtriya Swasthya Bima Yojna
SC	-	Scheduled Caste
SHGs	-	Self Help Groups
SJSRY	-	Swarna Jayanti Shehri Rojgar Yojana
SPARC	-	Society for the Promotion of Area Resource Centre
SPSS	-	Statistical Package for the Social Sciences
ST	-	Scheduled Tribe
Tot.	-	Total
TSC	-	Total Sanitation Campaign

UIDSSMT	-	Urban Infrastructure Development Scheme for Small and Medium Towns
UK	-	United Kingdom
ULBs	-	Urban Local Bodies
USEP	-	Urban Self Employment Programme
UWEP	-	Urban Wage Employment Programme
VAMBAY	-	Valmiki Ambedkar Awas Yojana
VISWASS	-	Vivekananda Institute of Social Work and Social Sciences
WHO	-	World Health Organization
Yrs	-	Years

CHAPTER – I

CONCEPTUAL FRAMEWORK AND RESEARCH DESIGN

1.1 CONCEPTUALISATION AND THEORETICAL FRAMEWORK

1.1.1 Introduction

Bhubaneswar is the capital city of Odisha, bearing a lot of historical memories of the state. It is the first post colonial planned city along with Chandigarh and Gandhinagar (Kalia, 1987); still it is one of the slow growing cities in India (Bhagat, 2011). There is scope to growth and growth can be planned in a way to address the multifaceted requirement of development; in the light of City Development Plan (CDP) under Jawaharlal Nehru National Urban Renewal Mission (JnNURM). Therefore, it is important to see the growth pattern and factors affecting in growth of the city. People from the neighboring villages and rural Odisha migrate to this city in search of works. The quantum of migration was at its peak during the 1970s and 1980s. At present, although migration has been declining slowly; the rapid infrastructure development and availability of modern facilities in the city attracts the people to come and established here. This study want to see the growth of the city, planning under CDP; relevance of health and the differentials among the urban poor and non-poor in terms of their health conditions and access to the basic public health services and health infrastructures.

1.1.2 Background of the Study

Urbanisation is the rapid and massive growth of population in cities. It is an ‘important demographic shift worldwide’. More than half of the world’s population is living in urban areas (World Bank, 2011). In India 31.16 per cent of the people is living in urban (RGI, 2011). With rapid growth of urban population it became heavy burden to manage the cities by their administrative body. The idea of Healthy City of the World Health Organisation (WHO) (Corburn, 2009) will not be achieve if this trend continues. Bhubaneswar is the capital city of Odisha State; considered as the biggest growing city in the State. It falls in Khordha district where 48.11 per cent of total people are living in urban area; and account the highest in Odisha (RGI, 2011); (Annexure- X). The city consists of 8.8 lakh population

(Bhubaneswar metropolitan); more than 3 lakh slum population living in 377 identified slums in the city. Out of 377 identified slums 101 get registered under BMC and getting the minimum public health facilities like water supply, electricity, road connectivity and sanitations (SPARC, 2011)¹.

This urban centre is historical in nature and well planned for its design. It has occupied government offices, large business centres, industries and has a large population size. Inequalities in health are of concern to all countries and represent one of the biggest possible challenges to the conduct of government's policy (Black and Margaret, 1992). Likewise Bhubaneswar city consists of different economic groups /classes. That leads to the inequality in health status and accessibility to health services.

1.1.3 Defining Key Concepts

This is a modest attempt to understand the linkages between state initiatives like CDP under JnNURM and public health services in addressing the health and living condition needs of the urban poor. Bhubaneswar is one of the cities which has a history of planning efforts and is also endeavoring to implement the CDP under JnNURM. The city is growing much slowly as compare to other class one cities. So, it has the scope to growth further and attracts migration. Development activities in and around the city have ushered in migrant under who in the absence of viable economic prosperities, tend to located themselves in squatters with poor living conditions such as temporary structure of housing with often no ventilations and high crowding; poor sanitation and poor drainage; no or poor availability of safe water and electricity; and poor approach roads. Low wages and poor living conditions affect the health of the people.

1.1.4 Defining Public Health

Health: - Health is the intensity of functional or metabolic efficiency of a living being. In human beings it is the condition of a person's body, mind and spirit; that is free from any illness, injury or pain. Health is a relative condition of a human being with his/her surrounding environment. The World Health Organization (WHO) defined health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or

¹ SPARC is a partner NGO to the Govt. of Odisha in slum development activities in the State.

infirmity.’ The WHO has been criticized by public health scholars for the term use of ‘state’ which refers to a static point. Health cannot be static; it is a process which is changing state continuously in reference to the surrounding environment like economic conditions, social status, living condition and other determinants of a person. The other term used in this definition is ‘well-being’ which is an ideal term rather actual; and in reality it is difficult to achieve total well being. People, who are living healthy, may not have ‘total well-being’; still they are taken as healthy. Therefore the definition of the WHO is lack of elements of realistic and is an ideal definition (Qadeer, 2011).

Public Health: - Public health is defined and used in a variety of ways by public health practitioners and researchers. It has been defined according to the suitability of the field of operation. Public health is primarily concerned with the health of the entire population, rather the health of individual. It is the approach to medicines that are concerned with the health of the community as a whole. Public health is the approaches at mass instead of individuals or clinical efforts. Its main features are promotion of health and prevention of diseases and disabilities (Childress et al, 2002).

C.E.A. Winslow (1920), one of the leading figures in the history of public health, characterized public health practice as ‘the science and art of disease prevention, prolonging life, and promoting health and well-being through organized community effort for the sanitation of the environment, the control of communicable infections, the organization of medical and nursing services for the early diagnosis and prevention of disease, the education of the individual in personal health and development of the social machinery to assure everyone a standard of living adequate for the maintenance or improvement of health.’ This definition not only explains what public health is, but also contains some discussion about how public health can be achieved and procedures which need to be put in place to affect health in a positive way (Verweij and Dawson, 2007).

The public health practice comprises organised efforts to improve the health of communities. Public health prevention strategies are targeted to populations rather than to individuals. Throughout history, public health effort has been directed to the control of transmissible diseases, reduction of environmental hazards and provision of safe drinking water. Because social, environmental and biologic factors interact to determine health, public health practice

must utilize a broad set of skills and interventions. During the 20th century, the historic emphasis on protecting communities from infectious disease and environmental threats expanded to counter risk from behaviors and lifestyles that led to chronic disease. Population-based prevention resulted in major gains in life expectancy during the 1990s. In the beginning of this century, public health expanded even further as numerous events necessitated a shift in public health priorities (Novick et al, 2008).

The public health, therefore, intervened with all the determinants of health; which are otherwise responsible in maintaining good health by a person or by a community as a whole.

1.1.5 Urban, Urbanisation and Urban Process

Urban: - Urban is derives from the Latin ‘Urbs’, a term used by the Roman; which means ‘city’. Urban area is a large settlement of population in an area, ultimately developing social institutions and civic centres to maintain themselves. High density of population in the area is the primary concern (Anthony, 2011). The facilities like education, healthcare system, employment avenues, civic facilities and social welfare are the components of urban areas. For a common man urban is a city or a populous area where more people are living; availability of basic facilities, markets / shopping complex, medical facilities, communications / motor vehicles, educational institutions are available; all time availability of health facilities, water supply, electricity, transportations, concreted roads and infrastructures. Those are differing from the rural area and commonly named as ‘city’ or ‘town’. It is because such facilities are rarely found in rural areas.

Urban is defined by the size of its population, space, population density, as well as economic, social and administrative organizations. For the Census of India 2011, the definition of urban area is as follows:

- ⇒ All places with a municipality, corporation, cantonment board or notified town area committee, etc. This category of urban units is known as Statutory Towns. These towns are notified under law by the concerned state / UT Government and have local bodies like municipal corporations, municipalities, municipal committees, etc., irrespective of their demographic characteristics.
- ⇒ All other places which satisfied the following criteria:
 - A minimum population 5000;

- At least 75 per cent of the male main working population engaged in non-agricultural pursuits; and
- A density of population of at least 400 persons per sq. km.

This category of towns is known as Census Town. These were identified on the basis of Census 2001 data (RGI, 2011).

Urbanisation: - ‘Urbanization is the process whereby large numbers of people congregate and settle in an area, eventually developing social institutions, such as businesses and government, to support themselves. Urban areas, or those pockets of people and institutions thereby created, are generally characterized as relatively dense settlements of people. Further-more, it is claimed, they sometimes originate from the effort by authorities to consciously concentrate power, capital, or both at a particular site’ (Anthony, 2011). In simple terms urbanisation is growth of population and other infrastructures in urban settlement; it may be a town or city. The United Nation defines ‘Urbanisation’ as ‘movement of people from rural to urban areas with population growth equating to urban migration’. The process of urbanization is rapid all over the world.

Urban Process: - Urban process refers to development or physical growth of the cities and their suburbs. Some of the urban processes operating in the cities are urban growth, urban decay, urban renewal and consolidations. Geographers have tried to explain these patterns of urban process in cities. One of the basic models of urbanization process is the ‘concentric zone model’. This model of urban process suggests that cities have a concentric pattern that shows different types of land use and spatial inequalities.

‘The captive factors behind urbanization varied from time to time, leading to not one but several urbanization processes at different points in time. In the prehistoric period, urbanization was synonymous with the origin and rise of civilization itself, thus manifesting itself essentially as a cultural process. In the historical periods, from ancient time to the British period, urbanization was inextricable related to the rise and fall of kingdoms, dynasties and empires, and thus in effect urbanization in this period was essentially a political process. In recent times, urbanization has been associated with industrialization and economic development. In this sense, urbanization is essentially an economic process’ (Ramachandran, 1989).

Urban process changes the density of population. So the city administration also has to improve, manage more people in the limited geographical area. The density and size of population may vary among different regions and countries. But it characterizes the changes in the city; which can be positive growth as well as negative (decay) or may be changes of its structure. The growth of population in India has shown in Table - 1.1.

Table - 1.1 Growth of urban India (1901 – 2011)

Years	Urban population (Million)	Percentage of urban population to total population	Decadal growth rate (%)
1901	29.9	10.80	-
1911	25.9	10.30	0.4
1921	28.1	11.20	18.3
1931	33.5	12.00	19.1
1941	44.2	13.90	32.0
1951	62.4	17.30	41.4
1961	78.9	18.00	26.4
1971	109.1	19.90	38.2
1981	159.5	23.30	46.1
1991	217.6	25.70	36.4
2001	306.9	28.00	31.0
2011	377.0	31.16	31.8

Source: - *Census Report of India 2011, RGI, Govt. of India*

1.1.6 Defining Urban Slum

Slums, since almost always, are located in urban areas, can also be therefore; called as ‘urban slums’. People habitats in the urban areas having poor economic conditions; high density of populations; miserable conditions of housings, water supply, sanitation, electricity, and all the basic civic amenities and social facilities; having no legal recognitions. Notably the health of the people living in such areas is poor (UN-HABITAT, 2003). Defining slums as well as the urban poor both raises several conceptual issues. Therefore the concepts and definitions of slums vary from country to country. Even in the same country, slum settlements may be defined differently according to the regional diversities. Experts in a UN-HABITAT meeting held in 2002 agreed on the definition of slum as: ‘A slum is contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A slum is often not recognized and addressed by the public authorities as an integral part of the city... it is a heavily populated urban area characterized by substandard housing

and squalor (Ibid.). Thus, UN-HABITAT defines a slum household as ‘a group of individuals living under the same roof in an urban area’ who lack the following:

1. Durable housing of a permanent nature that protects against extreme climate conditions.
2. Sufficient living space which means not more than three people sharing the same room.
3. Easy access to safe water in sufficient amounts at an affordable price.
4. Access to adequate sanitation in the form of private or public toilet shared by a reasonable number of people.
5. Security of tenure that prevents forced evictions.

However, slums are not homogeneous and all slum dwellers do not suffer from the same degree of deprivations. The degree of deprivation depends on how many of the five conditions that define slums are prevalent within a slum households (Ibid.).

Slums in Indian Scenario: - The characteristic of urban slums are almost same worldwide. The economic status, housing structures, availability of basic civic facilities and the health outcomes are very similar often, the problem of slums, squatters and homeless is considered to be a by-product of population growth and migration to urban centres (Jain, 2011). Diseases caused like air borne, water borne, infectious and nutritional deficiencies; and undiagnosed mental illness are found to be common within the slums.

The rapid growth of population in both rural and urban areas and slower growth of incomes; infrastructures and facilities affect the poor most. Such condition also influences the rural-urban migration and as a result rural poor concentrate in urban slums where they get house units cheaper. ‘An important reason for growth of slums and thus inhuman living condition is the failure of the authorities to pro-actively provide affordable and inclusive social housing to the masses’ (Ibid.). Indian cities spend their resources more on regularization, upgradation or rehabilitation of existing informal settlements, than creating new affordable housing stock

1.1.7 Urban Planning

Urban areas are dense in population, have industries and are rich in infrastructures. Planning is important for managing the urban places as part of city administration. ‘Urban places and the city planning processes that shape them-particularly those processes governing land use, housing, transportation, job opportunities, social services, the quality of the urban environment and opportunities for public participation in local government-are increasingly understood as powerful determinants of population health’ (Corburn, 2009).

Planning for a city or urban region is not a new concept in urbanization process. In India the urban civilizations were even found during more than 4 million BC. The Harrappan and Mohenjodaro civilization in the Indian subcontinent existed about 4500 year BC, and is evident of urbanization process (Ramachandran, 1989). The main city of the civilization was well planned; including attention given towards the public health concerns. The then system of urbanization and urban planning are still relevant in 21st century’s urban planning. Urbanisation and urban plans have been relevant in all time periods. Urbanisation is often considered synonymous to modernization and development. India as an independent country has taken initiative in many ways for development of the country; but there has been less attention towards urban development and urban management at planning and policy level due to the rural centric development plans during initial Five Year plans.

By the end of 20th century the pattern of urbanisation in India has remained spatially and structurally unbalanced. There has been a need from the beginning of the planning era ‘to achieve a coordinated and regulated urbanization pattern in India for the balanced regional development (Pathak, 2004). These ideas did not emerge with new urban policy. They were included in the Five Year Plans of independent India. ‘During the First Five Year Plan, a need was felt to formulate a National Town Planning Act. The main task was to settle the refugees from Pakistan and to produce the housing plans, slum clearance and restriction of slum expansion’ (Ibid.). It was mainly on construction of new towns; Bhubaneswar Chandigarh and Gandhinagar were planned at that time (Kalia, 1987). And the second Five Years Plan was prioritized on setup of the industrial towns as the prospective centers of urbanization. The concept of ‘slum clearance’ was revised to achieve ‘slum improvement’

because the government understood that slums cannot be removed forever; and that 'slums are the part of urban area'; and they constitute to the economy (Pathak, 2004).

After Independence, India embarked on programmes of economic development and planning. Planning encompasses policies regarding various aspects of the national economy and society, which provide the framework for programmes for bringing about orderly change (Ramachandran, 1989). Urbanization is a natural outgrowth of socio-economic development in general, and industrialization in particular. However, while there are specific and detailed statements of policy for industrial development, agricultural development, population growth and health, for instance there was no national urbanization policy statement. Even when policies were formulated with respect to the urbanization, they were not articulated in a collective and coherent document (Ibid.). However, the housing and urban development policies were there since First Five Year Plan (1951- 1956). But the rural based development programmes were given importance. One of the reasons was that at the time of India's independence nearly 80% of the people were living in rural area. For long there were no specific urban policies which can be directed towards the healthy growth of Indian cities.

1.1.8 JnNURM in Urban Development in India

There are many schemes implemented for urban development in India through major policies and programmes. (Annexure – VII; detailed Flagship Programmes). The Jawaharlal Nehru National Urban Mission (JnNURM) is one of the important flagship programme which has been intended to address the needs of the cities and urban regions. As a part of the commitment to meet the Millennium Development Goals (MDGs), the Government of India proposed to (i): facilitate investments in the urban sector; and (ii): strengthen the existing policies in order to achieve these goals. The Government of India launched the JnNURM on 3rd December 2005. The duration of the project is seven years which will complete by 2012-13. The mission aims to create economically productive, efficient, equitable and responsive cities in the country. There are two sub-missions of the project (JnNURM). Those are (i): Urban infrastructures and Governance and (ii): Basic services to the urban Poor. However the main thrusts of the project / mission are as follows:

⇒ To improve and augment the economic and social infrastructures of the cities.

- ⇒ To ensure basic services to the urban poor including security of tenure at affordable price.
- ⇒ To Initiate wide-ranging urban sector reforms of eliminate legal, institutional and financial constraints that have impeded investment in urban infrastructure and services.
- ⇒ To strengthen municipal governments and their functioning in accordance with the provisions of the Constitution (74th) Amendment Act, 1992 (Govt. of India, 2012).

The Mission (JnNURM) has three basic elements; as follows:

Integrated Development of Infrastructure: - It has carried out by providing adequate funds to meet the deficiencies in urban infrastructure services. This includes funding infrastructure projects relating to water supply and sanitation, sewerage, solid waste management, road network, urban transport, and redevelopment of old city areas. The programme lays special emphasis on urban renewal programme for the old city areas to reduce congestion. It also attempts to ensure planned development of cities including peri-urban areas, outgrowths and urban corridors leading to dispersed urbanisation.

Provision of Basic Services: - It has provided the basic services to the urban poor by up scaling the delivery of civic amenities and provision of utilities. The emphasis is on universal access and includes security of tenure at affordable prices, improved housing, water supply and sanitation, and delivery of other existing services of the government for education, health and social security.

Urban Sector Reform: - Adoption of wide ranges urban sector reforms, which will facilitate establishment of linkages between asset-creation and asset-management and ensure long-term project sustainability. The thrust is to ensure improvement in urban governance and service delivery so that ULBs become financially sound and sustainable for undertaking new programmes. A set of 13 mandatory reforms at State and Central level and 10 optional reforms at the level of State and local level is listed in the toolkit.² All the 23 reforms (Annexure- IX) need to be implemented in the mission period. Cities have the freedom to opt

² Toolkit is a complete document containing eligibility criteria and guidelines, associated with the JnNURM.

for any two reforms from the optional category in each year of implementation of JnNURM (Govt. of India, 2012).

The mission (JnNURM) has not included in giving assistance to the components like (i): Health, (ii): Education, (iii): Power / electricity, (iv): Telecommunications, (v): Wage employment programme and staff components and (vi): Creation of fresh employment opportunities (Ibid.). This is also reflective and inherent apathy of planners beyond physical planning.

1.1.9 JnNURM in Bhubaneswar City

There are 63 cities selected for implementing the mission. Out of that 7 mega cities having more than 4 million population, 28 cities having population between 1 - 4 million and another 28 selective cities (State capitals and other cities / Urban areas of religious / historic and tourist importance) having population less than one million. Population norm is referred as per Census 2001. Bhubaneswar falls under the category of less than one million populations. It is a State Capital and historic place in the country. Two other reform driven schemes as part of Sub-missions namely Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) and Integrated Housing and Slum Development Programme (IHSDP) were included in the JnNURM for Bhubaneswar city.

Four sites namely (i): *Bharatpur*, (ii): *Nayapali*, (iii): *Dumuduma* and (iv): *Gadakana slum of Damana* in the Bhubaneswar city were included under Basic Services to the Urban Poor (BSUP) component of the JnNURM. Within these 4 sites, 19 slums are identified for implementing the programme. Activities under BSUP (Housing, drainage, sewerage, street light etc.) are in progress in all the identified slums in the city.

1.1.10 Theoretical Perspective

Urban sociologists have characterised 'cities as rapidly growing and high density population with multistoried buildings; exploding markets, congestion, pollution, poverty and unemployment, unauthorized settlements or slums, chronic shortages of basic urban services, lack of community feeling and petty crime.' (Singh and Shukla, 2005) On the other hand, economists and policy makers consider cities as projectors of engines of growth, and

indicator of development and major contributor to the national economy (Ibid.). Therefore, it accompanied by growing disparities and inequalities in distribution of resources.

The land use of the city during 1998-2005 showed shift in the built-up-form from agricultural area, vegetation and vacant land. The industrial and residential areas were expanded due to the natural increase, re-classification into urban and rural to urban migration. While growth of population was rural-urban migration during 1970s and 80s, some of these other factors become important in recent years (Mishra et al, 2005).

The growing population in Bhubaneswar city is facing many challenges in city planning; managing the growing numbers of people; and their daily needs because at the time of initial planning, the city was planned for accommodate 40 thousand people only (Govt. of Odisha, 2006). Urbanisations in developing countries are often limited to the problems of metropolitan and mega-cities. The developmental and public health issues of the large number of intermediate cities and small towns do not get adequate attention (Sebastian, 2001). These urbanised areas face problems of shortage of land, housing and water; over-utilization of services and meager resources to meet civic needs (Ibid.). Few studies examine the causes of uneven development across regions, resulting in regional inequalities and urban primacy, in terms of centralization of political and economic power (Kundu, 2011; Mahadevia, 2011). Therefore, it is important to understand the pattern of growth of Bhubaneswar city, the existing problems and how the urban planning addresses the people particularly the poor who are living in slums in the city.

It is fairly evident that inequalities exist in the cities. The hypothesis that differentiates 'socio-economic status influences health' has been accepted almost unanimously in the field of public health by a number of scholars. One is the initial studies that date back to 1980s when the Black Report was published. The Black Report was, published by the then Department of Health and Social Security in the United Kingdom. It was the report of the expert committee on Health Inequality chaired by Sir Douglas Black. It demonstrated that despite overall health improvement ever since the introduction of the welfare state, there were widespread health inequalities in the country. The main cause of these inequalities was the consequences of the economic inequalities (Black and Margaret, 1982). A series of studies were carried out by a group of scholars also who examined 40 years of National

Health Services in Britain and its role in reducing health inequalities in the country. The recommendations of the Black Report are relevant till date and accepted by the planning authorities in different regions and states across the world.

In the present study an attempt has been made to examine the health inequalities in Bhubaneswar city. It endeavors to understand the correlation between the socio-economic status and the health inequalities in the city. Socio-economic disparities reflect economic hierarchy; caste system; class hierarchy within castes and propensities to access resources and services in the city. The living condition of a person whose household income is 5000 INR per months differs from that having monthly household income 10000 INR per month. The health of different occupation groups also varies. People who are living in slums have different health status from those who are living in non-slums in the same city. The third round of National Family Health Survey (NFHS-3, 2006 - 07) data in 'Health and Living Conditions in Eight Indian Cities' shows the gap between the slum and non slum in the urban areas. It has evident from the NFHS - 3 that not only the health conditions but also the socio-economic conditions such as access to housing, water supply, drainage and approach road also have a wide gap in between the slum and non-slum residents in same urban areas (Govt. of India, 2009).

The association between disease and civic amenities has been amply and effectively discussed by John Snow (1849). Contaminated drinking water can be a medium of transmission of water borne disease. The cholera epidemic in London during the year 1848-1854 was a case in point studied by John Snow to saw that the unhygienic living condition and source of drinking water influences the health of the individual or communities (Snow, 1849).

It becomes important on the part of the government to look into the existing situations and steer the preventive measures. It was difficult for John Snow to prove the cause behind the cholera epidemic in London. A large numbers of lives were lost. The sewer water when directed in a way that no drinking water was contaminating, cholera had been controlled. So the link between epidemic cholera and civic amenity (safe drinking water) was well established.

Likewise, this study aims to see the government's effort in provisioning of public health facilities for the citizens and particularly to the urban poor who are living in the slums. The study also aims to understand how the government through the JnNURM succeeds in planning a 'healthy city'. The World Health Organisation (WHO) has designed seven 'Principles of Developing a Healthy Cities Project' which gives importance to the equity, health promotion, intersectoral action, community participation, supportive environments, accountability and right to peace (Corburn, 2009); (Annexures - I and II). If all these principle will follow in planning for the urban cities in present context, every poor in the city can get the minimum basic facilities and live peacefully. The healthy city is a place that is continually creating and improving the physical, social and political environments and expanding the community resources that enable individuals and groups to support each other in performing all the functions of life and in developing themselves to their maximum potential (Ibid.).

Here I also endeavors to see the balance between all the components of development and their longevity that how the sustainability will carry on in future.

Therefore, in the present study we suppose to look into the state governments planning for the city, peoples' accessible to the benefits to basic public health services like water supply, drainage system, toilets and public sanitations, housing, road connectivity, street lighting, health services like access to the health infrastructures; and also include to see the peoples participation in planning and decision making for their own development as overall.

1.2 METHODOLOGY AND STUDY DESIGN

The present section outlines the Research Methodology used in this research. It deals with the organization of documentation procedure and guidelines for conducting the study. In this section various methods, steps and research instruments have been adopted in carrying out the present study. It is important in studying a research problem with logic. The detail methodology applied in the study has been discussed in the sections that follow.

1.2.1 Rationale of the Study

Bhubaneswar is the capital city of Odisha having glorious history. It has all modern and hi-tech facilities in health, educational, communication and transportations, industries and business; and the administrative centre point.

As each and every urban centres have their own administrative and planning body, Bhubaneswar also has the Bhubaneswar Municipal Corporation (BMC) in administering and overall development of the urban centre. There is a huge difference in living status of the people within city. People those who are living in the slums have poor access to basic and public health services and therefore, high in risk in their health condition. There is wide gap within the people living in urban slums and non-slums in the city.

This study looks into the access of public health facilities among the urban poor and non-poor (people living in slums and non-slums) in Bhubaneswar city. Basic facilities like housing, sanitation and drainage, drinking water; and access to health care services are included in this study. The study also looks into the plans made for the city development and how the working class people in slums involve in the planning and benefited from it. The purpose of the study is as follows:

- ⇒ Review of the public health planning of the Bhubaneswar city made by the State Government, Bhubaneswar Development Authority (BDA), and Bhubaneswar Municipal Corporation (BMC). The study also aims to investigate the major Public Health issues coming under the JnNURM.
- ⇒ How the slum dwellers avail the basic facilities like water supply, housing, basic sanitation and drainage system in their habitats and on the other hand how they avail the health facilities i.e., accesses to health centres, personnel and medicines.

Along with the secondary review and enquiry into the institutional settings in administrative mechanism; a primary field study in selected slums in the city has been conducted for better understanding of the situation of the poor.

1.2.2 Statement of the Problem

The Bhubaneswar Municipal Corporation (BMC) is responsible for administering and managing the city. Bhubaneswar Development Authority (BDA) has the key role in

developing plans for the city. Therefore, these two administrative bodies have major role in growth and development of the urban centre. The present study explores the Public Health Planning of the state government and its utilisation by and benefits to the people in the Bhubaneswar city. It will lay emphasis on the people with low income and who are living in slums in the city.

1.2.3 Research Question and Hypothesis

The research question is the core theme on which the whole work revolved. It is the question which completes the study with its answer. Here, the research question of the present study is: **How Jawaharlal Nehru National Urban Renewal Mission (JnNURM) influenced urban planning in incorporating public health issues in Bhubaneswar city?** Therefore, it has tested the Hypothesis: **JnNURM has influences the urban planning in incorporating public health issues** by addressing access and utilization of basic infrastructures, specially health and provisioning of health care services; specific to the people living in slums.

1.2.4 Purpose of the Study

The purpose of the present study is ‘to study the Public health issues in urban planning and understanding the role of JnNURM in Bhubaneswar city’, in creating the enabling environment for this.

Specific Objectives: - There are six specific objectives in this research. Those are as follows:

- ⇒ To analyse the planning process of health and urban development in Bhubaneswar city.
- ⇒ To examine the trends and patterns of urbanisation in Bhubaneswar city.
- ⇒ To study the planning process of Bhubaneswar Municipal Corporation under JnNURM.
- ⇒ To examine the illnesses and source of care seeking among the urban poor in the study area.
- ⇒ To understand the access to public health services like safe drinking water, toilets and sanitation by urban poor in the study area.
- ⇒ To study the benefits derived by the people in the study area under JnNURM.

1.2.5 Research Design

The present study has been done in the selected slums of Bhubaneswar. It required collecting data from various sources; government documents like plans, planners documents and reports; and data from the people for whom the city planning are formulated. People in the city are the stakeholders (direct beneficiaries) of each of the programmes implemented by the Government of Odisha. Therefore, data are collected from BMC and BDA for information related to the planning, and on the other hand two slums are selected for collecting the primary data.

Data Sources: - Data from both primary as well as secondary sources are collected for the present study. The primary data are collected during October 2011 to February 2012. The household survey was conducted during the month of December 2011 and January 2012.

Primary sources: - Field based data collected from the household survey, from key informants (Ki) inside the slums and from the service providers within the slums and/or within the city. Primary data are also collected from the Community Based Organisations (CBOs), Urban Local Bodies (ULBs), i.e., Bhubaneswar Municipal Corporation (BMC), Bhubaneswar Development Authority (BDA), and local NGO SPARC. Data are also collected from the private clinics and the health centres run with Public-Private-Partnership (PPP) inside the slums.

Secondary sources: - Public domains are mainly the sources of secondary data. To get information in details about the problem secondary data from previous studies, journals, books and related literature are followed. Government publications from the Government of Odisha and Government of India's report on the urban concern as well as on JnNURM are included in secondary data in the current study. Online journals, document and publications are also taken as secondary data in this study. Census data, National Family Health Survey (NFHS) reports, District Level Household and Facility Survey (DLHS) reports and city specific data from local media also have collected for the study.

Sample Design: - The sampling for the present study was purposive in nature. Two slums namely 'Saliasahi' and 'Bharatpur slum' were selected purposively in the Bhubaneswar city. Saliasahi is the biggest and oldest slum in Bhubaneswar city and is situated inside the core

city. This slum is not included in JnNURM. On the other hand, *Bharatpur slum* is a re-settled slum. People were displaced from the core city to that area during 1980s. *Bharatpur slum* was selected for implementing the programmes under JnNURM. In the first phase, a preparatory visit was done to identify the slums and the sites within. Some households and individuals were contacted and apprised with the nature of the study. Six sites were identified from *Saliasahi* to well represent to each part of the slum. Two sites were taken from *Bharatpur slum*. Total 8 sites were identified. From these sites 200 households were selected. *Saliasahi* is bigger in size both area and population as compare to *Bharatpur*. While *Saliasahi* has more than 1 lakh population; *Bharatpur* has about 20 thousand population.³ Therefore $\frac{3}{4}$ of the sample households were selected from *Saliasahi* and $\frac{1}{4}$ from *Bharatpur*. About 20 - 30 households were selected from each site which was divided on the basis of the regional districts⁴, socio-economical, linguistic, religious characteristics. In *Bharatpur* there were two sites and 25 households were selected from each. In *Saliasahi* 6 sites were selected for the same.

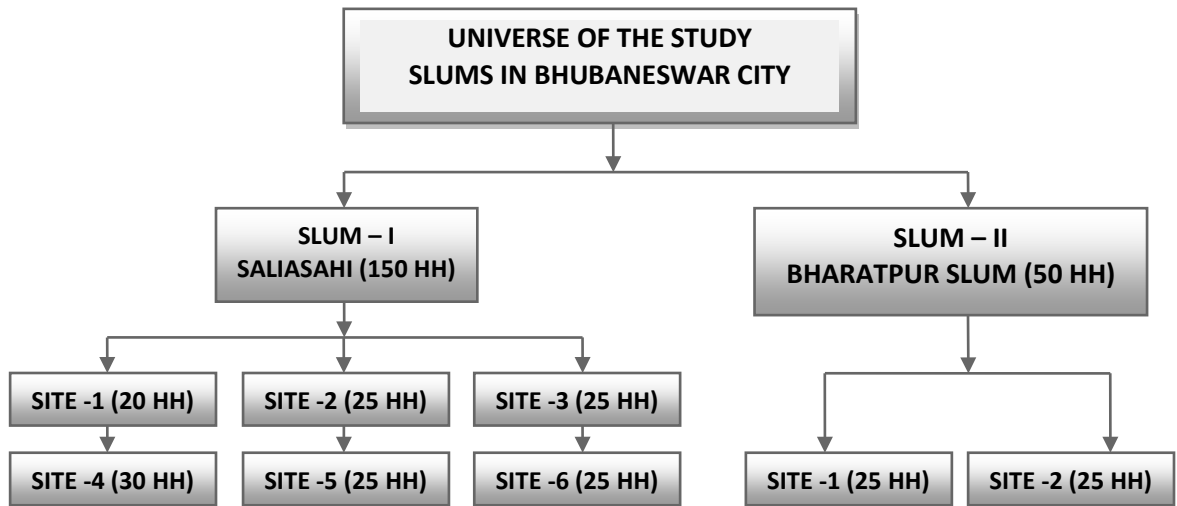
The simple random sampling was used to select the households. In each site one household was selected on the basis of earlier established contacted during the preparatory phase of the study. Then every 5 households to the right of the members were selected for the study. In case of refusal or absent the next households were included in the study. Details of sampling sites and number of households are presented in Figure- 1.1.

Households are selected randomly from each sites; started from the main entrant of the sites. For this purpose the researcher visited every identified household. Questionnaire schedules were canvassed to any of the available responsible member in the household. The interviewer documented the detailed information gathered through the interview. Detailed information of all the family members in each houses were collected. Below 18 years members of the households were not taken as the respondent.

³ The slum survey had been continuing and was not completed at the time of preparation of this report. The population sizes were approximate; came to know from the SPARC, which is under taking the slum survey in the city.

⁴ It has divide according to the households place or origin; from which district they belong to; dominancy of people from any specific district in the state.

Figure- 1.1 Designing of sample and data collection mechanisms



Research Methods and Instruments: - Individual interview method was adopted in collecting primary data. Case study method has been used for detail information of some cases specific in the field. Direct observation method had been carried out for identifying the physical assets and in case of the emotions of the respondents' feeling during the sharing of family events and history.

There were 3 sets of interview schedules used for collection of primary data (Appendix- I). Separate interview schedules for the 'household members', 'key informants' and the 'service providers' were used. All 3 sets of interview schedules were semi structured in nature. Daily diary and field notes were maintained for completion and addition in collecting data. Photographs have been taken in supporting the evident in primary data. It gives better represent and visualization of the reports.

Analytical Framework: - Content analysis and statistical method of analysis have been carried out in the present study. In content analysis data from printed (secondary) and verbal (primary) sources on morbidity and mortality pattern; sources of health care and probationing; disease specific problems and utilization pattern of health care services; and Case studies have been undertaken. In statistical method of analysis, Statistical Package for the Social Sciences (SPSS) and Microsoft Excel (MS Excel) have been used. In this analysis

frequencies, Cross tables, percentages, ratio correlations and regression analysis have been carried out in addressing the objectives of the study.

1.2.6 Problems in Collecting Primary Data

Houses were scattered in nature, majority of the households depend on daily wage labour work. Their timing for work is 8 am to 5 pm. During the field visit often the households had no adult members, because they were at their work place. In such situation those households had to left-out and next household had to be interviewed. People were mostly speaking in 'Odia'. The interviewer / researcher knew the language; a plus point to become familiar with the community and get the data as it required. Communications were made in Odia language and the researcher had to fill up the interview schedule in English translating the meaning of the communications. It became difficult in case of any respondent speak in tribal dialects; it was even difficult to collect the data relating to their morbidity because of the terminologies they used. In such cases the researcher had to ask the neighbour respondent households or/and note down the verbatim and later translated those consulting the key informants in the same study site.

1.2.7 Limitations of the Study

This particular study has been conducted in Bhubaneswar city. Therefore the findings from this study may not be fit with any other urban centres. Mainly the primary data were collected from particular slums in a specific time period; that may not be identical to any other time period or fit to any other slums inside the city or outside it. Information was collected based on what people said. Therefore results of this study may not match with any other previous or later studies in the same city. Moreover given that the basic and living conditions of the people in slums are poor, there may be evidences of similarities in patterns of access to health care and basic amenities with other similar socio-economic and geographical regions in any urban settings.

1.2.8 Chapterisation

The whole research work has been divided into 5 main chapters. Those are as follows:

- ⇒ **Chapter - I:** This chapter introduces the dissertation; which includes the introduction, conceptualisation, review of literature and the methodology of the study.
- ⇒ **Chapter - II:** Evolution, trend and pattern of urban planning in Bhubaneswar city has been introduced in this chapter. It also has introduces the planning process in the city under JnNURM.
- ⇒ **Chapter - III:** Present conditions, Socio-economic and demographic profile of the study area is the main part of this chapter.
- ⇒ **Chapter - IV:** This chapter deals with the health condition and the health profile of the study area. It includes health care services and utilisations, health expenditures and correlation analysis of health enhancing factors.
- ⇒ **Chapter - V:** This chapter concludes the study. It includes the health enhancing factors, findings and conclusions.

CHAPTER – II

URBAN PLANNING IN BHUBANESWAR: EVOLUTION TO JnNURM

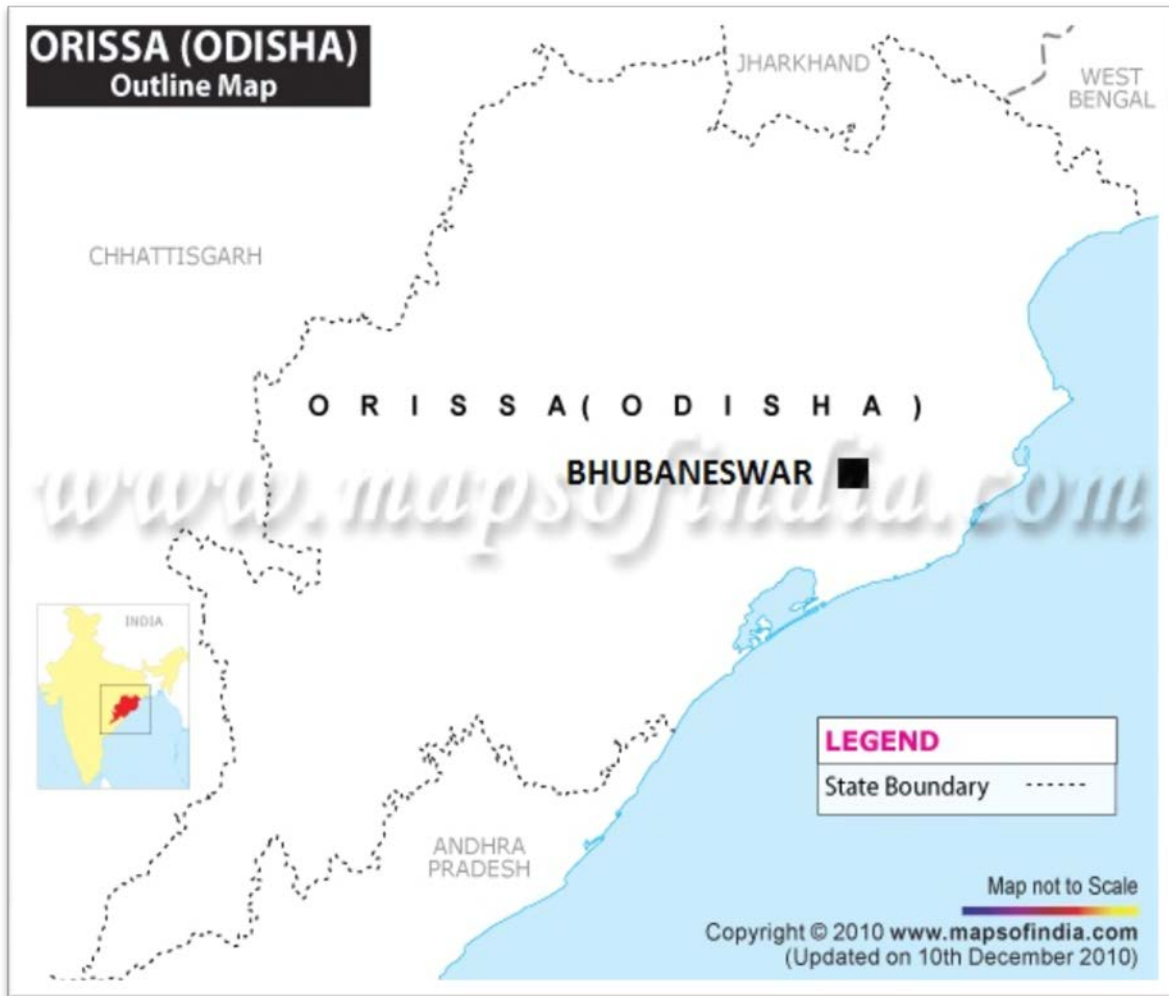
Bhubaneswar City has a long history. It has been a capital of many powerful kings of ancient India. It is important to know about history, geographical location and expansion and the process of growth of the city over time as a background for examining the trend of planning in the city. The baseline or the background knowledge is essential for further study of the city. Therefore, this chapter deals with the evolution, history and growth of the city. It has been attempted to give a look on the trend of urban planning in the city through this chapter.

2.1 PHYSIOGRAPHICAL CHARACTERISTICS OF THE CITY

Bhubaneswar is in *Khordha* district of coastal Odisha. It is situated about 40 km north of Bay of Bengal. It is located between 20° 12' 00" N to 20° 23' 00" N latitude and 85° 44' 00" E to 85° 54' 00" E longitude on the western fringe of the coastal plain across the main axis of the Eastern Ghats. It is situated on the Howrah - Chennai main South Eastern Railway line at 435 km from Howrah and 1215 km from Chennai and the National Highway No.5 connecting Calcutta and Chennai passes through the city. The city lies to the west of the 'Mahanadi Delta' on the bank of the river *Kuakhai*, distributaries of river Mahanadi and 25 km south west of Cuttack city. The river *Daya* which has branched off from *Kuakhai* flows along the south eastern part of the city (Map- 1.1 and Annexures- III and IV); (Orissa State Gazetteers, 1991; Mishra et al, 2005).

2.1.1 Topography: - Bhubaneswar is at an average elevation of 45 metres above sea level. The rivers *Kuakhai*, *Bhargavi* and *Daya* flow on the south-eastern periphery of the city. There are green and reserved forests spread across the northern, western and southern periphery of the city. Topographically the city can be divided into two major parts, namely, western upland and eastern low land. The South-Eastern Railway line is the main divider of the two units.

Map: 2.1 Bhubaneswar in Odisha outlined map



Source: - <http://www.mapsofindia.com/maps/outlinemaps/orrisa.htm>, Accessed on 05 June 2012

2.1.2 Climate: - Bhubaneswar has the moderately humid tropical climate. The temperatures range between a minimum of around 12° C in the winter to a maximum of 45° C in summer. Sudden afternoon thunderstorms are common during April and May. The south-west monsoons appear in June. The average annual rainfall is 1498 mm, most of which is recorded between June and October (CDP, Bhubaneswar, 2006).

It has been observed that since last few years the uneven rainfall and increasing in temperature level has occurred which seems to be due to changes of the climate slowly with the passages of time.

2.2 HISTORICAL MILESTONES OF BHUBANESWAR CITY

2.2.1 Bhubaneswar in Ancient Time: - Bhubaneswar has a long and glorious history. Historians stressed back 2000 years to describe the city. This city was ruled by several dynasties such as Mauryas, Suryas and Guptas. It has been home for many powerful kings. The history of Bhubaneswar and its environs is testified by several archaeological finds from the dawn of the historical period to the end of Hindu rule, back much earlier than the 7th to 13th centuries AD. The present day Bhubaneswar area first appears in history during the 4th century BC. The fortified city of *Sisupalgarh*, 5 km northeast of *Dhauili* and 2.5 km southeast of Bhubaneswar was the site of Kalinganagar, the Capital of the Chedi (*Mahameghavahan*) Kings. Excavations here revealed that this Fort had a well developed civil and military architecture, all through the beginning of the 3rd century BC to the middle of the 4th century AD. The king Ashoka's inscriptions at *Dhauili*, archaeological remains of *Sisupalgada* (300 B.C.) and Jain monuments of *Khandagiri* and *Udaygiri* (between 200 B.C. to 100 A.D.) gives evidence of both Jain and Buddhist settlements around Bhubaneswar in the first two centuries BC. The waning of Buddhism and Jainism gave way to growth of Saiva Pasupata Sect. Second century BC experienced Brahmanism as the dominant religion under the successive dynasties that ruled Orissa the Shailodbhava and the Bhaumakaras in the 12th - 13th centuries. Thousands of sandstone temples were erected around the Bindusagar, during 7th - 12th centuries earning it the title 'The City of Temples'. The period under the Gangas saw emergence of Vaishnavism to prominence. 'The perfect symphony between its architecture and sculpture, the mastery carvings and the grand repertoire of its motifs make these temples unique.' During the 15th century, the Mughals raided the city and razed many temples. Over a span of time this city has been known by different names such as 'Kalinganagar', 'Tribhubaneswar', 'Temple city', 'Ekamra kshyetra', and finally as 'Bhubaneswar' (District Gazetteer, Puri, 1977).

2.2.2 Kalinga Under the King Ashoka: - During the regime of Ashoka, Odisha was well known as 'Kalinga'. The war between the Mauryan Emperor Ashoka and the rulers of Odisha⁵ known as 'The Kalinga war', which was one of the most important events in the

⁵ None of the literature mentioned about the King who fought with King Ashoka in 'Kalinga war'. It was believed that the Kalinga was a democratic republic and the Kalingan people ruled it in a democratic process.

history of India⁶. Despite having won the war, he denounced it and embraced Buddhism. Asoka put the traditional policy of militarism followed by his predecessors in Magadha in the back seat and started a new policy of spiritual conquest through fraternity and non-violence of Buddhism. The world which had suffered violence in the past by Alexander, Mahapadma Nanda and Chandragupta was greatly attracted towards the message of peace and love - the quintessence of Dhamma and Dhamma Vijaya propounded by Emperor Asoka. The principle was not to conquer territories by violence but to conquer human heart by love. Thus the after-effect of sufferings and sacrifices of Kalinga had far reaching significance and had given rise to the ideology of spiritual imperialism, which made India so great and famous (District Gazetteer, Puri, 1977).

After the war Kalinga was incorporated into the Empire of Magadha as a 5th Province. The political headquarters of Kalinga under Asoka was at 'Tosali' identified with modern Dhauli, 10 km to the south of Bhubaneswar (Ibid.). Later Kharavela, the third ruler of the Chedi dynasty, made Kalinga independent of Magadha rule.⁷

2.2.3 Odisha Under British: - During 1803- 04 Odisha was under the British and had lost its past glory. Then Cuttack and Puri were the district head-quarters and Khordha was one of the subdivisions of Puri district. Bhubaneswar was relegated to just a historical place having memories of Khandagiri and Udaygiri caves, Dhauligiri rock, Lingaraj and Rajarani temples and many other monuments; which may not be profitable for the British.⁸

⁶ The rock edict XIII graphically describes its horrors revealing that in this war as many as 150000 were taken captives, 10,00,000 were slain and as many as that number succumbed to the after effects of the war. The figure of casualties indicates that Kalinga had a vast force in readiness and had put up a stalwart resistance against Asoka. The Rock Edict further indicates that the war brought disaster to the military force, and to the civil population including Brahmanas and Sramanas and other religious house-holders. Asoka witnessed the horrors and miseries personally and was moved by the consequences. The bloodshed and havoc experienced in the war brought forth a great transformation in Asoka, and led to his embracing Buddhism. The transformation of Chandasoka into Dharmasoka was of great significance for the Ashokan reign as well as the history.

⁷ Evident from the Hatigumpha inscription of Kharavela.

⁸ The 'Gazetteer of Orissa State Volume- III' described about the Bengal Province; within it Cuttack, Puri and Khurda are considered as the administrative centre points and Bhubaneswar remains as a historical city only; given less priority as compared to Puri and Khurda (Now Khordha).

2.2.4 Odisha as a State: - On 1st April 1936, Odisha (the then Orissa province) became a separate province / State under British rule. Since then, People of Odisha have own culture, language and the geographical boundary. Previously it was merging parts of ‘Madras Presidency’ and ‘Bihar and Orissa Province’ under British rule. Madhusudan Das was the prominent among those whose role were important in making Odisha a separate province. Cuttack was the administrative headquarters then having rich in industries.

The King ‘Krishna Chandra Gajapati Narayan Deo’, of Paralakhemundi was the first Prime Minister of Odisha province (From 1st April 1937). ‘Harekrushna Mahatab’ became the first Chief Minister of Odisha State after India’s independence.⁹ Sir John Austen Hubback was the first Governor of Odisha (The then Orissa Province) immediate after it became a separate Province in the year 1936. ‘Dr. Kailas Nath Katju’ became the first Governor of Odisha after India’s independence.¹⁰

2.3 TRADE, COMMERCE AND INDUSTRIES

Odisha had its own history in industries. Stone carving and manufacture of salt were the two important old time industries of the district (undivided Puri district). Besides, the district is long famous for the traditional crafts and cottage industries. These industries have thrived for centuries, although the economic condition of these traditional craftsmen has gone down due to stiff competition with cheap factory made products of the modern age and the unscrupulous traders appropriating the major share of the profit as middlemen between the artisans and the consumers (District Gazetteer, Puri, 1977).

2.3.1 Stone Carving: - The cave of Khandagiri, Udagiri and Dhauligiri in the city indicate that stone carving had reached at apex level as early as 1st century BC to 7th century AD. The stone carving industry in the state reached its climax in the world famous monuments of *Lingaraja*, *Rajarani* and *Mukteswar* temple in Bhubaneswar; *Jagannath* in Puri; and the *Sun temple* at Konark. Now there are only few families and individuals continuing the stone carving for their livelihood.

⁹ Information is collected from the official website of ‘Chief Minister of Odisha’, Available at: <http://orissa.gov.in/cmorissa/pastcms.asp>, Last accessed on 25 June 2012

¹⁰ Information is collected from the official website of ‘Raj Bhavan Odisha’, Available at: <http://www.rajbhavanorissa.gov.in/formergovernor.asp>, Last accessed on 25 June 2012

2.3.2 Salt Manufacture: - Manufacturing of common salt from sea water was important industry before and during the British colonial period. The salt of Orissa was reputed to be of very fine quality and was exported outside Orissa. Salt manufacture was thrived under the Marathas and the East India Company. But this industry fast declined as a result of the withdrawal of government monopoly in 1863 and competition from foreign market (District Gazetteer, Puri, 1977).

At present the 'handicrafts industry occupied an important place in the economy of the city and contributes to foreign exchange earnings. The craft includes silver filigree works, appliqué works, stone carving, wood carving, traditional *pattachitra*, brassware, horn and bamboo work' (CDP, Bhubaneswar, 2006). Both the organized and unorganized sectors have been engaging these trades inside the city. The traditional tribal handicrafts also have a good share in the market within and outside the city. The central business district of the present Bhubaneswar comprises of Bapujinagar Rajmahal, Unit - I and II market in the core of the city; and engaged in economy; trade and commerce; and services.

2.4 HEALTH INFRASTRUCTURES AND SERVICES

2.4.1 Diseases Common to the District: - In the past cholera took a heavy toll of life in undivided Puri district. Before the Railway came in, pilgrims came throughout the year and there being no assured water supply, out-break of cholera was common. The pilgrims going back on foot used to spread cholera all along the route over a long period of time. After advent of the railways, pilgrims came in large numbers and were also evacuated in large numbers which reduced the spread and duration of epidemics. The situation further improved when piped water-supply was introduced in 1935 (District Gazetteer, Puri, 1977).

The diseases like common fever, malaria, filarial; water borne diseases like diarrhea and dysentery; skin diseases like chicken pox and scabies are common among the principal diseases of Bhubaneswar city. Previously malaria was considered as the disease of rural Odisha. But slowly it has been reported in Bhubaneswar and has become one of the common fevers in the city. The principal cause of the virulent epidemic malaria since 20th century is the widespread stagnation of water bodies in the city in the form of tanks, drainages and stagnant rivers.

2.4.2 Health Care Facilities: - Historically, Ayurvedic system was the main source of treatment and became popular in the city and city region. The traditional health healers like *Vaidyas* and *Kavirajas* were the exponents of the system. They had to carry on their profession through their family creeds. Due to lack of state's interest and introduction of the Allopathic, the Ayurvedic system declined gradually. British had initiated to establish the Allopathic system. Less priority has been given to Ayurvedic (Ibid.). At present there are two government owned Ayurvedic hospitals and research centres in the city; one of which provides both Outdoor and Indoor Patient Care.

2.4.3 Government Infrastructures and Health Care: - The Capital Hospital was established in the year 1954 in Unit IV, Bhubaneswar. It started with an initial accommodation for fifty patients only. Its capacity was increased gradually with the construction of different wards in different years. Most of the physicians including the Chief Medical Officer are provided with quarters within the hospital compounds. It is the biggest government hospital in the city. The government peripheral health institutes are spread all over the city, which provides the primary health care to the people. But most of the time people preferred the Capital Hospital for the primary treatment in case of availing government health care services. Recently the All India Institute of Medical Sciences (AIIMS) has started functioning through a branch in the city. The construction of buildings for the hospital is under progress. Presently it is expected to operate from the Capital Hospital until the construction work is complete.

2.4.4 Private Initiatives in Health Care: - In the current scenario, existing private hospitals are introducing the latest technologies and facilities for the necessary health care services. A number of Private Medical Colleges and Institutes have opened during the last decade in the city. The Apollo Hospital; The Kalinga Hospital; Hi-Tech Medical College and Hospital; Kalinga Institute of Medical Sciences; Bhava Institute of Medical Science and Research; Indira Gandhi Memorial (IGM) Ayurvedic Medical College and Hospital; Neelachala Institute of Medical Science; Viswass Institute of Medical Science; Institute of Medical Sciences and Sum Hospital and many other private medical institutes are spread over the city. They provide health services medical education and only few provide charity services. There are some nursing colleges established too.

2.5 PUBLIC HEALTH FACILITIES

The Public Health Engineering Organization (PHEO) is an agency under the department of Housing and Urban Development, Government of Odisha. This department (PHEO) is responsible for all the activities related to the water supply and sanitation in the city such as planning, designing, construction, operation and maintenance of water supply and sewerage system in the city.

2.5.1 Water Supply: - The quantum of total potable water supply to the Bhubaneswar city is met from a combination of surface and ground water. *Mahanadi, Kuakhai and Daya* Rivers are the sources of surface water. Per day requirement of water for the city is approximately 250 MLD (Million Litres Per Day). Out of which 75 per cent is accessed from the surface water sources and rest 25 per cent of water is met from the ground water sources such as tube-wells and open-wells inside the city (PRUDA, 2010). There are evidences about 20 to 30 per cent of the slum resident get piped water supply against taxes paid. Rest 70 to 80 per cent fetch their water from Tube wells, open wells or use other sources of water. It is reported that the water supply in slums is irregular and inadequate. Thus it shows the inequalities in water supply / distribution for the urban poor (Ibid.).

2.5.2 Sewerage System: - It is a sensitive point to note that out of 60 wards , only 13 are fully covered by the sewerage system; 24 are partially covered and rest 23 have no sewerage system.¹¹ The sewerage system in Bhubaneswar envisages laying of 412 km underground gravity sewer for collection of sewage of each household and establishment throughout the city. The new sewerage system has been planned by dividing the city area into six sewerage districts that shall be provided with an independent sewerage network, pumping system, and sewage treatment and disposal system. The sewerage system has been designed for a projected city population of 22 lakh up to 2041. The project area of 145 sq km includes all wards of Bhubaneswar Municipal Corporation (except wards beyond river *Kuakhai*) and fringe areas covered under city master plan.¹² As the BMC covers only partial

¹¹ <http://www.orissalinks.com/orissagrowth/topics/urban-renewal/bhubaneswar/integrated-sewerage> , Last accessed on 15 June 2012

¹² BMC, Bhubaneswar; and "A platform to discuss and act about infrastructure development of Odisha", Available at: <http://www.orissalinks.com/orissagrowth/topics/urban-renewal/bhubaneswar/integrated-sewerage> , Last accessed on 15 June 2012

underground sewerage system and its management in the city, so majority of the sewer and waste water flows through drainage system and ultimately flows to the *Daya* River and it pollutes the water of *Daya*.

2.5.3 Toilet Facilities: - The urban sanitation scenario is a cause for concern; 38.7 per cent of urban households in the state do not have access to a latrine, whereas it is 19.2 per cent at National level and 53.9 per cent households in Khordha district do not have any type of toilet facilities (DLHS- 3). The level of access to sanitation is even lower in the slum settlements in the urban areas.

Some studies claims that about 60 per cent of the total population in Bhubaneswar city does not access to any sanitation facilities¹³ and therefore, they have to go for open defecation. Disposing the waste and excreta of infants near their living units is a common practice among the slum residents. This causes unhygienic conditions in their surrounding and the city. The current Draft City Sanitation Plan mentioned in their report that there are 98 community toilets for 377 slums in the city which are not in functioning (PRUDA, 2010). It is because majority of the slums in the city do not have adequate water supply and the persons per toilet is huge in numbers, which is not feasible to use those toilets.

2.5.4 Solid Waste: - Bhubaneswar city generates 500 metric tons of solid waste per day. For collection and disposal of the wastes from the city, 3100 personnel have been deployed by BMC. According to the data provided by the BMC, there are 600 wheel barrows, 270 try-cycles and 120 tractors which are used for collection and transportation of the solid wastes every day. Out of total 60 wards, 40 wards are managed by private contractors through Public Private Partnership (PPP). It has aims to dispose the wastes scientifically. The government has planned to dispose the biodegradable wastes by transforming it into vermin compost, bio gas plant, compost bin and mechanical composting through machines. At present the collection and disposal of solid waste is very poor in the city. Waste collection bins are mostly not in place and are not feasible for the households. Door to door collection of waste does not happen and it is miserable in the slum area of the city (PRUDA, 2010).

¹³ <http://www.orissalinks.com/orissagrowth/topics/urban-renewal/bhubaneswar/integrated-sewerage> , Last accessed on 15 June 2012

2.5.5 Street Lighting: - Bhubaneswar Municipal Corporation has the responsibility in provisioning and maintenance of street lights within its periphery. It is the sole responsibility of the BMC to provide sufficient and uniform lighting in city roads, markets, institutions and dense traffic junctions in the city. Bhubaneswar was reported to get a new and advanced street lighting system, light-emitting-diode (LED) lights in major thoroughfares of the city. The new environment-friendly streetlights are designed to cause least harm to the environment and would reduce electricity expense (Times of India, 2012). Moreover, the process seems to be in progress still.

2.5.6 Traffic and Transportation: - Total length of the roads within the BMC (135sq km) area is 915.12 km (BMC, 2012). There are 2 major roads passing through the city; namely NH - 5 and NH - 203. Both the National Highways intersect at Rasulgarh Chawk in the city. NH - 5 connect Kolkata to Chennai whereas NH - 203 link Puri with Bhubaneswar city. The NH - 5 passes through different traffic squares through the city like Rasulgarh, Vanivihar, Acharyavihar, Jaydevvihar, CRP (Central Reserve Police) square Fire station chawk, Baramunda chawk and Khandagiri chawk. This road is the principal road in the city and connects Kolkata to Chennai. Traffic flow in this road is continuous and carries heavy traffic throughout the day.

The roads in old town area are mostly single lane with no parking. It is because the buildings are closed to the road and there is problem in widening the roads. In the capital town, roads are wide with hierarchical systems. Pedestrian paths are there with road lanes. Improved design of roads has initiated along with the extension of the city towards new town. It has given attention in effective public transportation as well as proper parking strategy. Under JnNURM 50 standard and another 50 mini buses (total 100 buses) have been procured for the city. There are 13 routes at present through which 100 city buses are running daily. Timing for the bus service is started from 7.00am in the morning to 9.00 pm in the evening (Govt. of Odisha, 2010).

2.6 PLANNING PROCESS IN BHUBANESWAR CITY

Planning process for the Bhubaneswar city can be stretched back to 2000 years; from the ancient time when it was the Capital of Kalinga. The city has passed through a number of

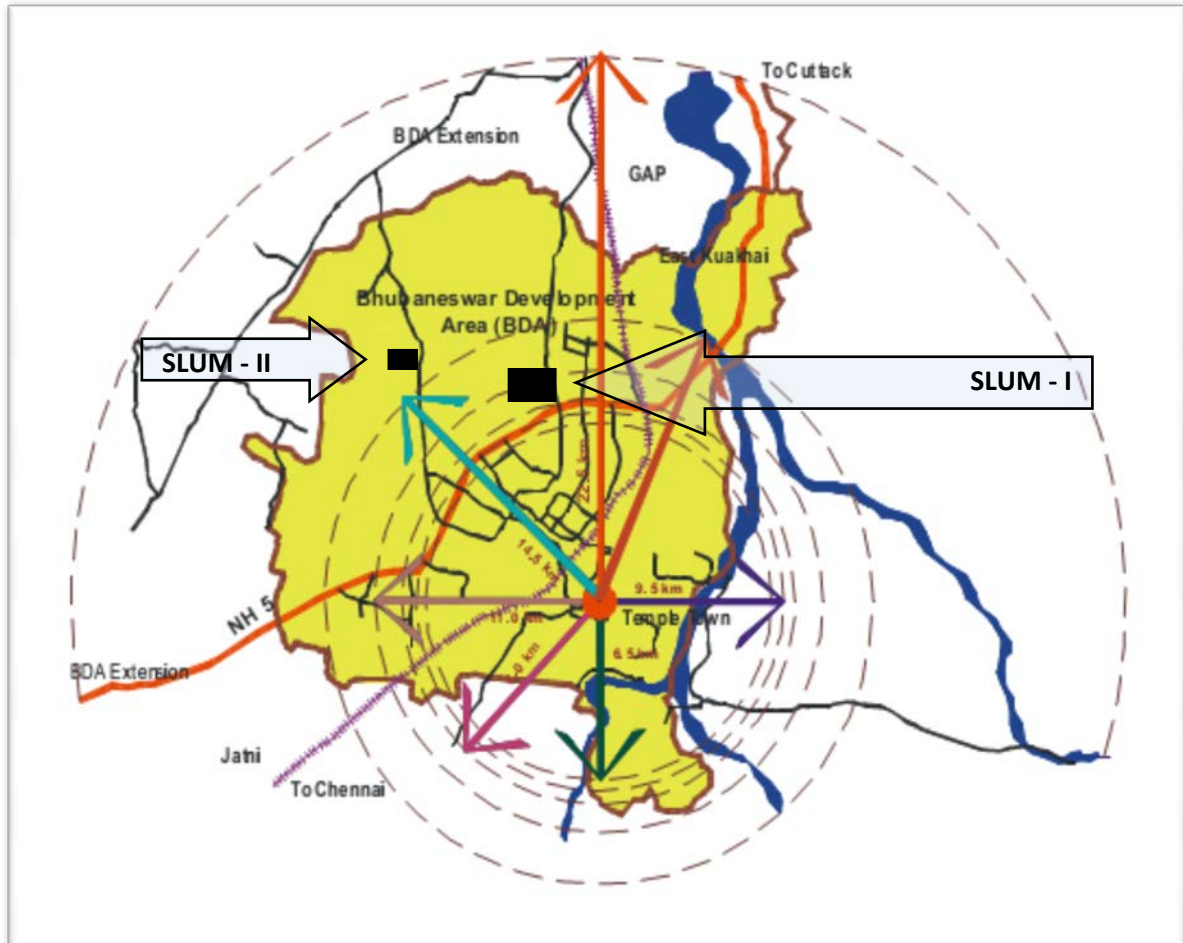
events of historical relevance. Immediately after India's independence, the city has got the position of the capital city of Odisha. The planning of Bhubaneswar city in modern time largely took place after India's independence. Bhubaneswar was the first planned city along with Chandigarh and Gandhinagar in independent India. It was originally conceptualized by the famous German architect, Dr. Otto H. Koenigsbergre in the year 1948. 'The first Master Plan for this capital city was prepared in 1968 for 20 years (1968 - 88). At that time the planning area covered 13209 hectares. A comprehensive Development Plan was prepared by BDA in 1983 for an area of 57.62 million acres and 93 revenue villages with a population of 2.57 lakh (Census 1981)' (CDP, Bhubaneswar 2006).

The CDP Bhubaneswar (2006) gives equal importance to all the outer fringe of the city in its planning. The planning for the city is coming under the Concentric Zone planning of Ernest Watson Burgess (1920), in where cities grow and develop outwardly in concentric circles. Still it has been seen that the growth of the city is faster towards the North, South and West zones. It may be because of the river beds that are found towards the Eastern fringe of the city, which also bears the historical monuments of the city.

Map- 2.2 has adopted from the CDP, Bhubaneswar that shows the extension of the city. This map has been used in CDP to show how the present city developed from its centre point (The centre point of the map is closed to the old town city, which consists of major temples bearing historical events). The CDP gives importance to all parts of the city for its growth in a concentric circle model; still it developed less in Southern and Eastern parts because of the barrier of river Daya.

As this map has been adopted to sight the slums of present study, so it has indicates with the arrow marks.

Map - 2.2 Map of Bhubaneswar (Current growth directions of the city)



This map has originally used in CDP, Bhubaneswar. Here it has adopted for identifying the locations of the slums in present study [Slum - I: Saliasahi; Slum - II: Bharatpur slum]

Source: -CDP, Bhubaneswar (2006), Govt. of Orissa

2.7 PLANNING PROCESS SINCE INDEPENDENCE

There are a lot of new initiatives taken place for the development of Bhubaneswar city. The important milestones in planning for the city during the pre-independence and post-independence period can be broadly categories as follows:

- The City of Temple (Up to 1948)
- The New Capital city (1948 - 1956)
- Growth of Government Institutes (1956 - 68)
- The Master Plan (1968 - 1988)

- The Comprehensive Development Plan (1988 - 2001)
- The Perspective Plan (Vision - 2030)
- The Present Bhubaneswar (CDP)

2.7.1 The Temple City (Up to 1948): - Bhubaneswar is famous for of its history and religious importance since centuries. It is well known as the Temple City since long. At present the BMC has two distinct divisions; the Old Town and the New Capital City. The Old Town is characterized by mixed land use, which is a usual phenomenon with all ancient towns and cities of India. It contains wonderful monuments of *Kalingan* architecture across fourteen hundred years history (Cobden-Ramsay, 1982). The present Old Town is the original base of the continuous culture of about 2000 to 2500 years back. All the historical monuments, temples and heritages were found in the old town. Initially there were about 1000 temples and at present it has reduced to the half of it or less than that (Mallick, 2010).

2.7.2 The New Capital (1948- 56): - Bhubaneswar was established as a state capital with a population of less than 20 thousand in the year 1948. The city was a Notified Area Committee at that time. Later during 1952 it was declared as the Notified Area Council (Cobden-Ramsay, 1982). Slowly the status of the city has been increased with growth of population and infrastructures.

On 13th April 1948, Pundit Jawaharlal Nehru laid the foundation of the New Capital of Odisha at Bhubaneswar. The present old temple town was formed and confined to 956 hectares. Later on the Capital city was built at the close proximity of the old temple town. On the recommendation of famous German architect Dr. Otto H. Koenigsberger the design of the New Capital was based on the system of 'Neighbourhood Units' which means a group of houses, large enough to afford the major unities of urban life like schools, public libraries, shopping centres, parks, entertainment, dispensaries, and at the same time small enough to keep all these amenities in short distances, so that the main advantage of rural life can be preserved. All the dimensions were taken care including the surrounding rural area to the city; which makes the environment beautiful and unique. At the time of initial planning, the city was designed for 40 thousand populations. Distance has been maintained between the old temple city and the new capital buildings; so that no interference may take place to the

beauty of the old temple city and the administration in the Capital City (District Gazetteers, Puri, 1977).

2.7.3 Growth of Institutions (1956-68): - Major administrative activities came up during the year 1956 - 68. Various heads of the departments and similar government offices were constructed and started functioning. In 1968 the government of Odisha has created a special planning authority for the Bhubaneswar city. The Directorate of Town Planning of Government of Odisha prepared a draft master plan for the city, which is known as the First Master Plan (CDP, Bhubaneswar, 2006).

2.7.4 Master Plan (1968-88): - In 1977 the First Master Plan for the Bhubaneswar city was submitted to the Government of Odisha for its approval, although it was drafted in 1968. In the final Master Plan the total development area was 9621 hectares; and was divided into 7 land-use zones. Each zone has a specific land use. Following are the land use zones and percentages of land to the total area, those shared:

- ⇒ Residential zone (22.93%)
- ⇒ Commercial zone (2.72%)
- ⇒ Public and semi - public zone (13.24%)
- ⇒ Open space zone (14.47%)
- ⇒ Industrial zone (5.00%)
- ⇒ Transportation zone (15.40%)
- ⇒ Green belt zone (19.54%)
- ⇒ Others (6.70%)

For planned development, the Bhubaneswar Regional Improvement Trust (BRIT) and the Bhubaneswar Development Authority (BDA) was constituted in 1967 and 1983 respectively. In view of the rapid growth of population in the city, the Municipal Development Department declared the city as the 'Bhubaneswar Municipality' in the year 1979. The population of the city at that time was more than 2 lakh (Ibid.).

2.7.5 Comprehensive Development Plan (1988-2001): - More revenue villages were incorporated in the city during 1988 - 01in Comprehensive Development Plan; thus, increased the population of the city to 4 lakh. As the State Capital, Bhubaneswar Municipality was upgraded to ‘Municipality Corporation’ in the year 1994. But a full-fledged Municipal Corporation started functioning during 2003 with an elected Mayor and Corporators. The increasing population and the changing socio- economic status of the city, lead to re-examine the Master Plan of 1968 (The First Master Plan). It was evaluated and modified, and as a result an improved Comprehensive Development Plan was prepared in 1993 by the BDA. Physical and economic development of the city was the basic objective of the Comprehensive Development Plan. For the economic development it aimed with increase in production of goods and services, increase in employment opportunities with effective administration without deteriorating the glory of the Temple City. For the physical development of the city, the Plan specified various land-use zones with a set of zoning regulations (CDP, Bhubaneswar, 2006).

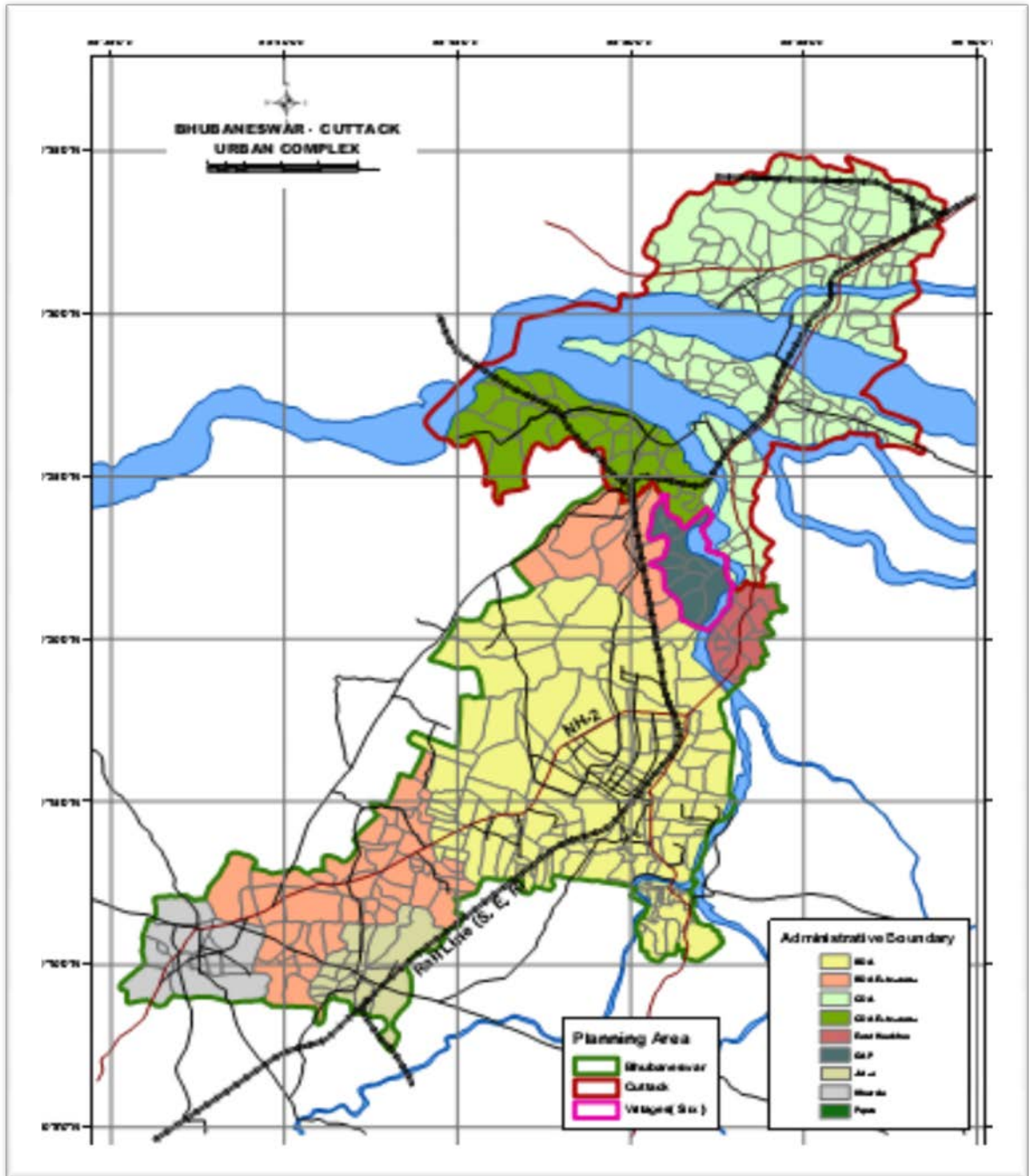
2.7.6 Perspective Plan (Vision-2030): - With viewing the future growth and perspective of Bhubaneswar and Cuttack (The former Capital City), the Government of Odisha has recently initiated a proposal for preparation of a Perspective Plan ‘Vision - 2030’ and a Comprehensive Development Plan for the Bhubaneswar - Cuttack Urban Complex (BCUC). ‘The BCUC comprises of two development areas i.e., The southern part, Bhubaneswar Urban Development Plan Area (BMC, Khordha Municipality, Jatani Municipality and adjoining villages) and the northern part, Cuttack Development Area (Cuttack Municipal Corporation, Choudwar Municipality and adjoining villages); covering about 721 sq km and a total population 15.2 lakh as per Census 2001 (CDP, Bhubaneswar, 2006; Sengupta and Mandal, 2010). The map 2.3 shows the development area of BCUC.

The core concepts of the Perspective Planning are as follows:

- ⇒ Cuttack and Bhubaneswar as twin cities in Complementary role.
- ⇒ Transformation of the Bhubaneswar-Cuttack Urban Complex to world class urban centre as an important gateway for national and international investments.

⇒ Promotion of cultural, built and natural heritage in a sustainable manner (CDP, Bhubaneswar, 2006).

Map- 2.3 The BCUC Perspective plan (Vision 2030)



Source:- *Perspective Plan- Vision 2030 and Comprehensive Development Plan for BCUC,A concept paper, Available at: http://jnnurm.nic.in/wp-content/uploads/2010/12/bhubneshwar_Annexure4.pdf, Accessed on 15 April 2012.*

The perspective plan of development can give the twin city (Cuttack and Bhubaneswar) a new direction in the process of urban development. It can limit the further unplanned development and regulate the regional development patterns in term of land use, road connectivity, water and sanitation, housing and other infrastructures simultaneously.

2.7.7 The City Development Plan (CDP) and Present Bhubaneswar: - The City Development Plan has prepared to access the funds from the JnNURM. As per the guidelines issued by the JnNURM, preparation of a City Development Plan (CDP) is a prerequisite for accessing funds from the JnNURM. Therefore, the city has its CDP since 2006. The JnNURM has focused on:

- ⇒ Improving and augmenting the economic and social infrastructure of cities
- ⇒ Ensuring basic services to the urban poor including security of tenure at affordable prices
- ⇒ Initiating wide-ranging urban sector reforms whose primary aim is to eliminate legal, institutional and financial constraints that have impeded investment in urban infrastructure and services and
- ⇒ Strengthening Municipal governments and their functioning in accordance with the provisions of the 74th Constitutional Amendments Act 1992 (CDP, Bhubaneswar, 2006).

At present the Bhubaneswar urban centre having 233 sq km of development area; it has been expanded rapidly. The city has the population of 881988 within the BMC area of 135sq km (RGI, 2011). Therefore, the population within the development area and surrounding villages will be above 1million. The population growth trend in the city as shown in CDP and Census Report of India 2011 (Prov.) can give an idea on growth of population in Bhubaneswar city (Table - 2.1).

Table- 2.1 shows that, while the decadal growth rate is decreasing in the city, population density has been increasing during 1951 - 2011. Initially people were migrated in more numbers as the city was newly developed. At that time more of job opportunities were there in the city. The price of land was relatively cheap as compared to the present scenario. There

was enough space around the city for the wage labourers to develop squatters for their living. Therefore, during the time both working class and government employees migrated to the city in a big numbers. With the passage of time the city now has high density of population; and needs to further expand geographically. That has initiated through the CDP and Perspective plan of Vision 2030.

Table 2.1 Populations growth in Bhubaneswar city

Census Years	Populations	Decadal Growth Rate (%)	Area (sq. km.)	Density per sq. km.
1951	16512	-	25.90	638
1961	38211	131.41	50.25	760
1971	105491	176.07	65.03	1622
1981	219211	107.80	92.91	2359
1991	411542	87.74	124.74	3299
2001	648032	57.46	135.00	4800
2011	881988	36.10	135.00	6533

Sources: - CDP, Bhubaneswar (2006) and Census Report 2011 (Prov.), RGI, GoI.

2.8 SLUMS IN BHUBANESWAR CITY

The slum population in the city is one third of its total population. Table- 2.2 shows the growth of slums in the city since 1970s. There were no data regarding slums in the city before 1970s. Only 7 slums in the city were recorded during 1970s (Rout, 2008). Afterward the number of slums in the city has been increasing till date. The last slum survey was undertaken in the year 2009 - 2010 by the BMC. The total population according to the survey was 308614 and the total slum household was 60126. The same table (Table 2.2) shows the number of slums, slum households and slum population during various time periods in the city. It is evident that the annual growth rate of slum population was highest during early 1990s (13.35% in the year 1991). It has been declining slowly but still higher than normal growth.

As per the slum survey of BMC (2009-10), the city has 377 slums (99 authorised and 278 unauthorised) having 60126 households and a population of 308614. However, an ongoing

survey of slums in Bhubaneswar city by SPARC¹⁴ suggests that the current number of slums in the city is 413 (authorized and unauthorized); having about 4.5 lakh population (SPARC, 2012).

Table 2.2 Growth trends of slums in the Bhubaneswar city

Year	No. of slums	Households	HH growth rate	Annual growth rates (HH)	Slum Population	Population growth rate	Annual growth rates (pop)
1971	7	*	-	-	*	-	-
1981	23	*	-	-	*	-	-
1989	70	17175	-	-	86901	-	-
1991	86	21003	22.29	11.15	110112	26.71	13.35
1993	101	24318	15.78	7.89	117000	6.26	3.12
1999	145	30000	23.36	3.89	200000	70.94	11.82
2009	377	60126	100.42	10.04	308614	54.31	5.43

NB: - *There is no data.

Sources: - Various sources (Census of India; Slum survey, BMC; Online data, Last accessed on 15 June 2012)

2.8.1 Slum Improvement Programmes in the City

The City Development Plan, Bhubaneswar (2006), has mentioned the following Slum Improvement Programmes that are implemented in the slums in the city. Those are briefly discussed as follows:

⇒ **National Slum Development Programme (NSDP):** - This scheme provides for construction of roads, drains, community toilets, drinking water facilities, street lighting in the slum area, shelter upgradation and education to the slum population. The BMC availed financial assistance from the Government of India during 1996-97 for the slum resident in the city.

⇒ **Valmiki Ambedkar Awas Yojana (VAMBAY):** - This programme was introduced in the year 2001. The primary objective of the programme was to provide shelter or upgrading shelter of people living Below Poverty Line in urban slum. Maximum of

¹⁴ SPARC is a partner NGO to the Govt. of Odisha for the Rajiv Awas Yojana (RAY Project), a project of the GoI, well known as the project of housing for the urban poor.

40 thousand rupees financial supports were provided to the beneficiaries through this scheme. Under this programme, the BMC has identified 250 beneficiaries in the city. But all beneficiaries are not covered so far till date (CDP, Bhubaneswar, 2006).

- ⇒ ***Swarna Jayanti Shehri Rojgar Yojna (SJSRY)***: - It consists of 2 schemes namely Urban Self Employment Programme (USEP) and Urban Wage Employment Programme (UWEP). Under USEP of SJSRY, the BMC has provided loan and financial assistance to about 346 beneficiaries for income generation activities undertaken by the slum residents. Various training programmes like health awareness, sanitation, child care, AIDS and leprosy have been undertaken. Under the UWEP of SJSRY, useful assets to the community like roads, drains, culvert, community centres, community latrines etc. has been constructed in slum areas providing wage employment to the urban poor.
- ⇒ ***Development of Women and Children in Urban Area (DWCUA)***: - This scheme is familiar by the special incentive extended to urban poor women who decide to set up self employment as a group. Here in this scheme a group of poor urban women have to take up an economic activity suited to their skill and training. Under this programme, maximum 25000 INR has been provided to a group as revolving fund for the activity.
- ⇒ ***Other Programmes***: - There are other programmes also undertaken within the slums in the city like Widow, Old age, Disable pensions, BPL, Antodaya Yojana, Annapurna Yojana, Balika Samrudhi Yojana, Health facilities to the slum residents (Ibid.).

The Government of Odisha has been designing plans for the city since 1948 (Annexure - V). Through the CDP, government expected to implement development programmes simultaneously in slums and non-slums in city. That must be leading parallel development of the city in a holistic approach. But it needed to examine how the urban poor benefitted through the programmes that the State Government already implemented in the city.

2.9 CONCLUSION

The CDP, Bhubaneswar (2006) indicates major planning and development milestones in the Bhubaneswar city. The Temple City has gone through a long journey in its planning and development process. This city, one of the first planned cities along with Chandigarh and Gandhinagar in independent India, continues to experience slow development as compared to Chandigarh and Gandhinagar. Urbanisation process depends upon many of factors. The historical temples and monuments have become the assets of the city contributing in generating resources.

On the other side rapid growth of infrastructures in the city has taken place. The city experienced highest growth rate during 1960s and 70s (176.07 per cent decadal growth rate) (Census of India, 1971; Cited in CDP, Bhubaneswar, 2006). It has seen the significant growth of private educational institutions and private medical institutions during the last decade (in the year 2000 - 10). There is no evidence of the impact on health status of urban poor by the health institutes mushrooming in the city. It is because these institutions have the prime objective of profit making. It has impacted youth in-migration to the city as medical students and health personnel. The migration of the poor working class was also increased because of job opportunities in construction sites. Ultimately they opted to stay in slums having fewer prices in house rent. And the living status in slums has impacted negatively on their health.

CHAPTER – III

SOCIO-ECONOMIC AND DEMOGRAPHIC PROFILE

This chapter deals with the demographic profile of the study area. A heterogeneous society is found in Bhubaneswar city. People from different parts of the state migrated to the city in search of works. They fitted themselves according to their socio-economic status; Slums are the best examples of it. The socio-economic characteristics of different slums within a city are more or less same; but the socio-economic status of the people living in a single slum may not be same. There are similarities in economic conditions, but the social status based on the caste system brought alongwith the households from their place of origin has a strong influence in their living standard. It has been observed during the field study of this work. However, this chapter examines the socio-demographic characteristics, occupations and incomes, availability of basic infrastructures, disparities in accessing such infrastructures and facilities; and state's initiatives in reducing disparities within different socio-economic groups in the city. The analysis in this chapter has been carried out with the primary data collected for the study.

3.1 SOCIO DEMOGRAPHIC CHARACTERISTICS

It is important to know the demographic profile of the study area before comparing the health indicators and other variables from field data. It is important to know the age-sex composition, marital status, education and social groups. Migration pattern is also important in this regards. People from different part of Odisha live in Bhubaneswar city. Therefore, a mixed group of people found in the city; with different cultures, beliefs and values. Overall the Odia culture is followed by the people with touch of modernity in their living styles.

Table - 3.1 shows the age groups and the sex composition of the surveyed population in the study area. Two hundred households are taken as the sample size. It covers 815 population; information collected from all. This table shows that out of 815 populations 432 are males (53%) and 383 are females (47%); thus, making 887 females per 1000 males.

The sex ratio in the district is 925 and in Odisha State are 978 females per 1000 males according to the Census 2011 data. The urban sex ratio at national level is 926 female per 1000 male. The sex ratio in the study area is 886 females per 1000 males (RGI, 2011).

In the study area the population with age groups of 15 - 64 years consists of 66.1 per cent (539 persons) and above 64 year consists of 1.3 per cent (11 persons). Working populations (adults and young adults) constitutes the bigger size within the study population.

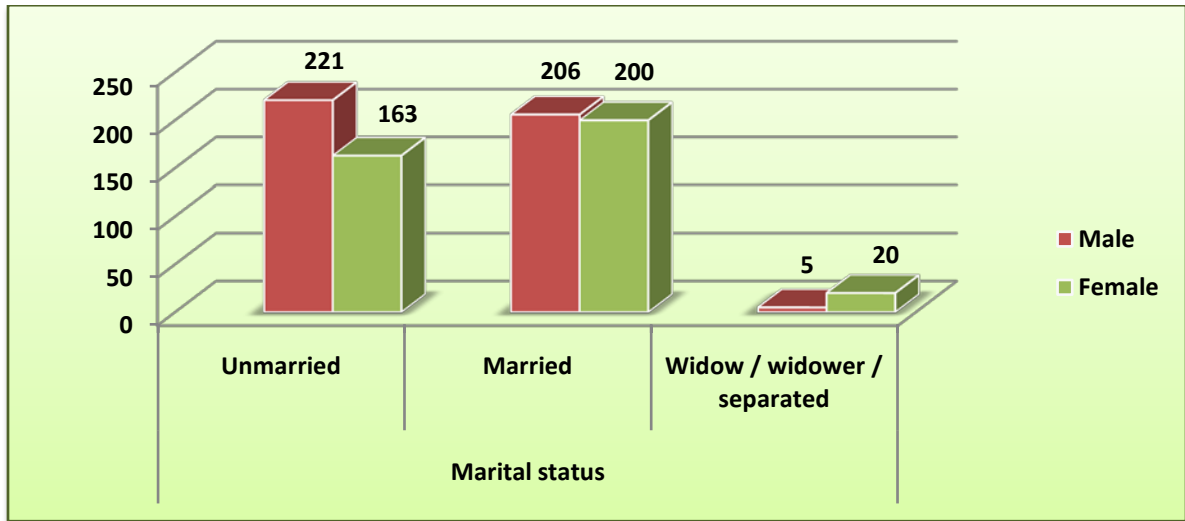
In the study area, the population pyramid is in favour of 20 - 45 age groups. About 44 per cent of the total population fall in this age group. About 22 per cent are of age below 10 years. More men than women are also reflect of the migration trends which favour men migrates into cities in search of works, then the women and children follows (Table - 3.1).

Table- 3.1 Age and sex composition of the surveyed population

Age group	Sex							
	Male			Female			Total	
	No.	Row %	Tot %	No.	Row %	Tot %	Tot. No.	Tot %
< 5 yrs	42	48.3	5.1	45	51.7	5.5	87	10.7
5 – 9 yrs	47	51.6	5.8	44	48.4	5.4	91	11.2
10 – 14 yrs	53	60.9	6.5	34	39.1	4.2	87	10.7
15 – 19 yrs	45	57.0	5.5	34	43.0	4.2	79	9.7
20 – 24 yrs	35	41.7	4.3	49	58.3	6.0	84	10.3
25 – 34 yrs	9	5.1	1.1	87	94.9	10.7	178	21.8
35 – 44 yrs	60	57.7	7.4	44	42.3	5.4	104	12.8
45 – 54 yrs	30	54.5	3.7	25	45.5	3.1	55	6.7
55 – 64 yrs	21	53.8	2.6	18	46.2	2.2	39	4.8
> 64 yrs	8	72.7	1.0	3	27.3	0.4	11	1.3
Total	432		53.0	383		47.0	815	100

The figure- 3.1 shows the marital status of both males and females. Out of 815 surveyed populations, 384 (47.12%) are unmarried, 406 (49.82%) are married and 25 (3.07%) are of widow / widower / separated. The table shows that the ever married population (married, widow, widower and separated) constitute more (53%) than unmarried in the study area. Female single living spouses are more in numbers (2.45%) as comparison to the male (0.61%). From this it can be understood the vulnerability of women and their extra burden in managing family.

Figure- 3.1 Marital status of the surveyed population

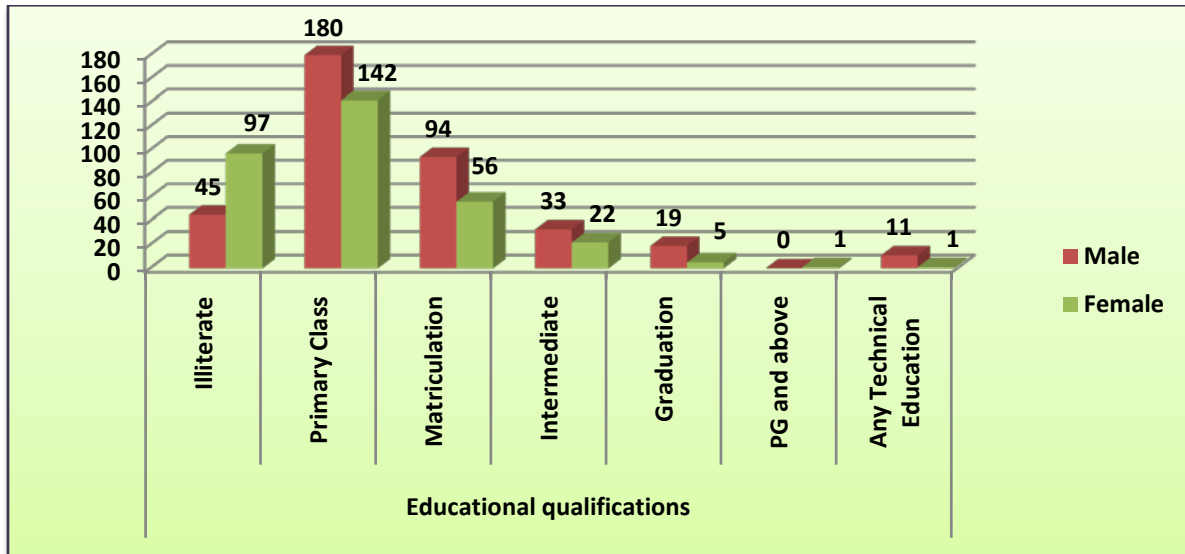


Within the males, unmarried are found more and within females married are found more. Within the unmarried, again male are the majority whereas within the ever married category female constitutes majority.

The age group of below 6 year population in the study area is 109, which is excluded in calculating education level of the study population. Figure - 3.2 shows the education level of the population by their sex compositions. The present study found that 20 per cent of surveyed population is illiterate. The literacy rate is 80 per cent, whereas the current (RGI, 2011) literacy rate in urban Odisha is 86.45 per cent. Majority of the people (472 persons) have the education level of up to the matriculations. It constitutes 66.8 per cent of the total population. Only 13 per cent of the total populations have education above matriculations and 3.5 per cent are having the graduation or above. Twelve persons are found having technical educations, which constitute 1.7 per cent of the total population. As female are found lower in education level, so in each level their number is less than males. In the technical education it is found that out of 12 persons only one member is found female.

It can be observed from the same figure (Figure- 3.2) that the education pyramids is top at the primary level, that majority of the people have primary education.

Figure- 3.2 Sex composition and educational qualification



The total literacy rate in the study area is 79.89 per cent, the male literacy and female literacy rates are 88.22 per cent and 70.06 per cent respectively. Whereas the total literacy rate in Urban India is 85 per cent, urban Odisha has 86.45 per cent and 92.24 per cent in the urban area of Khordha district (RGI, 2011).

Some questions were asked to know about the duration of resident by people living in the particular slum in the city. Table - 3.2 shows the time line since when people have started living in both the slums (*Saliasahi* and *Bharatpur*) within the Bhubaneswar city. Five per cent (41 persons) of total population reported that they have been living in the slum since more than 25 years. People living 1 - 15 years in the slums are found 68.8 per cent (561 persons).

From the same table, it can be seen that since last 10 years female migration to the slums is more as compare to the male. Before 10 years, male migration was more as compared to the female in the study area. It has evident from the Table- 3.2 that majority of the households started living in surveyed slums since 10 to 15 years back; during 1997 - 2002. Some of the persons reported that they have been living in *Saliasahi* since 1970s (40 years). Slowly other family members came to the city from their respective place of origins. Therefore, it can be

understood that previously male migration was more but now female migration taking place equally to the Bhubaneswar urban centre.

Table- 3.2 Duration of stay in the particular slum by the surveyed population

Resident in the particular slum (in completed years)	Migrated individuals /populations		
	Male (%)	Female (%)	Total (%)
< 1 yr	30 (3.7)	34 (4.2)	64 (7.9)
1 – 5 yrs	99 (12.1)	101 (12.4)	200 (24.5)
5 – 10 yrs	81 (9.9)	82 (10.1)	163 (20.0)
10 – 15 yrs	109 (13.4)	89 (10.9)	198 (24.3)
15 – 20 yrs	59 (7.2)	37 (4.5)	96 (11.8)
20 – 25 yrs	33 (4.0)	20 (2.5)	53 (6.5)
> 25 yrs	21 (2.6)	20 (2.5)	41 (5.0)
Total	432 (53.0)	383 (47.0)	815 (100)

Table - 3.3 shows the household distributions and size by the social groups in the study area. Scheduled Tribes (STs) constitute 87 households, which is highest within all social groups. Majority of the households (124 households out of 200) are coming under the household size of 2 - 4 members. There are 5 households having only one member each. Seven households (3.5%) having household members eight or above eight in the sample area. Majority of the ST households fall within the household size of 2 - 4 members; which constitutes 57.47 per cent of the total ST households and 25 per cent of total surveyed households.

Table- 3.3 Social groups, major religions and household size

Items		Household size (Number of Members)				Total (%)
		1 member (%)	2 - 4 (%)	5 - 7 (%)	> 7 members (%)	
Social groups / Castes	Gen	2 (1.0)	27 (13.5)	15 (7.5)	0 (0)	44 (22.0)
	SC	0 (0)	18 (9.0)	4 (2.0)	1 (0.5)	23 (11.5)
	ST	3 (1.5)	50 (25.0)	30 (15.0)	4 (2.0)	87 (43.5)
	OBC	0 (0)	29 (14.5)	15 (7.5)	2 (1.0)	46 (23.0)
	Total	5 (2.5)	124 (62)	64 (32)	7 (3.5)	200 (100)
Major religions	Hindu	5 (2.5)	108 (54.0)	52 (26.0)	6 (3.0)	171 (85.5)
	Muslim	0 (0)	1 (0.5)	0 (0)	0 (0)	1 (0.5)
	Christians	0 (0)	15 (7.5)	12 (6.0)	1 (0.5)	28 (14)
	Total	5 (2.5)	124 (62.0)	64 (32.0)	7 (3.5)	200 (100)

As regards to religious compositions, 85.5 per cent of the households followed Hinduism. There was only one Muslim household in the study area; rests (14%) followed Christianity. Majority of the households come within the household size of 2 - 4 members; which constitute 108 (54% of total households). Households with single members are the minorities; that constitutes 2.5 per cent of total household (Table- 3.3).

Odia is the common language spoken in Odisha. Therefore, Odia speaking people are found majority in the study area. Fifty-nine per cent (118 households) of the total households reported about their mother tongue as Odia. Other 40 per cent (80 households) speak any tribal languages or dialects commonly speaking in Odisha. Only one per cent (2 households) of total households found having their mother tongue other than Odia or any tribal language (dialect) spoken in Odisha.¹⁵

Particularly, *Saliasahi* is one of the tribal dominated slums in the city. Some of the households have well settled in the slum as they traditionally live in their native villages. They have followed the rituals and celebrate festivals relating to their native places. Moreover their living styles are like rural rather than urban slums. The picture below (Figure- 3.3) gives idea about the living style of those people in the city. But *Bharatpur* slum bears a mixed group of people.

Figure- 3.3 A Tribal household in *Saliasahi* (Site- 6) in Bhubaneswar city



A Tribal house in Saliasahi slum (Site- 6) structured like rural setting; A combined of cemented and mud house with asbestos roof. Outside kitchen, Cooking fuel they used is wood and wood powder. It has kitchen garden backside the house.

¹⁵ Data are collected during the primary field study.

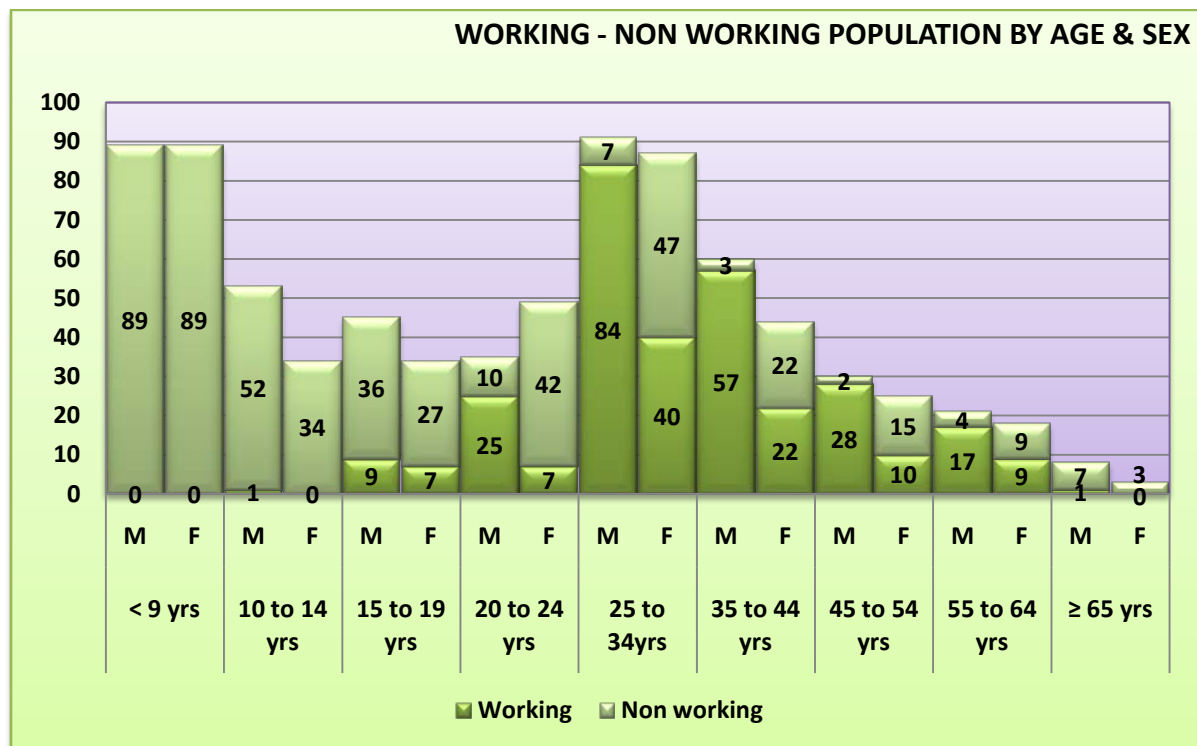
The socio-demographic characteristics in the study area therefore, varies somewhat. But as those living units are urban slums, so their living style overall similar as analyzed from above tables. There are similarities in their education, occupations as well as housing structures, which gives the identity of slum residents.

3.2 WORK AND OCCUPATIONAL CHARACTERISTICS

People generally migrated from rural to urban in search of work. Here in all slums in the city majority of households depend on wage labour. It is because their education level is low and particularly lower income groups are preferred to live in such areas. Therefore, majority of the households depend on wage labours or small business including private jobs.

Figure- 3.4 deals with the age group and working status of the study population by their sex. Out of 815 populations 317 are working and 498 are not working. Here it is found that most of the working populations are within the age group of 25 to 44 years of age within both the sexes. There is one child labour and another having age group of above 64 years found within the working population.

Figure-3.4 Age group and working status by sex



It is found that male workers are 222 in numbers, which constitute 27.24 per cent of total population, 51.4 per cent of total male population and 70 per cent of total working population. Female workers are 95 in numbers that constitute 11.66 per cent of total population, 24.8 per cent of total female population and 30 per cent of total working population. The working-non-working-ratio in the study area is found 39:61 and the ratio of male-female work participation is 7:3 in the study area (Figure - 3.4).

As regards the housing structure, the households are categorized as Kachcha, Semi-pucca and Pucca.¹⁶ Most of the households (117 households) are living in the Semi-pucca houses; which constitutes 58.5 per cent of the total surveyed households. Only seven households (3.5%) are living in Pucca houses.

It has been seen that the households' income level is not influencing in the choosing of the houses for their living. None of the households having higher income level found living in pucca houses. Most of the people having income level of up to 15000 INR per month are living in both kachcha as well as semi-pucca houses. None of the households having monthly income above 15000 INR live in pucca houses. It is because all the pucca houses are found made with the government support through the Jawaharlal Nehru National Urban Renewal Mission (JnNURM).

The Record of Right (RoR) of the homestead land is the primary criterion to get the housing benefits from the government under JnNURM. On the other hand people are not interested in making concrete houses, because of the land issue. Government can evict or/and displace the slum dwellers at any time and all efforts and money in making a pucca houses may go in a vain (Table - 3.4).

¹⁶ **Kachcha houses:** Those houses made with mud, clay, hay; purely earthen houses. The roof of the house may be of hay, piece of plastic, polythene or carpets or similar material. **Semi-Pucca houses:** Those houses made of mud, cement, bricks, asbestos, tiles and other similar material. **Pucca houses:** Those houses made with bricks, sands and cements, plastered wall and floor, concreted or asbestos roof.

Table-3.4 Household income and type of house

Monthly household income In INR	Type/structure of the houses			
	Kachcha (%)	Semi-pucca (%)	Pucca (%)	Total (%)
< 2500	6 (3)	8 (4)	1 (0.5)	15 (7.5)
2500 – 5000	28 (14)	39 (19.5)	2 (1)	69 (34.5)
5000 – 10000	34 (17)	46 (23)	4 (2)	84 (42)
10000 – 15000	7 (3.5)	15 (7.5)	0 (0)	22 (11)
15000 – 20000	0 (0)	5 (2.5)	0 (0)	5 (2.5)
20000 – 25000	0 (0)	2 (1)	0 (0)	2 (1)
> 25000	1 (0.5)	2 (1)	0 (0)	3 (1.5)
Total	76 (38)	117 (58.5)	7 (3.5)	200 (100)

The Table - 3.5 shows the educational qualifications of the study population and their working status. Out of the 45 per cent people who are working, most (15.3%) of their education level is up to primary level. More than 11 per cent are matriculate too. It is interesting to note that, of the total 12 persons have any technical educations, only one is working. This is largely due to the nature of technical education designed by the concern departments.

The low level of education of the working population is due to the rural-urban migration of working population, which is a common trend in Bhubaneswar city. People from all parts of the State migrated for searching of jobs and those who search jobs in unorganized sectors commonly have low level of education.

Table- 3.5 Educational qualifications and working status

Educational qualifications	Working status		
	Working (%)	Non working (%)	Total (%)
Illiterate	86 (12.2)	56 (7.9)	142 (20.1)
Primary Class	108 (15.3)	214 (30.3)	322 (45.60)
Matriculation	83 (11.8)	67 (9.5)	150 (21.2)
Intermediate	21 (3.0)	34 (4.8)	55 (7.8)
Graduation	17 (2.4)	7 (1.0)	24 (3.4)
PG and above	1 (0.1)	0 (0)	1 (0.1)
Any Technical Education	1 (0.1)	11 (1.6)	12 (1.7)
Total	317 (44.9)	389 (55.1)	706 (100)

Primary occupations are taken as the main source of income by the households. Primary occupations are influences the socio-economic status of households. After observing the primary data, classification of primary occupation has been done and classified into six occupation groups, according to the households mainly depend upon.

From the primary survey it is found that 126 households primarily depend on the manual labour or/and skilled labour, that constitutes 63 per cent of the total households.

Table - 3.6 shows the household level monthly income by the type of primary occupations. Out of 200 households 153 households earn between 2500 to 10000 INR per month. Most of the households' primary occupations are of Manual labour or/and skilled labour, which constitutes 63 per cent (126 household). There are fifteen households (7.5%) earn less than 2500 INR per month. There are only 17 households (8.5%) found government employee. Only one government employed household has income above 25000 INR per month. It indicates that some of the government employees whose income level is lower are living in slums in the city.

Table-3.6 Primary occupations and household income

Primary Occupations	Monthly household income from all sources (In INR)							Tot.
	< 2500	2500 - 5000	5000 - 10000	10000 - 15000	15000 - 20000	20000 - 25000	>25000	
Manual Labour	7	26	23	7	0	0	0	63
Tot %	3.5	13.0	11.5	3.5	0	0	0	31.5
Skilled Labour	0	20	32	8	2	0	1	63
Tot %	0	10.0	16.0	4.0	1.0	0	0.5	31.5
Pvt. Jobs	2	10	13	1	1	1	1	29
Tot %	1.0	5.0	6.5	0.5	0.5	0.5	0.5	14.5
Jobs in NGO	0	1	3	0	0	0	0	4
Tot %	0	0.5	1.5	0	0	0	0	2.0
Govt. Jobs	0	1	7	5	2	1	1	17
Tot %	0	0.5	3.5	2.5	1.0	0.5	0.5	8.5
Others	6	11	6	1	0	0	0	24
Tot %	3.0	5.5	3.0	0.5	0	0	0	12.0
Total	15	69	84	22	5	2	3	200
Tot %	7.5	34.5	42.0	11.0	2.5	1.0	1.5	100

Table - 3.7 shows the primary occupations of the households by social groups. The ST households found 29 per cent (58 households) working as manual and/or skilled labours,

which constitute 66.67 per cent of total ST households. SC households constitute 7.5 per cent of total surveyed households and 65.22 per cent of total SC households who are working in manual and skilled labours. OBC households have 15 per cent of total surveyed households and 65.22 per cent of total OBC households working in manual and skilled laboures. General Castes have 11.5 per cent of total surveyed households and 52.27 per cent of total General Caste households those who are depending on manual labour and skilled labour for their livelihood.

From the forgoing analysis it has seen that 52 per cent of the General Caste households within their own caste group depend on labour (both manual and skilled) work. Whereas all other social groups have the share almost 65 per cent each of their respective total households. So it is found that majority of the socially deprived groups are depending on labour or daily wages for their livelihood in the study area (Table - 3.7).

Table- 3.7 Social groups and households' primary occupations

Social groups	Primary Occupations						Total
	Manual Labour	Skilled Labour	Pvt. Jobs	Jobs in NGOs	Govt. Jobs	Others	
Gen	9	14	7	0	4	10	44
Row %	20.4	31.8	15.9	0	9.1	22.7	100
Tot %	4.5	7	3.5	0	2	5	22
SC	6	9	4	0	0	4	23
Row %	26.1	39.1	17.4	0	0	17.4	100
Tot %	3	4.5	2	0	0	2	11.5
ST	34	24	10	3	11	5	87
Row %	39.1	27.6	11.5	3.4	12.6	5.7	100
Tot %	17	12	5	1.5	5.5	2.5	43.5
OBC	14	16	8	1	2	5	46
Row %	30.4	34.8	17.4	2.2	4.3	10.9	100
Tot %	7	8	4	0.5	1	2.5	23
Total	63	63	29	4	17	24	200
Tot %	31.5	31.5	14.5	2	8.5	12	100

Table - 3.8 shows the status of the domestic help / labour (domestic servant) outside by any household members. Nine (4.5%) households have reported that, any of their household members working outside as domestic help / labour. It is found that none of the social groups are restricted to do such type of works. More of Schedule Tribes (4 households) reported about engaging in domestic help / labour for their livelihood. The General castes and SCs

have 2 households each depending on domestic help / labour¹⁷ and OBCs have only one household engaged in domestic help / labour (any of the household members).

From the in-depth interview, it came to know that two out of nine members have experienced the instances of ill treatment by their service providers during the work of domestic help. They reported both physically and mentally torture that experienced during their work. Still they have to continue the work because of limitations of other options.

Table- 3.8 Social groups and domestic help/labour

Social groups	Any HH member work outside as domestic labour		
	Yes (%)	No (%)	Total (%)
Gen	2 (1.0)	42 (21.0)	44 (22.0)
SC	2 (1.0)	21 (10.5)	23 (11.5)
ST	4 (2.0)	83 (41.5)	87 (43.5)
OBC	1 (0.5)	45 (22.5)	46 (23.0)
Total	9 (4.5)	191 (95.5)	200 (100)

It is common that people living in slums have lower profile of work. It is vice-versa that people having lower work status live in slum and people living in slums have lower level of work status. It is because people do not live in slums by interests. It is their working status and economic profile that tend to live in slums.

3.3 INCOME AND HOUSEHOLD CHARACTERISTICS

The income level of households depends on the nature of works they have. In the study area it has found that majority of the households depend on wage labour (Both manual and skilled labor) work. Therefore, their incomes depend on the number of earning head per households.

At individual level majority of the people (180 persons) have the earning between 2500 to 5000 INR, which constitutes 22.1 per cent of the total population and 56.78 per cent of the total working population. Majority of the households (76.5%) earn between 2500 to 10000

¹⁷ With the in-depth interviews it came to know that the said two households depending of domestic labour from General castes are not from General castes of Hindu system. Primarily these families were of SCs. After adopted the Christianity, they counted as General Castes. But their working status remains same as previous. From the past history they are familiar to the works like domestic help / labour. Some of their relatives are also working as domestic helper / labour outside in this city and followed the Hinduism.

INR per month. It is also credent that households earning between 2500 to 15000 INR have own house. Households earning between 2500 to 10000 INR pay house rent between 500 to 1000 INR (Table - 3.9).

Table- 3.9 Incomes at individual and household level

At individual level		At household level	
Income level (In INR)	Number of individual (%)	Income level (In INR)	Number of household (%)
Non working	498 (61.1)	< 2500	15 (7.5)
< 1000	10 (1.2)	2500 – 5000	69 (34.5)
1000 – 2500	64 (7.9)	5000 – 10000	84 (42.0)
2500 – 5000	180 (22.1)	10000 – 15000	22 (11.0)
5000 – 10000	56 (6.9)	15000 – 20000	5 (2.5)
10000 – 15000	2 (0.2)	20000 – 25000	2 (1.0)
> 15000	5 (0.6)	> 25000	3 (1.5)
Total	815 (100)	Total	200 (100)

Table - 3.10 shows the income groups at household level. Majority of the households are within the income groups of 2500 to 10000 INR; out of which 96 household (48% of total population) with household size 2-4 fall in same income group and counted as majority. It is said that big household size means more earning hands; and more income to the household. It has seen from the table that only those households with household size above four members earn more than 20000 INR per month. This type of relations can be applicable in case the households depend mainly on wage labour.

Table- 3.10 Household size and household income

Household size (no. of members)	Income group (In INR)							Total
	< 2500	2500 - 5000	5000 - 10000	10000 - 15000	15000 - 20000	20000 - 25000	> 25000	
1 member	1	3	1	0	0	0	0	5
Tot %	0.5	1.5	0.5	0	0	0	0	2.5
2 – 4	12	50	46	12	2	0	2	124
Tot %	6.0	25.0	23.0	6.0	1.0	0	1.0	62.0
5 – 7	2	15	34	8	3	2	0	64
Tot %	1.0	7.5	17.0	4.0	1.5	1.0	0	32.0
8 and above	0	1	3	2	0	0	1	7
Tot %	0	0.5	1.5	1.0	0	0	0.5	3.5
Total	15	69	84	22	5	2	3	200
Tot %	7.5	34.5	42.0	11.0	2.5	1.0	1.5	100

Table - 3.11 shows the income level of the study households by their social groups. The data reveals that majority of the households from almost all the social group, fall within the income level of 2500 to 10000 INR per month. Only the General castes and ST households have the income above 2000 INR per month. Highest income by any of the SC household is 15000 INR, which is lesser than any other social groups in the study area. It is evident that SCs have lower income level as compared to other social groups. In overall, it also found that there are 15 households who are managing their families with 2500 INR or less of it in a month.

It is evident that majority of the households' monthly income is up to 10000 INR (Ten thousand rupees). It reflects in every social group in the study area. There are only five households (2 from General and 3 from ST) earn 20000 INR or above per month. The economic conditions of the study households can be understood from it. The households' income is moreover depends upon the type of work. Still here it is the number of earning hands that influences income of the households.

Table- 3.11 Social groups and household income

Social groups	Income group (In INR)							Total
	< 2500	2500 - 5000	5000 - 10000	10000 - 15000	15000 - 20000	20000 - 25000	> 25000	
Gen	5	15	15	6	1	1	1	44
Row %	11.4	34.1	34.1	13.6	2.3	2.3	2.3	100
Tot %	2.5	7.5	7.5	3	0.5	0.5	0.5	22
SC	2	7	11	3	0	0	0	23
Row %	8.7	30.4	47.8	13.0	0	0	0	100
Tot %	1	4.5	5.5	1.5	0	0	0	11.5
ST	4	25	42	11	2	1	2	87
Row %	4.6	28.7	48.3	12.6	2.3	1.1	2.3	100
Tot %	2	12.5	21	5.5	1	0.5	1	43.5
OBC	4	22	16	2	2	0	0	46
Row %	8.7	47.8	34.8	4.3	4.3	0	0	100
Tot %	2	11	8	1	1	0	0	23
Total	15	69	84	22	5	2	3	200
Tot %	7.5	34.5	42	11	2.5	1	1.5	100

3.4 BASIC INFRASTRUCTURE AVAILABLE TO HOUSEHOLDS

Availability of the households' infrastructures has linked with the household income and sometimes it depends on the living durations of residents in a particular slum. Generally slums have poor basic infrastructures worldwide. It is found similar in present study.

Out of 200 households, 37 households are living in rented houses; from it 13 households are living with the house rent of 500 INR or less than it per month. Sixteen numbers of households are living with the house rent of 500 to 1000 INR per month. Eight households are affording the house rent above 1000 INR per month. Here, most of the people are (29 households out of 37) afford up to 1000 INR per month for the house rent, which constitutes 78.39 per cent of the total households living in rented houses. On the other side only 3 households are living in rented houses having the income level above 10000 INR per month (Table - 3.12). Inferences can be drawn that people living in rented houses spent up to one thousand rupees for the house rent. And also it can be said that 'household income is directly related / influenced to the paying capacity' for their house rent.

Table- 3.12 Household incomes and house rent

Monthly household income In INR	House rent (In INR)					Total (%)
	Own houses (%)	Up to 500 (%)	500 - 1000 (%)	1000 – 1500 (%)	> 1500 (%)	
< 2500	12 (6)	1 (0.5)	2 (1)	0 (0)	0 (0)	15 (7.5)
2500 – 5000	52 (26)	8 (4)	7 (3.5)	1 (0.5)	1 (0.5)	69 (34.5)
5000 – 10000	70 (35)	4 (2)	5 (2.5)	2 (1)	3 (1.5)	84 (42)
10000 – 15000	20 (10)	0 (0)	2 (1)	0 (0)	0 (0)	22 (11)
15000 – 20000	5 (2.5)	0 (0)	0 (0)	0 (0)	0 (0)	5 (2.5)
20000 – 25000	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)
> 25000	2 (1)	0 (0)	0 (0)	1 (0.5)	0 (0)	3 (1.5)
Total	163 (81.5)	13 (6.5)	16 (8)	4 (2)	4 (2)	200 (100)

Note: Households, those are living in their own houses need not pay house rent

Only in *Bharatpur* slum households are given the Record of Rights (RoR) of their homestead lands by the Government of Odisha. Primarily this slum was a rehabilitate colony. People who were living inside the main city displaced and rehabilitate in *Bharatpur*. And as a result households are provided land for making houses and the RoR of homestead lands. But

slowly in-migration to the slum changes its features. People started living in temporary houses with congestions. Now slowly it became a typical slum at outer part of Bhubaneswar city. On the other hand people living in *Saliasahi* have no RoR although it is the oldest slum in the city.

There are 7 numbers of households having Record of Rights of their homestead land. Four of those are from General Caste households. Other three households are each one from ST, SC and OBC (Table- 3.13). All the households belong to the Hindu religion.

Table- 3.13 Social groups and Record of Right (RoR) of homestead lands

Social groups	Ownership of RoR of homestead lands		
	Have RoR (%)	Do not have RoR (%)	Total (%)
Gen	4 (2.0)	40 (20.0)	44 (22.0)
SC	1 (0.5)	22 (11.0)	23 (11.5)
ST	1 (0.5)	86 (43.0)	87 (43.5)
OBC	1 (0.5)	45 (22.5)	46 (23.0)
Total	7 (3.5)	193 (96.5)	200 (100)

Table - 3.14 shows the ownerships of the houses by the social groups in the study area. There are 163 (81.5%) households having their own houses and rest 37 (18.5%) households are living in rented houses. General Castes have 37 households those who have their own houses and constituted 18.5 per cent of the total households and 84.09 per cent of total General castes household, constituting majority in the study area. STs have 73 households owned houses, constituting 36.5 per cent of total households; 83.91 per cent of total ST households and 44.8 per cent of those having own houses. OBCs have 36 households owned houses, constituting 18 per cent of total households and 78.26 per cent of total OBC households. SCs have 17 households owned houses, constituting 8.5 per cent of total households and 73.92 per cent of total SC households.

The General Castes have the majority (in percentage within the social groups) in ownership of the houses and followed by STs, OBCs and SCs.

Table- 3.14 Social groups and ownerships of the houses

Social groups	Ownership of the houses		
	Own house	Rented house	Total
Gen	37	7	44
Row %	84.1	15.9	100
Tot %	18.5	3.5	22
SC	17	6	23
Row %	73.9	26.1	100
Tot %	8.5	3.0	11.5
ST	73	14	87
Row %	83.9	16.1	100
Tot %	36.5	7.0	43.5
OBC	36	10	46
Row %	78.3	21.7	100
Tot %	18.0	5.0	23.0
Total	163	37	200
Tot %	81.5	18.5	100

Table - 3.15 shows the house property of the survey households other than the place they residing presently. It shows that 167 households (83.5%) have house properties at their place of origin (from where they belong to originally). Only one household have house in other place in Bhubaneswar city. Those who have house properties at their place of origin also have land property there. Thirty-two households (16 per cent) don't have house at any other places except the present residents in study area. There is only one household found who does not have house property anywhere and living in rented houses in the present resident in the city. Rest 36 families who are living in rented houses have house property at their place of origin.

Table- 3.15 Ownership of houses and house property elsewhere

Ownership of the house	Having house property elsewhere			Total
	At place of origin	Other place in the city/slum	Don't own elsewhere	
Own house	131	1	31	163
Tot %	65.5	0.5	15.5	81.5
Rented house	36	0	1	37
Tot %	18	0	0.5	18.5
Total	167	1	32	200
Tot %	83.5	0.5	16	100

Table - 3.16 shows the distance from collection of water (drinking and other uses) of the studied households by ownership of houses. Among the owned households, 47.2 per cent has accessed the source of water at their door steps. And among the rented houses, 43.2 per cent has accessed the source of water at their door steps. Out of 200 households, 13 households (6.5%) have to travel more than 100 metres for accessing the source of water; and out of it 10 households (5%) have experience of fetching water from more than 150 metres from their residents.

Table- 3.16 Ownership of the house and distance from the source of water

Ownership of the house	Distance from the drinking water					Total
	At door step	Up to 50 mtrs	50 - 100 mtrs	100 - 150 mtrs	150 - 200 mtrs	
Own house	77	73	3	3	7	163
Row %	47.2	44.8	1.8	1.8	4.3	100
Tot %	38.5	31.5	1.5	1.5	3.5	81.5
Rented house	16	13	5	0	3	37
Row %	43.2	35.1	13.5	0	8.1	100
Tot %	8	6.5	2.5	0	1.5	18.5
Total	93	86	8	3	10	200
Tot %	46.5	43	4	1.5	5	100

Table - 3.17 shows the type of ventilations by structure of houses in the study area. There are 105 households (52.5%) having no ventilation or have only one skylight in their houses. Out of 200 households, 36 per cent (72 households) do not have any type of ventilations in their houses. Ventilation system also has impact on the health of the household members in long run. Living in non-ventilated houses can causes respiratory diseases in long run. Therefore, it can understand the living quality of the people in the slums.

Table- 3.17 Households by type of ventilations in rooms

Type of ventilations	Type / structure of houses			
	Kachcha (%)	Semi-pucca (%)	Pucca (%)	Total (%)
No ventilations	57 (28.5)	13 (6.5)	2 (1.0)	72 (36.0)
Skylight only in one room	11 (5.5)	22 (11.0)	0 (0)	33 (16.5)
Skylight in all rooms	2 (1.0)	18 (9.0)	0 (0)	20 (10)
Windows in all rooms	1 (0.5)	26 (13.0)	3 (1.5)	30 (15)
Window at least one room & skylight	3 (1.5)	23 (11.5)	2 (1.0)	28 (14.0)
Window at least 1 room & no skylight	2 (1.0)	15 (7.5)	0 (0)	17 (7.5)
Total	76 (38.0)	117 (58.5)	7 (3.5)	200 (100)

According to the house structure it has found that 75% of kachcha houses (majority) do not have any type of ventilations. It is found that out of 7 pucca houses, 2 have no ventilations.

From the Table - 3.18 inferences can be drawn that most of the households have one or two roomed houses, which constitutes 174 households (87%). Again majority of households having two rooms fall in the household size of 2- 4 in the study area; it constitutes 111 households (55.5% of total households). There are 19 households (9.5%) having family size 5 and more members living in single roomed houses. It indicates the overcrowded living condition of slum residents in the study area.

Table- 3.18 Household size and rooms per household

Household size	Number of rooms in the house				Total (%)
	One room (%)	Two rooms (%)	Three rooms (%)	Four or more than it (%)	
One member	5 (2.5)	0 (0)	0 (0)	0 (0)	5 (2.5)
2 – 4 members	64 (32)	47 (23.5)	7 (3.5)	6 (3)	124 (62)
5 – 7 members	18 (9)	36 (18)	6 (3)	4 (2)	64 (32)
8 and above	1 (0.5)	3 (1.5)	3 (1.5)	0 (0)	7 (3.5)
Total	88 (44)	86 (43)	16 (8)	10 (5)	200 (100)

Table - 3.19 shows the distance from source of water of the surveyed households by the monthly household income. It has shown that 93 households (46.5%) have the water sources at their door steps. Rests 107 households (53.5%) have to go outside for collecting water for their day to day use. There are 21 households fetch water from the distance more than 50 meters from their houses. Ten (5%) households fetch water from more than 150 metres distances.

According to the income level of households, it has seen that all the households earning above 15000 INR per month avail the water sources at their door steps or distance up to 50 metres from their houses. Those households who are fetching water from the distance above 50 metres are all coming within the income groups up to 15000 INR per month. Here the fact is that most of the households having less income have more distance from the source of water.

Table- 3.19 Household income and distance from the source of water

Monthly household income (In INR)	Distance from the source of drinking water (in mtrs)					Total (%)
	At door step (%)	Up to 50 (%)	50 - 100 (%)	100 - 150 (%)	Above 150 (%)	
< 2500	6 (3)	5 (2.5)	3 (1.5)	0 (0)	1 (0.5)	15 (7)
2500 – 5000	29 (14.5)	31 (15.5)	3 (1.5)	1 (0.5)	5 (2.5)	69 (34.5)
5000 – 10000	39 (19.5)	41 (20.5)	2 (1)	1 (0.5)	1 (0.5)	84 (42)
10000 – 15000	12 (6)	6 (3)	0 (0)	1 (0.5)	3 (1.5)	22 (11)
15000 – 20000	4 (2)	1 (0.5)	0 (0)	0 (0)	0 (0)	5 (2.5)
20000 – 25000	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	2 (1)
> 25000	3 (1.5)	0 (0)	0 (0)	0 (0)	0 (0)	3 (1.5)
Total	93 (46.5)	86 (43)	8 (4)	3 (1.5)	10 (5)	200 (100)

Table - 3.20 shows the treatment of water in terms of purification for making it drinkable by the households. In the study area it is found that only nine households (4.5%) treat the water and use it for drinking purpose. Rest 191 households (95.5%) use the water without any treatment. Majority (7 households) boiled the water for treating it, and their household income is lower as compared to others who use it without treatment. It is evident that economic status is not influencing the treatment of water for drinking purpose. It can be the health consciousness or other factors which influence in treatment of water.

Table- 3.20 Household income and treatment of drinking water

Monthly household income (In INR)	Treatment of drinking water			Total (%)
	Filtered (%)	Boiled (%)	Use without treatment (%)	
< 2500	0 (0)	1 (0.5)	14 (7)	15 (7.5)
2500 – 5000	2 (1)	2 (1)	65 (32.5)	69 (34.5)
5000 – 10000	0 (0)	3 (1.5)	81 (40.5)	84 (42)
10000 – 15000	0 (0)	0 (0)	22 (11)	22 (11)
15000 – 20000	0 (0)	1 (0.5)	4 (2)	5 (2.5)
20000 – 25000	0 (0)	0 (0)	2 (1)	2 (1)
> 25000	0 (0)	0 (0)	3 (1.5)	3 (1.5)
Total	2 (1)	7 (3.5)	191 (95.5)	200 (100)

Table - 3.21 shows the treatment of drinking water by main source of water, within the study area. It found that a huge part of the study households (191 households) are using the water in drinking purpose without any treatment to it. Other 9 households who are treated the water before use it for drinking purpose are fetching water form public taps and taps at their

dwelling by the government supply. Seven households reported that they boiled the water and another 2 households filtered the water to make it drinkable. Here also it found that none of any specific factor has influences in treatment of water for using in drinking purpose.

Table- 3.21 Main source of water and treatment of it for drinking purpose

Main source of water	Treatment of drinking water			Total (%)
	Filtered (%)	Boiled (%)	Use without treatment (%)	
Public tube well	0 (0)	0 (0)	8 (4.0)	8 (4.0)
Public tap at stand post	0 (0)	5 (2.5)	73 (36.5)	78 (39.0)
Public / own protected well	0 (0)	0 (0)	15 (7.5)	15 (7.5)
Tap at dwelling (govt.)	2 (1.0)	2 (1.0)	18 (9.0)	22 (11.0)
Tap at dwelling (self installed)*	0 (0)	0 (0)	59 (29.5)	59 (29.5)
Sharing with neighbours' tap	0 (0)	0 (0)	18 (9.0)	18 (9.0)
Total	2 (1.0)	7 (3.5)	191 (95.5)	200 (100)

* The community people installed the water supply system.

Table - 3.22 shows the main sources of water by distance from households. It has to see from the table that all 13 households who have to travel more than 100 metres to fetch water are mainly depend on public taps at stand posts. Out of total households depending on public stand posts, 75 per cent are getting water from the distance up to 50 metres from their residents. There are 13 households whose sources of water are 100 metres or above it. Ten households are getting their water from the distance above 150 metres from their residence.

It has seen that households who are living since long in the slums occupied the main part of it. People who came later are settled at the periphery of the slums and less possible to get water sources near their residents. Therefore, such households have more distance from the source of water. On the other hand people who economically well-off, made accessed the source of water at their door steps.

Table- 3.22 Distance from the main source of water

Main source of water	Distance from the households					
	At door step	Up to 50 mtrs	50 - 100 mtrs	100 - 150 mtrs	Above 150 mtrs	Total
Public tube well	0	7	1	0	0	8
Tot %	0	3.5	0.5	0	0	4.0
Public tap at stand post	0	59	6	3	10	78
Tot %	0	29.5	3.0	1.5	5.0	39.0
Public / own protected well	0	14	1	0	0	15
Tot %	0	7.0	0.5	0	0	7.5
Tap at dwelling (govt.)	22	0	0	0	0	22
Tot %	11.0	0	0	0	0	11.0
Tap at dwelling (self installed)	59	0	0	0	0	59
Tot %	29.5	0	0	0	0	29.5
Sharing with neighbours' tap	12	6	0	0	0	18
Tot %	6.0	3.0	0	0	0	9.0
Total	93	86	8	3	10	200
Tot %	46.5	43.0	4.0	1.5	5.0	100

Electricity supply is considered as one of the essential parts to manage life both in urban area as well as rural area. Figure - 3.5 shows the electricity supply to the households in the study area. It has shown that 63 households (31.5%) do not access electricity at their houses. It can understand that life without electricity itself restricts to use other accessories like lighting the room, televisions, transistors or other electrical equipments. Therefore, people living without electricity have also inaccessible to these things.

Sixty-six household (33%) use electricity with their neighbors' connections. The background causes may be those households do not have identity to apply for electricity connections to their houses; or economically weak to pay for the services. Forty-eight (24%) households use the electricity only for lighting their rooms and use of fans, which constitutes about 35 per cent of total households using electricity. There are 23 households used electricity only for lighting the rooms (Figure- 3.5).

Figure- 3.5 Electrification to the households

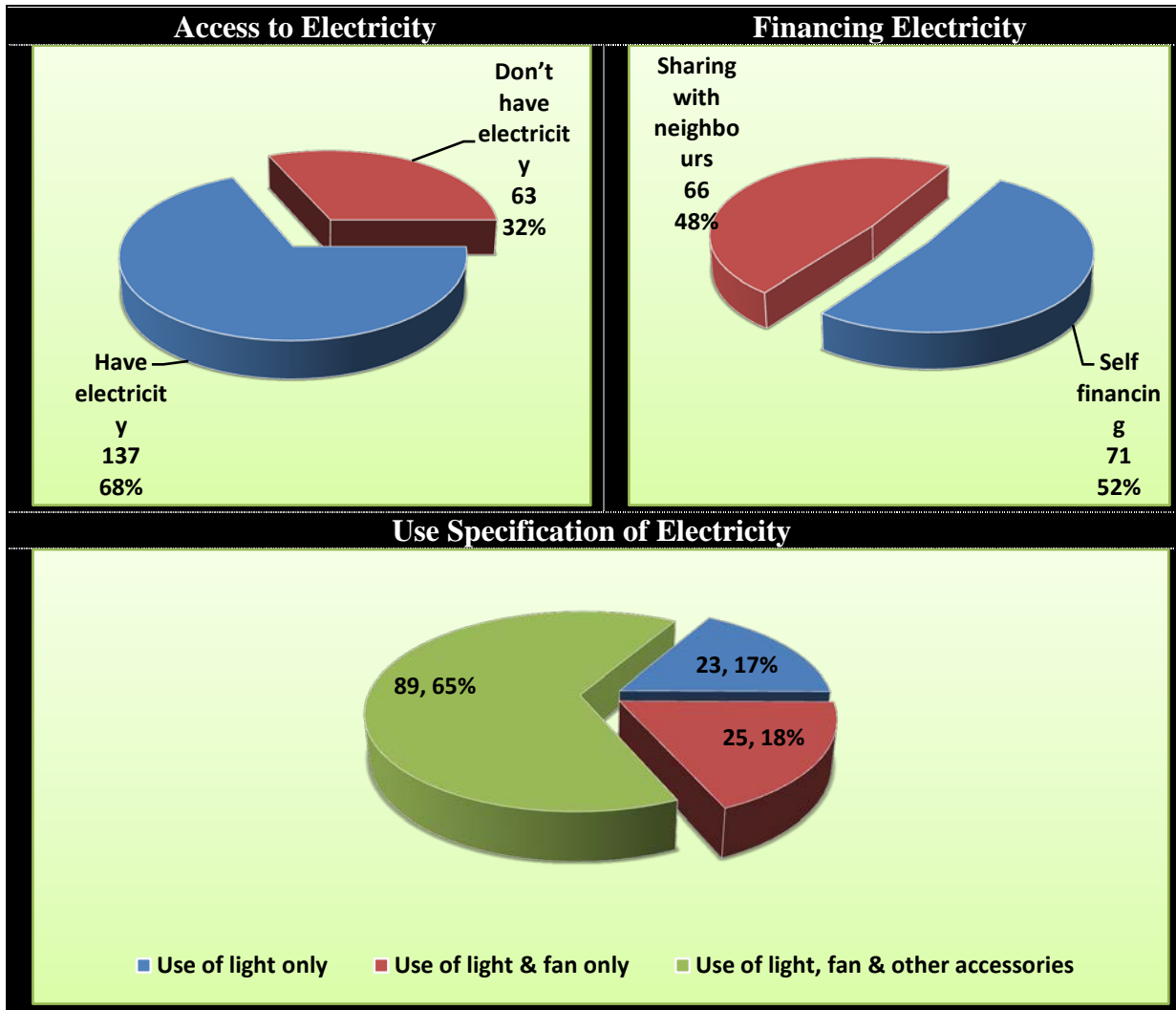


Table - 3.23 deals with the toilet facilities by primary occupations of the households in the study area. It shows that 28.5 per cent (57 households) of the total surveyed households don't have toilet facility. Most of the households (55 per cent) have individual toilets outside their houses. Only 2.5 per cent of the households have the toilets inside their houses. None of the households who are primarily depend on labour work, private jobs or jobs at NGOs have toilet facilities inside houses. Rest 14 per cent has shared the toilets with other households. Out of total 57 households who do not have toilet facility, manual labour category of households constitutes majority (32 households).

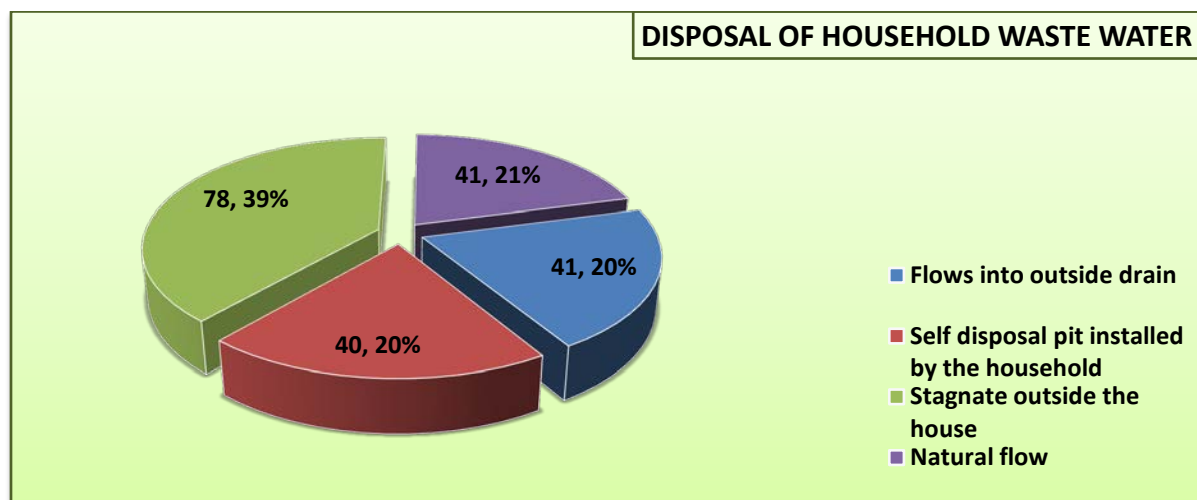
At the district level (Khordha) 52.9 per cent of the households don't have toilet facility and 21.2 per cent of the urban area of the district doesn't have the toilet facility according to the Census Report 2011 (RGI, 2011). And here, the current study found that 28.5 per cent of the urban poor who are living in urban slums in Bhubaneswar city do not have toilet facility.

Table- 3.23 Primary occupations and toilet facilities

Primary Occupations	Toilet facilities (%)				Total
	Don't have toilet facility	Shared toilet outside the house	Individual toilet outside the house	Individual toilet inside the house	
Manual Labour	32 (16)	8 (4)	23 (11.5)	0 (0)	63 (31.5)
Skilled Labour	16 (8)	7 (3.5)	40 (20)	0 (0)	63 (31.5)
Pvt. Jobs	5 (2.5)	7 (3.5)	17 (8.5)	0 (0)	29 (14.5)
Jobs in NGOs	1 (0.5)	1 (0.5)	2 (1)	0 (0)	4 (2)
Govt. Jobs	0 (0)	0 (0)	15 (7.5)	2 (1)	17 (8.5)
Other	3 (1.5)	5 (2.5)	13 (6.5)	3 (1.5)	24 (12)
Total	57 (28.5)	28 (14)	110 (55)	5 (2.5)	200 (100)

Figure - 3.6 shows the disposal of household waste water by the households. There are 41 households (20.5%) who access the drainage system for disposing their household waste water. Another 41 households (20.5%) leave the waste water to flow openly. Forty households (20%) have the disposal pits, installed themselves for disposing household waste water. Rest 78 household (39%) reported about the household waste water stagnate outside their houses.

Figure- 3.6 Disposal of household's waste water



It is evident that out of 200 households 119 (59.5%) have no access to any type of drainage facilities to dispose their household waste water; which has possibilities of negative impact in health outcomes in long run.

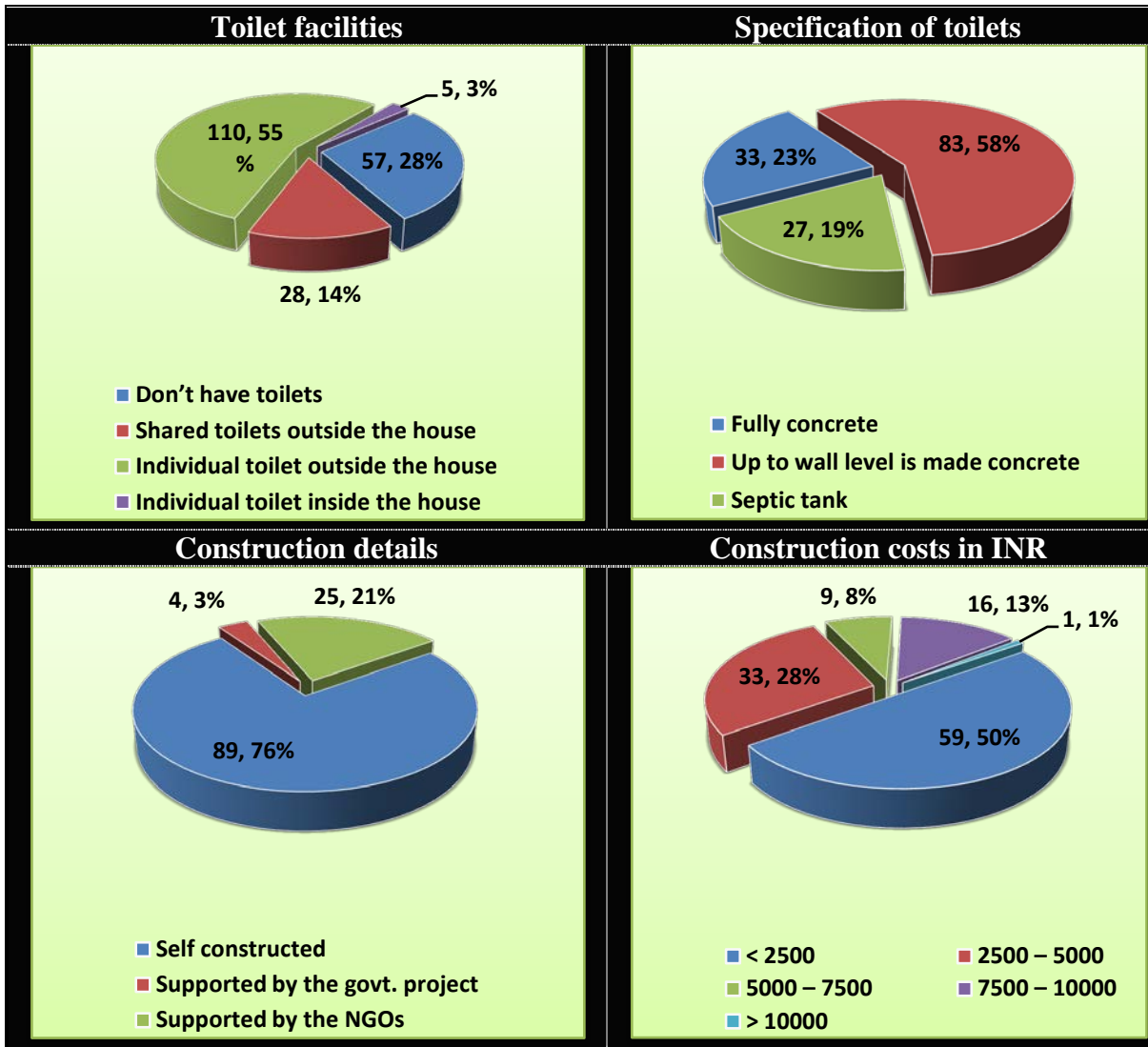
The Figure- 3.7 deals with the toilet facilities in the study area. There are 57 (28.5%) households do not have toilet facilities in study area. Other 143 (71.5%) households have toilet facilities. Out of the 143 households, 110 (55%) have individual toilets outside their houses; 28 (14%) uses the shared toilets and only 5 (2.5%) have the individual toilets inside their house. Fully concreted toilets are used by 33 households that constitute 23 per cent of total households who have toilets. Eighty-three households have the toilets with concreted up to wall level only that constitute 58 per cent of total households having toilets and 27 households use the septic tank toilets, which constitute 19 per cent of total households having toilet facilities.

As regards the construction details of the toilets there are 118 households who have their own toilets. Therefore, during the primary data collection this series of questions were asked to those households who have their own toilets.

It is found that only 4 households made their toilets with the help of the government schemes; and all comes under the housing scheme Basic Service to Urban Poor (BSUP) of JnNURM. Another 25 households got support from various Non Government Organizations (NGOs). It has seen that majority of the households (89 out of total 118 households who have own toilets) constructed their toilets with own costs. Fifty per cent of the households who have toilet facilities reported about the construction cost of their toilet within 2500 INR. The maximum cost of construction of toilet is above 10000 INR, and only one household constructed it with the high cost (Figure- 3.7).

The basic infrastructures of the households are found in different perspectives. Households having higher income level or belong to higher social groups do not accessed all the basic infrastructures. Different factors are influenced in availed those services. For example it has seen that all the well-off households did not access the source of water at their door steps.

Figure- 3.7 Households with toilet facility details



3.5 HOUSE RENT AND BASIC INFRASTRUCTURES

Table - 3.24 shows two household level variables with the house rent by rented households. Those who have access to electricity and toilet facilities avail by the rented households. Data reveals that there are 28 rented households having electricity supply to their houses which account for 75.7 per cent of the total rented households. Nine rented households (24.3%) having no electricity in their houses and their monthly house rent is up to 1000 INR. It is the common and well known phenomena that house rent is directly related to the quality of house, also found in present study.

The same table (Table - 3.24) also shows the toilet facilities of the rented households. Eleven households (29.7%) do not have toilet facilities and all those households are paying the house rent up to 1000 INR per month. Only 3 households have the individual toilets outside their houses. None of the rented households have individual toilets inside their houses.

Table-3.24 House rent per month by electricity and toilet facilities

House rent per month (In INR)	Electrification in the house			Toilet facilities			
	Yes	No	Total	Don't have toilet facilities	Shared toilets outside the house	Individual toilet outside the house	Total
< 500	6	7	13	7	4	2	13
Tot %	16.2	18.9	35.1	18.9	10.8	5.4	35.1
500 – 1000	14	2	16	4	12	0	16
Tot %	37.8	5.4	43.2	10.8	32.4	0	43.2
1000 – 1500	4	0	4	0	3	1	4
Tot %	10.8	0	10.8	0	8.1	2.7	10.8
1500 – 2000	4	0	4	0	4	0	4
Tot %	10.8	0	10.8	0	10.8	0	10.8
Total	28	9	37	11	23	3	37
Tot %	75.7	24.3	100	29.7	62.2	8.1	100

Table - 3.25 deals with the sources of water by the rented households. None of the rented households reported that they are depending on the public tube well for water. There are 8 houses that pay house rent 1000 INR or more than it; out of which 4 households have government tap at their dwelling, 3 have taps at their dwelling which is installed by the community itself and one household accessed the water source from public stand post. Other way, there are 29 households paying house rent up to 1000 INR per month; out of which 4 are fetching water from neighboring households, 16 are depending on public taps at stand posts.

From the table it seems that economically weak households mainly depend on government facilities, whereas relatively well-off are trying to avail the water facility at their door step with expenditure. It has reported by one of the key informants (Ki5)¹⁸ from *Saliasahi* that *'the concern department denied supplying piped water to the slum because Saliasahi is an unauthorized slum.'* Although people are living more than 25 years in particular slums, they

¹⁸ Key Informant 5; See Annexure- VIII for details.

are identified as unauthorized residents. Therefore, some of the committees in *Saliasahi* took initiatives in their water supply. The community itself installed bore wells and connected to each household through piped water supply. The costs of the system were bear collectively by the community (Table- 3.25).

Table- 3.25 House rent per month and sources of water

House rent per month (In INR)	Main source of water					Total
	Public tap at stand post	Public/own protected well	Tap at dwelling (govt.)	Tap at dwelling (self installed)	Sharing with neighbours' tap	
< 500	9	2	0	1	1	13
Tot %	24.3	5.4	0	2.7	2.7	53.1
500 - 1000	7	1	0	5	3	16
Tot %	18.9	2.7	0	13.5	8.1	43.2
1000 - 1500	1	0	2	1	0	4
Tot %	2.7	0	5.4	2.7	0	10.8
> 1500	0	0	2	2	0	4
Tot %	00	0	5.4	5.4	0	10.8
Total	17	3	4	9	4	37
Tot %	45.9	8.1	10.8	24.3	10.8	100

In some areas (inside the slums) people get accessed better facilities in less house rent whereas in others it costs more. It depend on the demand of the area and prior to the nearby to other facilities and accessibilities like near to the market places and far from it.

3.6 SOCIAL DISPARITIES IN ACCESS TO BASIC INFRASTRUCTURES

Table - 3.26 shows the type of houses and the cooking places by the social groups. Majority of the households (117 households) live in semi-pucca houses and only seven households live in pucca houses. Households living in kachcha houses are 76 in numbers. Out of that STs constitute majority (39 households, 44.8% of total STs). Ten households from general caste live in Kachcha houses, that constitutes 22.7 per cent of the total General caste household considered the less percentage as compare to other social group. Out of seven pucca houses General caste, SCs and OBCs have each 2 households and ST have one household living in.

In regards the cooking places, 74 (37%) households have separate kitchen, another 56 (28%) households cooking their food inside the main room and rest 70 (35%) household have cook their food outside the main room or outside their houses. By the Social group majority of the

STs (44.8% among ST) have separate kitchen. SCs are the minor (12% of among SCs) having separate kitchen. Majority of the OBC households (36.9% of among OBCs) have prepared their food inside the main room.

Table- 3.26 Social group and type of houses and cooking places

Social groups	Type/structure of houses				Cooking Places			
	Kachcha	Semi-Pucca	Pucca	Total	Separate kitchen	Inside the main room	Outside the house	Total
Gen	10	32	2	44	13	15	16	44
Row %	22.7	72.7	4.5	100	29.5	34.1	36.4	100
Tot %	5	16	1	22.0	6.5	7.5	8	22.0
SC	9	12	2	23	9	8	6	23
Row %	39.1	52.2	8.7	100	39.1	34.8	26.1	100
Tot %	4.5	6	1	11.5	4.5	4	3	11.5
ST	39	47	1	87	39	16	32	87
Row %	44.8	54.0	1.1	100	44.8	18.4	36.8	100
Tot %	19.5	23.5	0.5	43.5	19.5	8	16	43.5
OBC	18	26	2	46	13	17	16	46
Row %	39.1	56.5	4.3	100	28.3	36.9	34.8	100
Tot %	9	13	1	23	6.5	8.5	8	23.0
Total	76	117	7	200	74	56	70	200
Tot%	38.0	58.5	3.5	100	37	28	35	100

It has reported that households prepared their food outside their houses have to prepared their food inside houses during rainy seasons. They only cooked outside in dry seasons (Table- 3.26).

Table - 3.27 shows that there are 167 households (83.5%) have house property at their place of origin. Thirty-two households do not have house property at any other places except the houses they are living presently in surveyed area. Only one household has another house inside the city. Out of 32 households (those who do not own houses in other places), ten belong to the General Castes, three from SCs, eleven from STs and rest eight belong to the OBCs communities.

Majority of the households have house property at their place of origin. It is because majority of the resident in the study area migrated from rural Odisha in search of jobs and started living in lower economic profile areas in the city.

Table- 3.27 Social groups and ownership of houses elsewhere

Social groups	Ownership of households elsewhere			
	At the place of origin (%)	At other places (%)	Don't own (%)	Total (%)
Gen	34 (17)	0 (0)	10 (5)	44 (22)
SC	19 (9.5)	1 (0.5)	3 (1.5)	23 (11.5)
ST	76 (38)	0 (0)	11 (5.5)	87 (43.5)
OBC	38 (19)	0 (0)	8 (4)	46 (23)
Total	167 (83.5)	1 (0.5)	32 (16)	200 (100)

Table - 3.28 shows the distance from the sources of water by the households of different social groups. It shows that 93 households have the access to water at their door steps. Out of that 55.2 per cent of ST households access it and counted as the majority. SCs and OBCs households have 34.8 per cent both of their respective total households who have access the water supply at their door step. General Castes have 47.7 per cent of its total households who access the water supply at their door step. From the table it is shown that majority of the households access the water at door step or distance up to 50 meters from their residents. There are 10 households travel more than 150 metres distance for fetching water; out of those six households from OBCs, two from SCs and it is each one from ST and General Castes.

Table- 3.28 Social groups and distance from the source of drinking water

Social groups	Distance from the sources of drinking water					Total
	At door step	Up to 50 mtrs	50 - 100 mtrs	100 -150 mtrs	More than 150 mtrs	
Gen	21	20	1	1	1	44
Row %	47.7	45.4	2.3	2.3	2.3	100
SC	8	10	2	1	2	23
Row %	34.8	43.5	6.7	4.3	6.7	100
ST	48	36	2	0	1	87
Row %	55.2	41.4	2.3	0	1.1	100
OBC	16	20	3	1	6	46
Row %	34.8	43.5	6.5	2.2	13.0	100
Total	93	86	8	3	10	200
Tot %	46.5	43.0	4.0	1.5	5.0	100

Disposing of households' waste water according to the Social group is given in Table- 3.29. There are 41 households accessing the public drainage system; out of it 30 households are of STs, which constitutes 73 per cent of total households who accessed the drainage system. Majority of the General Castes (14 households) have installed the disposal tanks for

disposing household waste water. Most of the ST and SC households (44.8% of STs and 47.8% of SCs) reported about stagnation of water outside their houses (Table - 3.29).

It has reported by the people and observed during the field study that the BMC has collected the solid wastes from slums also. But it is reported inadequate and irregularity in collecting solid wastes by the BMC particularly in slum areas. Some parts of the *Saliasahi* are used as the garbage. People are living very close to that garbage. It is found common in all slums in the city that solid wastes are thrown outside instead of putting those in dustbins. That is because of the inadequacy and shortages of dustbins in slums in the city.

Table- 3.29 Disposing of household waste water by social groups

Social groups	Disposing household waste water				
	Flows into outside drain	Disposal pit installed by the household	Stagnate outside the house	Open flow	Total
Gen	5	14	11	14	44
Tot %	2.5	7.0	5.5	7.0	22.0
SC	3	6	11	3	23
Tot %	1.5	3.0	5.5	1.5	11.5
ST	30	11	39	7	87
Tot %	15.0	5.5	19.5	3.5	43.5
OBC	3	9	17	17	46
Tot %	1.5	4.5	8.5	8.5	23.0
Total	41	40	78	41	200
Tot %	20.5	20.0	39.0	20.5	100

Table - 3.30 deals with the toilet facilities by the Social groups in the study area. It shows that 6 households of General Castes have no toilet facility; which constitutes 3 per cent of total households and 13.64 per cent of total General Caste's households. Nine households from SCs do not have toilet facility, which constitutes 4.5 per cent of total households and 39.13 per cent of total SC households; Thirty-one from STs do not have toilet facility, which constitutes 15.5 per cent of total households and 35.63 per cent of total ST households. And Eleven from OBCs do not have toilet facilities, which constitute 5.5 per cent of total households and 23.91 per cent of total OBCs. Among all those who have toilets inside the house, SC households are only 20 per cent as compare to 40 per cent in case of General castes and OBCs. There are no individual toilets inside houses among the ST households.

Majority among the SCs (39.13% out of total SCs) do not have toilet facilities as compared to other social groups. None of the STs have individual toilets inside their houses (Concrete toilet). Out of total 57 households practicing open defecations ST constitutes 54.4 per cent which is the highest in the study area.

Table- 3.30 Toilet facilities by social groups

Social groups	Toilet facilities				Total
	Open defecation	Shared toilet outside the house	Individual toilets outside the house	Individual toilets inside the house	
Gen	6	6	30	2	44
Row %	13.6	13.6	68.2	4.5	100
Col %	10.5	21.4	27.3	40.0	22.0
Tot %	3.0	3.0	15.0	1.0	22.0
SC	9	6	7	1	23
Row %	39.1	26.1	30.4	4.4	100
Col %	15.8	21.4	6.4	20.0	11.5
Tot %	4.5	3.0	3.5	0.5	11.5
ST	31	8	48	0	87
Row %	35.6	9.2	55.2	0	100
Col %	54.4	28.6	43.6	0	43.5
Tot %	15.5	4.0	24.0	0	43.5
OBC	11	8	25	2	46
Row %	23.9	17.4	54.3	4.3	100
Col %	19.3	28.6	22.7	40.0	23.0
Tot %	5.5	4.0	12.5	1.0	23.0
Total	57	28	110	5	200
Tot %	28.5	14.0	55.0	2.5	100

3.7 STASTES INITIATIVES TOWARDS REDUCING DISPARITIES

State has the primary role to manage the people within its geographical boundary. Urban area has Urban Local Bodies (ULBs) to manage the urban centre. In Bhubaneswar city The Bhubaneswar Municipal Corporation (BMC) has the key role in managing the city. Major role like housing, water supply, sanitation, roads, street lighting, Public Distribution System (PDS), medical and health facilities and security of the people are initiated by the BMC.

Bhubaneswar is one of the 63 identified cities for implementing the project of Jawaharlal Nehru National Urban Renewal Mission (JnNURM) by the Government of India. This city has been selected under 'Category- C' of JnNURM criteria, which covers the city having

population below one million (Govt. of India, 2005). Table - 3.31 shows the support of government in housing to the people in the study area. Questions were asked to know whether the study households got any benefits from the State Government / BMC in constructing their houses. The focus of the questions was particularly on the JnNURM and its housing scheme to the urban poor. It found only four households (2% households) got the benefit from the housing scheme of JnNURM out of 200 surveyed households. Out of those four households, two are from General Caste and other two are each one from ST and SC households.¹⁹

Table- 3.31 Social groups and housing benefits under JnNURM

Social groups	Houses support by Govt. under JnNURM Housing Scheme		
	Supported by JnNURM (%)	Others (%)	Total (%)
Gen	2 (1.0)	42 (21.0)	44 (22.0)
SC	1 (0.5)	22 (11.0)	23 (11.5)
ST	1 (0.5)	86 (43.0)	87 (43.5)
OBC	0 (0)	46 (23.0)	46 (23.0)
Total	4 (2.0)	196 (98.0)	200 (100)

Some of the households in the study area got financial assistance from the State Government and/or local NGOs to construct and repair of their houses in different time periods. World Vision India is a leading NGO, which provides housing materials to the poor households in different slums in Bhubaneswar city.

During the primary data collection it is found that, the ownership of land of household (RoR) is the primary criterion to access the housing benefits from JnNURM. People living in *Bharatpur* slum have the RoR. As the result people who are displaced to *Bharatpur* from the core city, now getting the benefits from the BMC. On the other hand *Saliasahi* is the biggest and oldest slum in the city. But the State Government did not provide such facilities to the people living in *Saliasahi*. They are left out from such government benefits.

Table - 3.42 shows the availability of Voter ID Cards by any of the household members in the study area. It shows that 73 per cent of the household have Voter ID cards (to any of the adult member). Thirty-two of the General Castes houses have Voter ID cards, which

¹⁹ There are 1135 households identified in *Bharatpur* slum by the BMC for implementation of urban housing scheme under JnNURM

constitutes 72.7 per cent of total General Caste households. Seventy per cent SCs, 79.3 per cent STs and 67.4 per cent OBCs have voter ID cards to any of their household members. Moreover, the study population has higher proportion of STs, the distribution household which have voter IDs is tilted towards STs (47.3% of total households with Voter ID cards).

Table- 3.32 Possession of voter ID cards and ration cards

Social groups	Any household members having Voter ID			Possession of ration cards by the households				
	Yes	No	Total	BPL	AAY	Any Other	Don't have ration card	Total
Gen	32	12	44	7	2	1	34	44
Tot %	16	6	22	3.5	1	0.5	17	22
SC	14	9	23	3	2	0	18	23
Tot %	7	4.5	11.5	1.5	1	0	9	11.5
ST	69	18	87	16	11	3	57	87
Tot %	39.5	9	43.5	8	5.5	1.5	28.5	43.5
OBC	31	15	46	3	1	0	42	46
Tot %	15.5	7.5	43	1.5	0.5	0	41	43
Total	146	54	200	29	16	4	151	200
Tot %	73	27	100	14.5	8	2	75.5	100

There are 49 (24.5%) households have access to any type of ration cards; out of it 29 households have BPL cards, 16 have cards under Antyodaya Anna Yojana and four have any other type of ration cards. OBCs are benefited less (only 4 households availed ration cards); whereas STs get more benefit (30 households availed ration cards). Rest 151 (75.5%) households do not have access to any type of ration cards under any government schemes (Table - 3.32).

Table - 3.33 shows the pension benefits avail by any member in the households. There are 15 households, from which any of their family members got pension benefit through any of the government schemes. Seven households (3.5%) are getting Old Age Pensions; four households (2%) getting Widow Pensions; three households (1.5%) getting Ex-Servicemen and only one household reported about getting Disability Pension by any of their family member. By social groups it is found that six (3%) OBC households, four (2%) General castes, three (1.5%) of STs and only two (1%) households from SCs are getting any type of pension benefits.

None of the SCs or STs gets the old age pensions. The only disability pension has claimed by the OBC household. During the primary data collection one physically challenged and another mentally challenged person were found. But only one household (having physically challenged person) is reported of getting disability pension.

Table- 3.33 Social groups and access to pension benefits

Social groups	Pension benefits to any member in the household					Total (%)
	Old age (%)	Widow (%)	Ex-Servicemen (%)	Disability (%)	Don't get any pension (%)	
Gen	3 (1.5)	1 (0.5)	0 (0)	0 (0)	40 (20.0)	44 (22.0)
SC	0 (0)	1 (0.5)	1 (0.5)	0 (0)	21 (10.5)	23 (11.5)
ST	0 (0)	2 (1.0)	1 (0.5)	0 (0)	84 (42.0)	87 (43.5)
OBC	4 (2.0)	0 (0)	1 (0.5)	1 (0.5)	40 (20.0)	46 (23.0)
Total	7 (3.50)	4 (2.0)	3 (1.5)	1 (0.5)	185 (92.5)	200 (100)

The Life Insurance indicates about the consciousness of the health and future lives of the households. Figure- 3.8 shows the households those reported any of their family members have Life Insurances. Majority of STs (39 households) have Life Insurances and only 6 households of SCs have Life Insurance which is constituted less as compare to other social groups in the study area.

Figure- 3.8 Social groups and life insurance

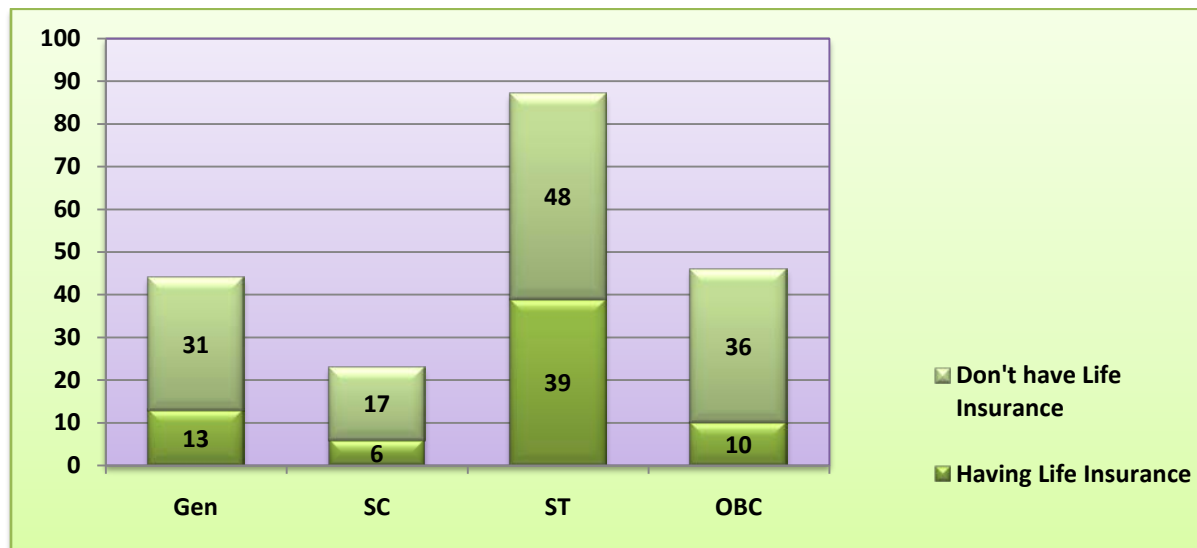


Table - 3.34 shows the access of any ration cards by any of the households' members among the study households. It says that 146 households reported that any of their family members have voter ID card. And only the voter card holder households access the cards under the Below Poverty Line (BPL), Antadoya Anna Yojona (AAY) or any other type of ration card. None of the households who do not have Voter ID cards avail such government benefits in the study area.

Table- 3.34 Voter ID cards and access to the ration cards

Any member has Voter ID in the HH	Access of the ration card through following Schemes by the households				
	BPL	AAY	Any other	No cards	Total
Yes	29	16	4	97	146
Tot %	14.5	8.0	2.0	48.5	73
No	0	0	0	54	54
Tot %	0	0	0	27.0	27
Total	29	16	4	151	200
Tot %	14.5	8.0	2.0	75.5	100

Table - 3.35 shows the pension benefit to any of the households' member by access to the Voter ID cards within the study area. It shows that all most all the pension beneficiaries (any type) are also having the voter ID cards. None of the households' member gets any pension benefit those who do not have voter ID cards except one household getting the pension under ex-serviceman category.

Table- 3.35 Voter ID cards and access to the pension benefit

Any member has voter ID card	Pension benefits to any member in the household					Total
	Old Age	Widow	Ex-servicemen	Disability	Don't avail any pension	
Yes	7	4	2	1	132	146
Tot %	3.5	2.0	1.0	0.5	66.0	73
No	0	0	1	0	53	54
Tot %	0	0	0.5	0	26.5	27
Total	7	4	3	1	185	200
Tot %	3.5	2.0	1.5	0.5	92.5	100

The State has the responsibility of providing support to the people in the city. It has found that majority of the households have voter ID cards. But they all do not have accessed to

other social benefits like ration cards, BPL cards, sanitations and housing benefits. One of the key informants (Ki14) says in this regards '*it is easy to access the voter ID cards, because the political system promotes in getting the cards*'. People representatives and the State Government itself give importance in providing Voter ID cards to the adult members in the city therefore in the slums. But there are no such initiatives undertaken in providing other social benefits in a large numbers to the people. It has always given responsible to the 'system' and 'policies' for failure and less support to the slum residents in the city. Some of the local NGOs like the World Vision India, Orissa Voluntary Health Association, SPARC NGO (The Society for the Promotion of Area Resource Centre) have been initiated in providing benefits to the people in slums in Bhubaneswar city. These NGOs mainly support in housing, sanitations, health, education and economic benefits of the people.

3.8 CONCLUSION

The socio-demographic characteristic of slums are differs from non-slums in every urban area. In the present study it has found that the economic status of the study households is low. People mainly depend on wage labours and therefore, low living status. There are poor basic facilities available in these areas as compared to the non-slums in the city.

Saliasahi is divided into two wards and 36 committees which have their own presidents and functioning bodies. They organize regular meetings for better functioning of the living units (committees). There are 12 clusters in *Bharatpur* slum having similar functioning bodies. Still the differences are as- some households in *Bharatpur* slum have Record of Right (RoR) of their homestead lands whereas none of the households in *Saliasahi* have it. *Saliasahi* is a tribal dominated slum and people accessed the water supply at the door steps by their self initiatives, which is not found in case of *Bharatpur* slum. Some features may vary from slum to slum in the city, but the overall socio-economic status is same in all slums in the city.

CHAPTER – IV

HEALTH CARE SERVICES, EXPENDITURES AND UTILISATIONS: A CORRELATION ANALYSIS

This chapter deals with the health profile of the study area. It includes the morbidity patterns, health seeking behaviors and health expenditures. It also includes the correlation analysis of the health influencing factors. Morbidity as defined by the National Sample Survey (NSS) is ‘Any deviation from the state of physical and/or mental well-being arising out of ailments (illness / sickness / injury / poisoning). A person will be considered as sick if he / she reports that he / she feels sick’ (Govt. of India, 2001). In the present study, illness is broadly divided into two types; ‘major illness’ and ‘minor illness’ according to the severity of the condition. It has been conceptualised on the basis of how much the disease affects the person, how long it takes to get cured, work days lost by the person or by the family /attendant of the ill person, cost of treatment and other related expenses are taken as the criteria to consider the illness to be a major or minor illness.

4.1 CLASSIFICATION OF DISEASES

4.1.1 Minor vs. Major Illnesses:- Illnesses were considered minor if did not prolonged beyond 7 days including the treatment period. It incurring expenditure less than 500 INR; did not hamper persons working capabilities and no loss of workdays of ill as well as other members of the household for taking care and treatment of the person. On the other hand ‘major illness’ was that which prolong for more than 7 days; incurred expenditure over 500 INR; hampered work and caused loss of work day for all or/and the working members of the household. It affected livelihood of the households. Long term treatment may take more than 7 days, which affects the expenditure of the household. This classification is not a rigid one rather flexible in nature. It can be considered by the researcher / investigator that any of such cases can be categorized in major illness or minor illness depends on the criteria used to evolve a conceptual definition.

Questions were put in different ways (Appendix - I) to get the maximum information regarding the illness history and record of every individual of the households in the study area. On the basis of before mentioned criteria, the primary data were segregated to categorize as minor and major illnesses.

4.1.2 ICD and Diseases Classification: - Classification of reported diseases has been done in two ways for the purpose of present research as ‘minor illnesses’ and ‘major illnesses’. The second type of disease classification has been done keeping in mind the International Classification of Diseases (ICD).²⁰ The ICD could not be followed strictly because the medical diagnosis has not been done. The study deals with reported illness and morbidity conditions. The ICD has been clubbed with the nature and duration of reported morbidity. They have been classified on the basis of priorities the severity of the diseases, duration (gets well within a week or took more time), expenditure level, lost work days and affected with their social settings. Both the classifications have been done carefully with direct field experience of the researcher and based on the said criteria (Annexure - VI).

4.2 DEMOGRAPHIC PROFILE AND MORBIDITY

4.2.1 Age Structures and Morbidity Pattern: - Morbidity has been analyzed in basis of major and minor illnesses. Table- 4.1 shows the association between age and morbidity pattern of the surveyed population. Out of total 815 individuals of the study populations, 464 (57%) were reported no illness during last six months prior to the survey. Minor illnesses were reported by 186 (23%) persons and 165 (20%) reported major illnesses. Half of the children below 5 years reported any type of morbidity during the specified time period, of which 37 per cent were minor and 14 per cent were major illnesses. Among the elderly (above 64 years) too, more than half reported minor illnesses and more than 27 per cent reported major illnesses. It has seen that, within the age group of 5 to 34, less than 50 per cent of total population got any type of morbidity during the time period.

²⁰ The “Park’s Text Book of preventive and social Medicine” by K. Park (2011) has been followed for the broad classification of diseases with reference to the International Classification of Diseases.

Table- 4.1 Age group and morbidity patterns

Age group	Morbidity Pattern				
	No illness	Minor illness	Major illness	Total morbidity	Total
< 5 yrs	43	32	12	44	87
Row %	49.4	36.8	13.8	50.6	100
5 – 9 yrs	60	24	7	31	91
Row %	65.9	26.4	7.7	34.1	100
10 – 14 yrs	63	15	9	24	87
Row %	72.4	17.2	10.3	27.6	100
15 – 19 yrs	56	12	11	23	79
Row %	70.9	15.2	13.9	29.1	100
20 – 24 yrs	52	18	14	32	84
Row %	61.9	21.4	16.7	38.1	100
25 – 34 yrs	101	36	41	77	178
Row %	56.7	20.2	23.0	43.2	100
35 – 44 yrs	46	21	37	58	104
Row %	44.2	20.2	35.6	55.8	100
45 – 54 yrs	24	11	20	31	55
Row %	43.6	20.0	36.4	56.4	100
55 – 64 yrs	17	11	11	22	39
Row %	43.6	28.2	28.2	56.4	100
> 64	2	6	3	9	11
Row %	18.2	54.5	27.3	81.8	100
Total	464	186	165	351	815
Tot %	56.9	22.8	20.2	43.1	100

4.2.2 Sex Composition and Morbidity: - Sex differential in reported morbidity is given in Table - 4.2. It shows that out of total 432 males, 178 reported any type of morbidity, which constitutes 21.8 per cent of total population and 41.2 per cent of the total male population. On the other hand 173 females out of 383 are reported having any type of morbidity, which constitutes 21.2 per cent of total population and 45.2 per cent of total female population. Among those who reported no illness, there were more men (55%) than women (46%), while more men (52%) than women (48%) reported major illness. Reporting of minor illness was distributed almost equally between men (49.7%) and women (50.3%) with marginally higher share among women (Table- 4.2).

Table- 4.2 Sex composition and morbidity pattern

Sex composition	Morbidity pattern				
	No illness	Minor illness	Major illnesses	Total morbidity	Total
Male	254	96	82	178	432
Row %	58.8	22.2	19.0	41.2	100
Col %	54.7	51.6	49.7	50.7	53.0
Tot %	31.2	11.8	10.1	21.8	53.0
Female	210	90	83	173	383
Row %	54.8	23.5	21.7	45.2	100
Col %	45.3	48.4	50.3	49.3	47.0
Tot %	25.8	11.0	10.2	21.2	47.0
Total	464	186	165	351	815
Tot %	56.9	22.8	20.2	43.1	100

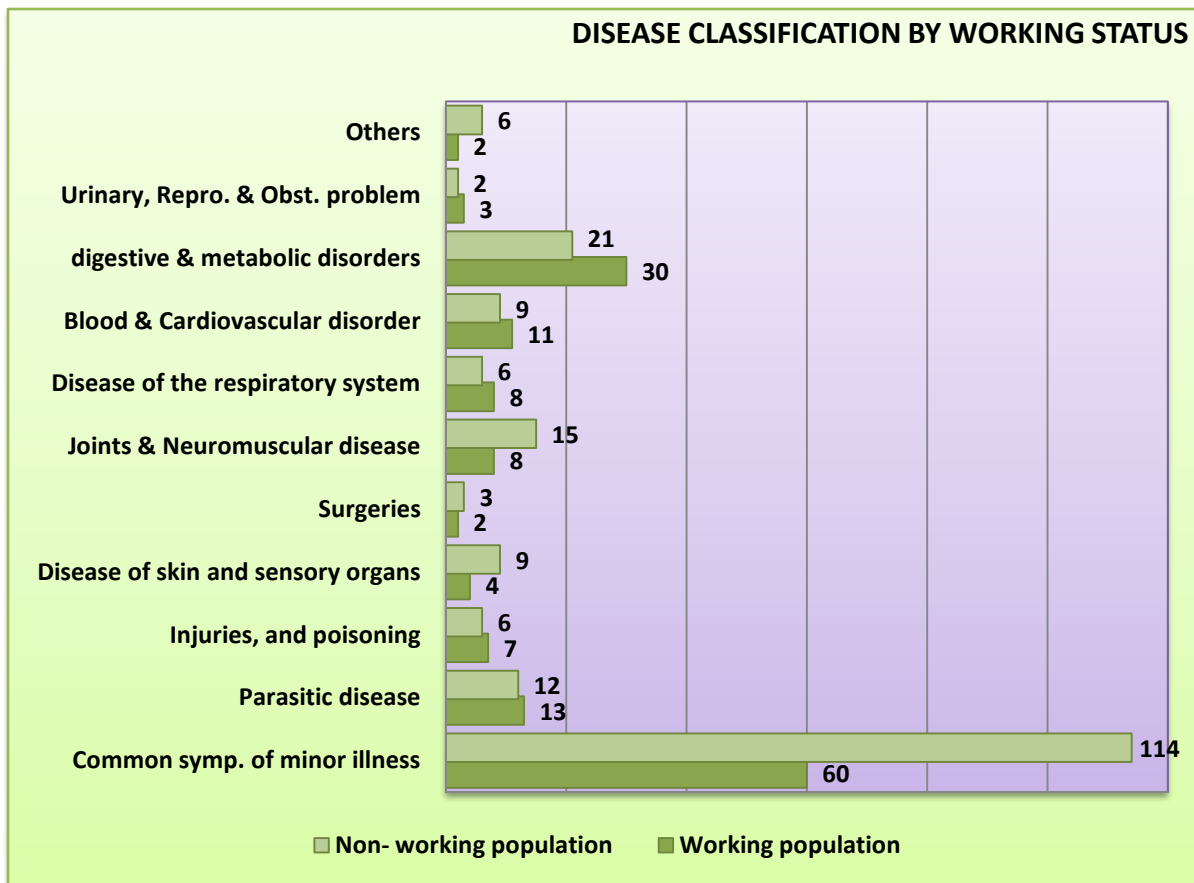
4.2.3 Work status and Morbidity: - There are 39 per cent persons in the study population who are working. Among them 47 per cent reported any illness. Of them more reported major (25.2%) and less (22%) reported minor illnesses. Contrary to this among those not working, more reported minor morbidity (24%) and comparatively lesser reported major morbidity (17.1%). Between working and non-working; a little over 53 per cent and 59 per cent respectively reported no morbidity (Table- 4.3).

Table- 4.3 Work status and morbidity pattern

Working status	Morbidity pattern				
	No illness	Minor illness	Major illnesses	Total morbidity	Total
Working	169	68	80	148	317
Row %	53.3	21.5	25.2	46.7	100
Tot %	20.7	8.3	9.8	18.1	38.9
Non working	295	118	85	203	498
Row %	59.2	23.7	17.1	40.8	100
Tot %	36.2	14.5	10.4	24.9	61.1
Total	464	186	165	351	815
Tot %	56.9	22.8	20.2	43.1	100

Figure - 4.1 deals with the ‘broader classification of diseases’²¹ by the working population. Majority (49.6%) of the people reported about the common symptoms of minor illness. Among them non-working persons reported more symptoms as compare to the working persons. This could be because people who are working have given less priority to their health in comparison to their work. They have migrated and staying in the city to earn their livelihood. They have to go to work and cannot afford to be absent from their work. Thus, they may continue working despite illness and may not report such minor illnesses immediately.

Figure - 4.1 Disease classification by working status



On the other hand people who are not working have sufficient time to feel the illness and report or go for treatment; whereas the working persons do not have time to go for seeking

²¹ This classification of diseases has done according to the broader categories of diseases; and different from the previous category of ‘Minor’ and ‘Major’ illness.

treatment. Same trend has been seen in case of the disease of **joints and neuromuscular disease** as well as **disease of skin and sensory organs**. Non-workers got more such illnesses as compared to the working populations. Opposite trend has been seen in case of the **disease of digestive and metabolic disorders**. Unusual and irregular timing (different time in different days) and unhygienic food may cause food poisoning, therefore such diseases. Taking food in irregular time is common within the working population. A wage labour may not get sufficient time to eat and take rest before re-starting his/her work at work place. It is important to have safe drinking water, but it is difficult to access it at their work sites, as people reported in the study area.

There are labour unions in the city; policies are also there to give comfort to the manual workers in their working places. There should be a minimum of water facility, public convenient, fast aid and rest shed facilities for the workers on the working sites; but none of the facilities provided by the employers in work sites in the city. Some of the permanent work sites provide some facilities in the city.

4.2.4 Source of Water and Morbidity: - There are households, from which none of the members got any disease since last six months prior to the collection of primary data. Table - 4.4 shows the morbidity pattern at the household level according to the main source of drinking water. Out of 200 households, 15 reported none of their members got ill during the time. Sixty-five households reported only minor illness and 120 households reported major illnesses; that at least any of their household members got illnesses during the specified time period.

Safe drinking water has always been an issue in most of the slums. In case of the study area, most households; 78 numbers (39%) use public tap at stand post for water. These are the households which also reported higher morbidity both minor (32%) and major 963%) interestingly.

Majority of the households who were accessing the government water supply at their door steps reported major illness to any of their household members, which constitutes highest within any other group. Households who share water taps with their neighbors', fewer reported having major illness (6 households only) and more minor illnesses (10 households).

All the households, who collected water from public tube wells, reported any types of morbidity. Contrary to this, those households using tap water reported higher events of ‘no illnesses’ (Table- 4.4).

Table- 4.4 Main source of water and morbidity pattern

Main source of water	Morbidity pattern				
	No illness	Minor illness	Major illnesses	Total morbidity	Total
Public tube well	0	3	5	8	8
Row %	0	37.5	62.5	100.0	100
Public tap at stand post	4	25	49	74	78
Row %	5.1	32.1	62.8	94.9	100
Public / own protected well	1	5	9	14	15
Row %	6.7	33.3	60.0	93.3	100
Tap at dwelling (govt.)	2	5	15	20	22
Row %	9.1	22.7	68.2	90.9	100
Tap at dwelling (installed by the community)	6	17	36	53	59
Row %	10.2	28.8	61.0	89.8	100
Sharing with neighbours’ tap	2	10	6	16	18
Row %	11.1	55.6	33.3	88.9	100
Total	15	65	120	185	200
Tot %	7.5	32.5	60.0	92.5	100

Table - 4.5 shows the reported morbidity by the primary occupations of the households. There are 15 households who reported about none of their household members got illness during last 6 months prior to the survey; out of those, 12 households (80%) from the working groups (households mainly depending on labour work). Others who are in government jobs, private jobs and any other work are account sum total of 3 households only.

There are total 185 households, which reported any type of morbidity by any of their household members. Within different occupation groups, it has seen that lesser percentages of households (89%) from manual labour reported any type of illnesses as compared to other occupation groups. In case of major illness, 75 per cent of the households working in NGOs have reported major illnesses to any of their family members, which are the highest as compared to other occupation groups (Table - 4.5).

Table- 4.5 Primary occupations and reported morbidity

Primary Occupations	Reported Morbidity				
	No illness	Minor illness	Major illnesses	Total morbidity	Total
Manual Labour	7	23	33	56	63
Row %	11.1	36.5	52.4	88.9	100
Skilled Labour	5	17	41	58	63
Row %	7.9	27.0	65.1	92.1	100
Pvt. Jobs	1	10	18	28	29
Row %	3.4	34.5	62.1	96.6	100
Jobs in NGOs	0	1	3	4	4
Row %	0	25.0	75.0	100.0	100
Govt. Jobs	1	6	10	16	17
Row %	5.9	35.3	58.8	94.1	100
Others	1	8	15	23	24
Row %	4.2	33.3	62.5	95.8	100
Total	15	65	120	185	200
Tot %	7.5	32.5	60.0	92.5	100

Table - 4.6 shows the disease classification by the age group within the study population. It has found that out of 815 surveyed populations 351 have any type of illnesses. Out of 351 people 174 (49.6%) are reported the **common symptoms of minor illness** like cold and cough, cold fever, head ache, body ache, weaknesses and eosinophilia²². These types of illnesses were reported by half of the people who have experienced any diseases during the time period of six months prior to the survey. Next to it **digestive and metabolic disorders** category comes. There are 51 (14.5%) people reported about these types of diseases. Diarrhea, dysentery, gastric, piles, stomach ache, throat infection, tooth ache, vomiting, jaundice and diabetes are coming together to form this disease category. These types of diseases are commonly prevailing in slums because of the un-hygienic environment in urban slums (except diabetes). Next to it parasitic diseases reported by 25 persons (7.1%) which includes malaria, typhoid, filaria and chikun gunia. Malaria, filaria and typhoid are taken as the common diseases in slums in Bhubaneswar. There are five persons (1.4%) reported about the surgeries, which generally increased the health expenditures. Urban slums are found in different part of the Bhubaneswar city.

²² The term 'EOSINOPHILIA' is commonly used for of the cold, joint pains and fevers due to those.

Table- 4.6 Age groups and disease category

Age groups	Broader classification of prevailing diseases											Total
	Common symptoms of minor illness	Parasitic disease	Injuries and poisoning	Diseases of skin and sensory organs	Surgeries	Joins and neuromuscular disease	Diseases of respiratory system	Blood and cardiovascular disorders	Digestive & metabolic disorders	Urinary, reproductive & Obstetric problem	Others	
< 5 yrs	32	1	0	2	0	0	3	0	6	0	0	44
Tot %	9.1	0.3	0	0.6	0	0	0.9	0	1.7	0	0	12.5
5 – 9 yrs	23	2	2	0	0	1	1	0	1	1	0	31
Tot %	6.6	0.6	0.6	0	0	0.3	0.3	0	0.3	0.3	0	8.8
10 – 14 yrs	13	4	0	3	0	0	1	0	2	0	1	24
Tot %	3.7	1.1	0	0.9	0	0	0.3	0	0.6	0	0.3	6.8
15 – 19 yrs	11	1	1	3	0	0	0	1	3	0	3	23
Tot %	3.1	0.3	0.3	0.9	0	0	0	0.3	0.9	0	0.9	6.6
20 – 24 yrs	17	3	0	2	0	4	0	3	2	1	0	32
Tot %	4.8	0.9	0	0.6	0	1.1	0	0.9	0.6	0.3	0	9.1
25 – 34 yrs	38	4	3	1	2	4	2	4	16	1	2	77
Tot %	10.8	1.1	0.9	0.3	0.6	1.1	0.6	1.1	4.6	0.3	0.6	21.9
35 – 44 yrs	18	4	3	0	2	7	4	4	14	1	1	58
Tot %	5.1	1.1	0.9	0	0.6	2.0	1.1	1.1	4.0	0.3	0.3	16.5
45 – 54 yrs	12	2	3	1	1	1	3	4	2	1	1	31
Tot %	3.4	0.6	0.9	0.3	0.3	0.3	0.9	1.1	0.6	0.3	0.3	8.8
55 – 64 yrs	6	3	1	1	0	4	0	3	4	0	0	22
Tot %	1.7	0.9	0.3	0.3	0	1.1	0	0.9	1.1	0	0	6.3
> 64	4	1	0	0	0	2	0	1	1	0	0	9
Tot %	1.1	0.3	0	0	0	0.6	0	0.3	0.3	0	0	2.6
Total	174	25	13	13	5	23	14	20	51	5	8	351
Tot %	49.6	7.1	3.7	3.7	1.4	6.6	4.0	5.7	14.5	1.4	2.3	100

‘The Bhubaneswar Development Authority (BDA) has classified the slum settlements in the city into colonies belonging to industrial workers, common slums...But one thing was found to be common among them i.e., lack of civic services, unhygienic living conditions coupled with increase in housing stock deficit has given rise to slum dwellings and its population’ (Rout, 2008). And due to their miserable living condition people are very prone to any type of diseases.

Distribution of diseases by age reflects a concentration of digestive and metabolic disorders in age group 25 - 34 (16%) and 35 - 44 (14%). In case of the common symptoms of minor illnesses, it reflected in age group 25 - 34 (11%); (Table - 4.6).

4.3 MORBIDITY AND HEALTH CARE

4.3.1 Place of Treatment: - People in the slums of Bhubaneswar city generally preferred the nearest and commonly used treatment system in the city. As regards the place of treatment, out of 351 persons who had any type of illnesses, majority of them (46%) prefers to go to the private clinics followed by Government Hospital 31 per cent for any illnesses. Only 3 persons got treatment in any charitable clinics or hospitals. The part of the chart indicates ‘others’ include the home remedies; and treatments in local system people culturally believe (Figure- 4.2).

Figure - 4.2 Place of treatment

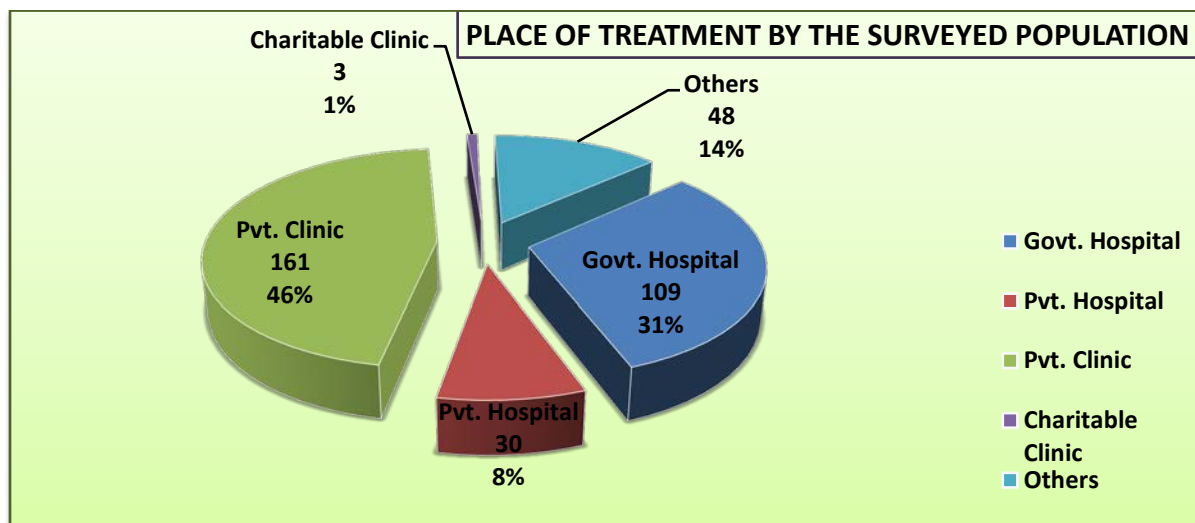


Table - 4.7 shows the morbidity pattern and the place of treatment by the individuals in the study population. From this table it can be shown that for the minor illnesses, majority (60%) of the population prefer the private clinics; whereas for major illnesses (40.6%) they prefer government hospitals for their treatment. But both the private clinics and private hospitals account more than the government hospitals for treatment of major illnesses. The table has shown the overall picture that people prefer the private hospitals or private clinics for their treatment of any illnesses.

Table- 4.7 Morbidity pattern and place of treatment

Morbidity pattern	Place of treatment					
	Govt. Hospital	Pvt. Hospital	Pvt. Clinic	Charitable Clinic	Others	Total
Minor illness	42	5	112	2	25	186
Row %	22.6	2.7	60.2	1.1	13.4	100
Tot %	12.0	1.4	31.9	0.6	7.1	53.0
Major illness	67	25	49	1	23	165
Row %	40.6	15.2	29.7	0.6	13.9	100
Tot %	19.1	7.1	14.0	0.3	6.6	47.0
Total	109	30	161	3	48	351
Tot %	31.1	8.5	45.9	0.8	13.7	100

The other places for treatment is consist of those who avail treatment at quack and/or traditional health healers. The traditional system is followed by the people related to their place or origins. Such treatments are carried out inside the slums, as well as at places of origin of the people (Table- 4.7).

Table - 4.8 shows the source of treatment used by who had experienced any type of illness by their education level. It has seen that education level has an influence it seeking treatment. It (The education) influences choosing the healing system for their diseases, people with less or no education had preferred the local healing system and home treatment. People with higher education are likely to prefer the allopathic system for their treatment of any type of illnesses.

Table- 4.8 Source of treatment by education

Educational qualification	Source of treatment					Total
	No illness	Allopathic	Ayurvedic / homeopathic	Local healing system	Home treatment	
Illiterate	70	57	3	1	11	142
Row %	49.3	40.1	2.1	0.7	7.7	100
Primary Class	191	112	2	4	13	322
Row %	59.3	34.8	0.6	1.2	4.0	100
Matriculation	87	48	2	1	12	150
Row %	58.0	32.0	1.3	0.7	8.0	100
Intermediate	36	15	1	0	3	55
Row %	65.5	27.3	1.8	0	5.5	100
Graduation	18	6	0	0	0	24
Row %	75.0	25.0	0	0	0	100
PG and above	0	1	0	0	0	1
Row %	0	100.0	0	0	0	100
Tech. Edu.	8	3	0	0	1	12
Row %	66.7	25.0	0	0	8.3	100
Excluded (< 6 yrs)	54	50	2	1	2	109
Row %	49.5	45.9	1.8	0.9	1.8	100
Total	464	292	10	7	42	815
Tot %	56.9	35.8	1.2	0.9	5.2	100

It may not be the only cause of choosing the treatment seeking behavior. The economic status of the household also has influence in choosing the treatment system (Table- 4.8).

Table - 4.9 shows the duration of residence of the households in particular slums and source of treatment preferred by the individuals. Those living in the particular slum for more than 25 year go for the home treatment or local healing systems like local *Vaidya* or Quack in the slum. Tribal communities in Odisha have their own belief and culture in healing any type of disease. They tried to maintain the system within this urban setting as they have settled here since long.¹ This can be the reason why they prefer the local healing system. And also the quack is one who generally resides inside the slum and familiar to the community; therefore they also prefer him for seeking treatment.

¹ There are traditional and tribal healing systems are existed in *Saliasahi* and other slums in the city. The traditional healers are called 'GUNIAN', 'RAULIA' or 'OJHA' in local term. These healers have their own settings for treatment with combination of worshipping; following certain rules in living daily life; and using different roots and herbs as the part of medicines.

Table- 4.9 Source of treatment by duration of residence in slum

Duration of residents in the slum	Mode of treatment						Total
	No illness	Allopathic	Ayurvedic	Homeopathic	Local healing system	Home treatment	
Less than 1 yr	31	24	2	1	1	5	64
Row %	48.4	37.5	3.1	1.6	1.6	7.8	100
1 – 5 yrs	93	96	2	3	1	5	200
Row %	46.5	48.0	1.0	1.5	0.5	2.5	100
5 – 10 yrs	105	48	0	0	2	8	163
Row %	64.4	29.4	0	0	1.2	4.9	100
10 – 15 yrs	122	67	1	0	0	8	198
Row %	61.6	33.8	0.5	0	0	4.0	100
15 – 20 yrs	62	27	0	0	1	6	96
Row %	64.6	28.1	0	0	1.0	6.2	100
20 – 25 yrs	30	19	0	0	0	4	53
Row %	56.6	35.8	0	0	0	7.5	100
Above 25 yrs	21	11	1	0	2	6	41
Row %	51.2	26.8	2.4	0	4.9	14.6	100
Total	464	292	6	4	7	42	815
Tot %	56.9	35.8	0.7	0.5	0.9	5.2	100

4.3.2 Health Expenditures: - More than half the households spend over 2500 INR for health care. Figure - 4.3 shows the total health expenditures at the household level in the study area within the time period of six months before the primary investigation for the study. Fifteen households (7.5%) reported that none of their family members suffer from any type of illnesses (Shown in Table- 4.4). This figure shows that 32 (16%) households out of total surveyed households reported no health expenditure during the specified time period. Seventeen households (8.5%) reported any type of illnesses, and no money was spent for their treatment. In this case people opted for home remedies or accessed free medicines from government supply. Fifty per cent of the total household's health expenditures are up to 2500 INR per households (for both minor and major illnesses). There are three households having health expenditure above 50000 INR during the specified time, which is the highest amongst the study households.

Figure - 4.3 Health Expenditures at household level

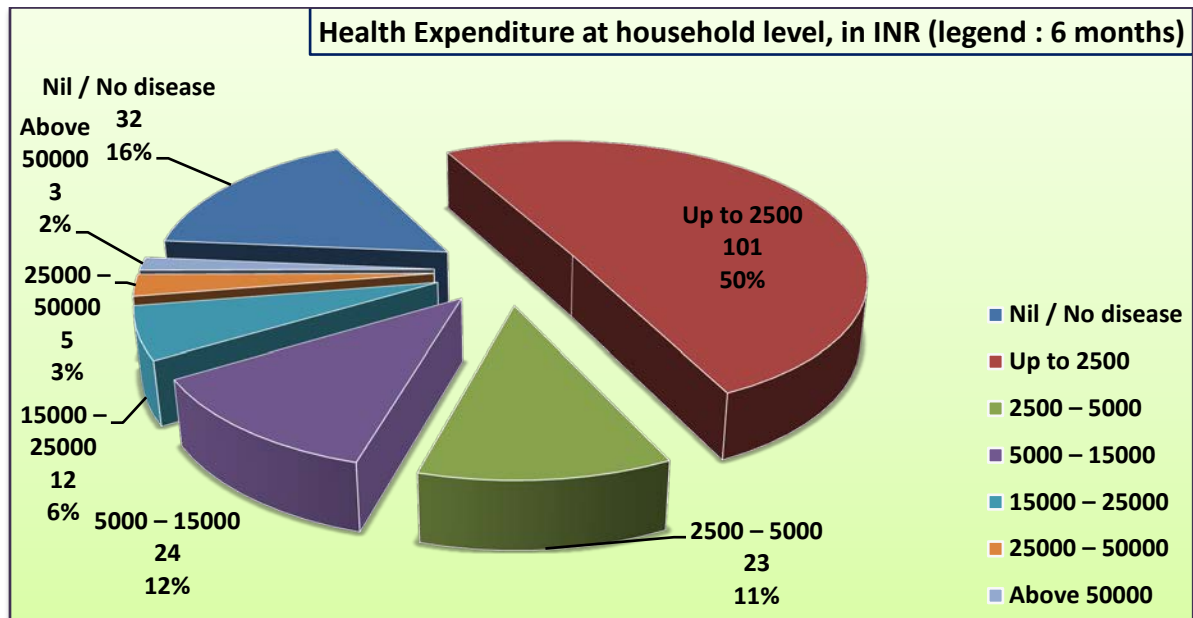


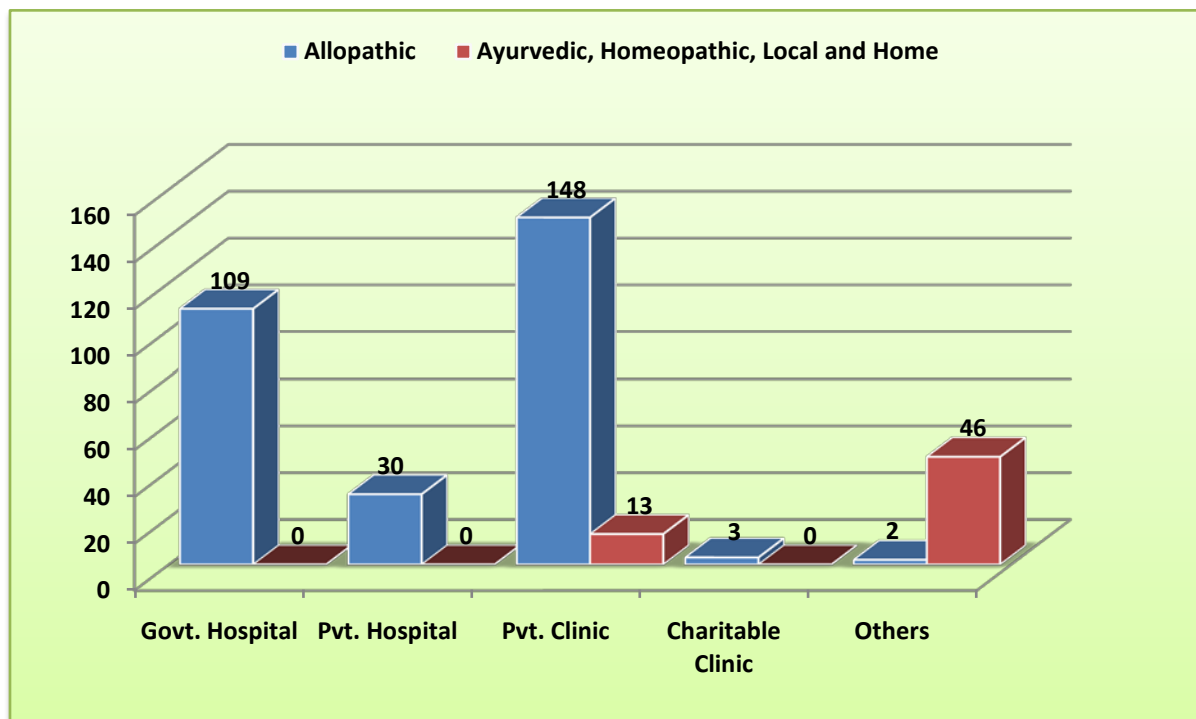
Table - 4.10 shows us the morbidity patterns and health expenditures at individual level during six months prior to survey. For the treatment of minor illnesses up to 5000 INR was spent for an individual. Those persons reporting minor and major illnesses, most of them (42%) spend 100 to 500 INR and those reporting major illnesses, most of them (36%) spend 1000 to 5000 INR during the time period. There are 16 per cent of the households spent no money for treatment during the time period; and it includes the households those had no illness also.

Table- 4.10 Morbidity pattern and health expenditure

Morbidity pattern	Health expenditures (In INR)						Total
	Up to 100	100 - 500	500 - 1000	1000 - 5000	5000 - 10000	> 10000	
Minor illness	75	78	16	17	0	0	186
Row %	40.3	41.9	8.6	9.1	0	0	100
Tot %	21.4	22.2	4.6	4.8	0	0	53.0
Major illness	25	26	13	59	17	25	165
Row %	15.2	15.8	7.9	35.8	10.3	15.2	100
Tot %	7.1	7.4	3.7	16.8	4.8	7.1	47.0
Total	100	104	29	76	17	25	351
Total%	28.5	29.6	8.3	21.6	4.8	7.1	100

Figure - 4.4 shows source of treatment and place of treatment of the people in the study area. Majority of the persons (292) having any type of illnesses during the specified time period opted for the allopathic treatment. Within the allopathic treatment 148 persons (50%) visited the private clinics and next to it 109 (37%) visited to the government hospitals for their treatment. Besides the allopathic treatment people were also opted Ayurvedic, Homeopathic and local healing systems like home remedies; which accounts 59 persons. In such cases people are mainly depend on private clinics; institutions and persons inside the slum as well as related to their place of origin.

Figure- 4.4 Mode of treatment and place of treatment



As regards to the health expenditure by age, highest is incurred (48.4%) in age group 15 - 44 years and lowest (26%) persons aged 65 years and above. This could also be due to the declining expenditure given to the health of the elderly and the priority which is given to adults - for men because they are the bread earners and exposed to hazards; and women often incur expenditure on health due to pregnancy and child birth.

Table - 4.11 shows the health expenditures at individual level by their age groups. It indicates that 204 persons (58% of total persons who got treatments) spend within the expenditure level of 500 INR per specified six months. Majority of the people from all age groups have the expenditure level up to 500 INR. Health expenditure in such cases is less than 100 INR per month per persons in the study area; and health expenditure is higher in the age group above 44 years as compared to the other age groups.

Table- 4.11 Health Expenditures by age groups

Age group	Health Expenditures (In INR)						Total
	< 100	100 - 500	500 - 1000	1000 - 5000	5000 - 10000	> 10000	
Less than 5 yrs	11	16	4	8	1	4	44
Row %	25.0	36.4	9.1	18.2	2.3	9.1	100
Tot %	3.1	4.6	1.1	2.3	0.3	1.1	12.5
5 – 14 yrs	16	24	1	12	1	1	55
Row %	29.1	43.6	1.8	21.8	1.8	1.8	100
Tot %	4.6	6.8	0.3	3.4	0.3	0.3	15.7
15 – 44 yrs	56	32	17	41	12	12	170
Row %	32.9	18.8	10.0	24.1	7.1	7.1	100
Tot %	16.0	9.1	4.8	11.7	3.4	3.4	48.4
45 – 64 yrs	14	9	7	14	3	6	53
Row %	26.4	17.0	13.2	26.4	5.7	11.3	100
Tot %	4.0	2.6	2.0	4.0	0.9	1.7	15.1
65 and above	3	3	0	1	0	2	9
Row %	33.3	33.3	0.0	11.1	0.0	22.2	100
Tot %	0.9	0.9	0.0	0.3	0.0	0.6	2.6
Total	100	104	29	76	17	25	351
Tot %	28.5	29.6	8.3	21.7	4.8	7.1	100

Table - 4.12 shows the social groups and the health expenditures. It reflects that majority of the households within all the social groups spent up to 2500 INR for health. Highest amount of health expenditure is incurred by General category households (Above 100000 INR), followed by OBCs and STs and SCs. The range of health expenditures by the SCs households is smaller (up to 50000 INR) whereas other social groups have above it.

It has seen from the same table (Table- 4.12) that 70 per cent of the ST households (out of total STs) have the health expenditures up to 2500 INR whereas among the other social groups, OBCs and Genera have 43 per cent and SC have 39 percent households who spent Up to 2500 INR per months for their health (Table- 4.12).

Table- 4.12 Social groups and health expenditures

Social groups	Health Expenditure by the households								Total
	Nil /no disease	< 2500	2500 - 5000	5000 - 15000	15000 - 25000	25000 - 50000	50000 - 100000	> 100000	
Gen	6	19	6	5	5	2	0	1	44
Row %	13.6	43.2	13.6	11.4	11.4	4.5	0	2.3	100
Tot %	3.0	9.5	3.0	2.5	2.5	1.0	0	0.5	22.0
SC	5	9	3	2	3	1	0	0	23
Row %	21.7	39.1	13.0	8.7	13.0	4.3	0	0	100
Tot %	2.5	4.5	1.5	1.0	1.5	0.5	0	0	11.5
ST	14	53	7	10	2	0	1	0	87
Row %	16.1	60.9	8.0	11.5	2.3	0	1.1	0	100
Tot %	7.0	26.5	3.5	5.0	1.0	0	0.5	0	43.5
OBC	7	20	7	7	2	2	1	0	46
Row %	15.2	43.5	15.2	15.2	4.3	4.3	2.2	0	100
Tot %	3.5	10.0	3.5	3.5	1.0	1.0	0.5	0	23.0
Total	32	101	23	24	12	5	2	1	200
Tot %	16.0	50.5	11.5	12.0	6.0	2.5	1.0	0.5	100

Note: - ‘Nil /No disease’ means the households having none of their members fall ill and households having spent no money for treatment during the specified time period of six months).

Table - 4.13 deals with the size of households and their health expenditures in the study area. It has been found that within every household size, most of them spend up to 2500 INR in the specified time period. The families within the household size of 2 - 4 have the highest health expenditure (more than one lakh rupees), which is highest among all other family size. There is no trend of more health expenditures of the bigger size households in the study area as shown in the same table.

Table- 4.13 Household size and health expenditures

Household size	Health Expenditures (In INR)								Total
	Nil /No disease	< 2500	2500 - 5000	5000 - 15000	15000 - 25000	25000 - 50000	50000 - 100000	> 100000	
One member	0	4	0	1	0	0	0	0	5
Row %	0	80.0	0	20.0	0	0	0	0	100
2 -4 members	22	63	14	12	8	2	2	1	124
Row %	17.7	50.8	11.3	9.7	6.5	1.6	1.6	0.8	100
5 – 7 members	9	30	9	10	3	3	0	0	64
Row %	14.1	46.9	14.1	15.6	4.7	4.7	0	0	100
8 and above members	1	4	0	1	1	0	0	0	7
Row %	14.3	57.1	0	14.3	14.3	0	0	0	100
Total	32	101	23	24	12	5	2	1	200
Tot %	16.0	50.5	11.5	12.0	6.0	2.5	1.0	0.5	100

Figure - 4.5 shows the loan taken / borrowed money by the households for treatment of any members of their families. Out of 200 households, 28 (14%) households borrowed money (taken loan) from outside for treatment of any member of their families.

Figure - 4.5 Loan taken/borrowed for treatment by the households

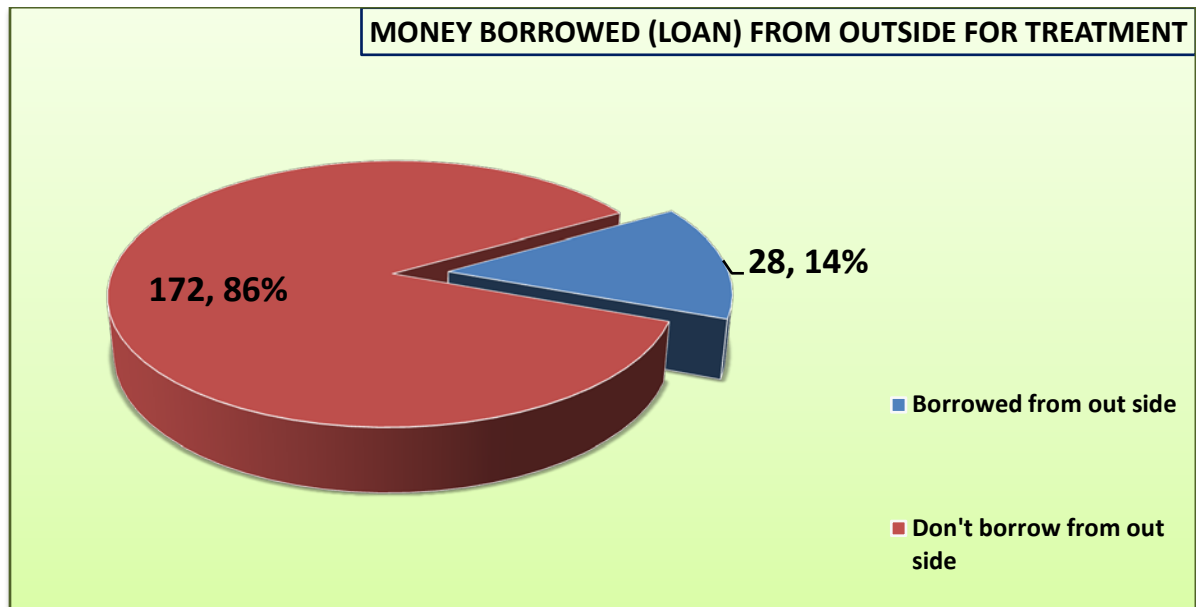


Table - 4.14 shows the primary occupations of the households and their health expenditures. It shows households whose members primarily depend on jobs in NGOs, have less health expenditure and those households which primarily depend on private jobs, have highest health expenditure within different occupation groups.

Table- 4.14 Primary occupations and health expenditures

Primary Occupations	Health expenditures (In INR)								Total
	Nil/No disease	< 2500	2500 - 5000	5000 - 15000	15000 - 25000	25000 - 50000	50000 - 100000	> 100000	
Manual Labour	10	36	9	6	0	1	1	0	63
Row %	15.9	57.1	14.3	9.5	0	1.6	1.6	0	100
Skilled Labour	9	29	7	11	5	2	0	0	63
Row %	14.3	46.0	11.1	14.5	7.9	3.2	0	0	100
Pvt. Jobs	5	15	2	0	3	2	1	1	29
Row %	17.2	51.7	6.9	0	10.3	6.9	3.4	3.4	100
Jobs in NGOs	0	3	0	1	0	0	0	0	4
Row %	0	75.0	0	25.0	0	0	0	0	100
Govt. Jobs	3	8	3	2	1	0	0	0	17
Row %	17.6	47.0	17.6	11.8	5.9	0	0	0	100
Others	5	10	2	4	3	0	0	0	24
Row %	20.8	41.7	8.3	16.7	12.5	0	0	0	100
Total	32	101	23	24	12	5	2	1	200
Tot %	16.0	50.5	11.5	12.0	6.0	2.5	1.0	0.5	100

There are only three households whose health expenditure is above 50000 INR. Two households out of those are engaged in private jobs and the third is from among the manual labour. It is fact that one's status of primary occupation is not the only criterion to influence health expenditure; rather it is the severity and duration of diseases which can be the background cause in influencing health expenditures (Table- 4.14).

As per the household income and health expenditure is concerned it is evident that an increase in income level does not influence health expenditure. It shows that large amount of health expenditure are undertaken by the households whose income level is less than 5000 INR per months. Households with highest income groups spent up to 5000 INR for their health (Table- 4.15).

Table-4.15 Monthly household income and health expenditures

Monthly household income	Health expenditures (In INR)								Tot.
	Nil /no disease	< 2500	2500 - 5000	5000 - 15000	15000 - 25000	25000 - 50000	50000 - 100000	> 100000	
< 2500	4	3	2	3	2	0	1	0	15
Row %	26.7	20.0	13.3	20.0	13.3	0	6.7	0	100
2500 – 5000	11	35	5	9	5	2	1	1	69
Row %	15.9	50.7	7.2	13.0	7.2	2.9	1.4	1.4	100
5000 – 10000	12	47	11	9	3	2	0	0	84
Row %	14.3	55.9	13.1	10.7	3.6	2.4	0	0	100
10000 – 15000	4	11	4	1	1	1	0	0	22
Row %	18.2	50.0	18.2	4.5	4.5	4.5	0	0	100
15000 – 20000	1	2	0	1	1	0	0	0	5
Row %	20.0	40.0	0	20.0	20.0	0	0	0	100
20000 – 25000	0	1	0	1	0	0	0	0	2
Row %	0	50.0	0	50.0	0	0	0	0	100
> 25000	0	2	1	0	0	0	0	0	3
Row %	0	66.7	33.3	0	0	0	0	0	100
Total	32	101	23	24	12	5	2	1	200
Tot %	16.0	50.5	11.5	12.0	6.0	2.5	1.0	0.5	100

Table- 4.16 shows the health expenditures by the type of houses in the study area. As regards the health expenditures by the type of houses people living in, pucca households spent less. People living in pucca houses have relatively less health expenditures (maximum within the group is 50000 INR); as compare to the households living in kachcha and semi-pucca houses (maximum within the group is above one lakh rupees).

Table- 4.16 Type of house and health expenditure

Type of the houses	Health expenditure at household level								Total
	Nil/No disease	< 2500	2500 - 5000	5000- 15000	15000 - 25000	25000 - 50000	50000 - 100000	> 100000	
Kachcha	17	45	5	4	2	2	0	1	76
Row %	22.4	59.2	6.6	5.3	2.6	2.6	0	1.3	100
Semi-pucca	15	53	16	20	9	2	2	0	117
Row %	12.8	45.3	13.7	17.1	7.7	1.7	1.7	0	100
Pucca	0	3	2	0	1	1	0	0	7
Row %	0	42.8	28.6	0	14.3	14.3	0	0	100
Total	32	101	23	24	12	5	2	1	200
Tot %	16.0	50.5	11.5	12.0	6.0	2.5	1.0	0.5	100

Living in pucca houses is not just mean of hygienic living. It reflects the socio-economic status of the households; therefore the dietary patterns. People living in pucca houses may be educated or aware on good health (taken as proxy) (Table - 4.16).

The Table - 4.17 shows the ‘broader classification of diseases’ and the health expenditures by the study population. Health expenditures are taken for the time period of six months. Most of the people report about the **symptom of minor illness** (50% of total diseases). Majority of the people within that disease group spent up to 1000 INR; which is 41 per cent of total persons fall ill. It has seen that three persons have spent above 5000 INR for the common symptoms of minor illness during the period of six months. Next to it people spent more in the **diseases of digestive and metabolic disorders**. Majority of the households spent up to 1000 INR in specified six months for their treatment. Some people (10 persons) reported about the **Urinary, reproductive and obstetric problem** as well as **surgical procedures undergone**. The expenditure for those diseases is high. Majority of people have the expenditure above 1000 INR. From the direct observation and interaction with people it revealed that more than 50000 INR per six months has been spent by individual person in these categories of diseases (in surgeries and kidney operation). It required the secondary and tertiary cares for the treatment. Thus, there is need of more money for their treatment. On the other hand majority of the people spent 500 INR in case of overall diseases conditions.

There are 100 persons spent less than 100 INR for their health. Out of that (100 persons) 66 are from having common symptoms of minor illness. It means 66 per cent of the people who spent less than 100 INR are reported common symptoms of minor illness.

Majority of the people reported about the common symptoms of minor illness and followed by the digestive and metabolic disorders. It is evident from the previous part of the analysis that malaria is one of the common diseases in the city particularly in slums. The parasitic diseases have also significant in their numbers, which includes the malaria cases. In case of the primary stages of malaria people spend less but in advance stages it required more to cure the disease.

Table- 4.17 Disease category and health expenditures

Diseases category	Expenditure level (In INR)						Tot
	< 100	100 - 500	500 - 1000	1000 - 5000	5000 - 10000	> 10000	
Common symptoms of minor illness	66	61	18	26	1	2	174
Tot %	18.8	17.4	5.1	7.4	0.3	0.6	49.6
Parasitic disease	1	3	3	8	6	4	25
Tot %	0.3	0.9	0.9	2.3	1.7	1.1	7.1
Injuries, and poisoning	0	0	2	4	2	5	13
Tot %	0	0	0.6	1.1	0.6	1.4	3.7
Disease of the skin and sensory organs	0	8	1	4	0	0	13
Tot %	0	2.3	0.3	1.1	0	0	3.7
Surgeries	1	0	0	1	2	1	5
Tot %	0.3	0	0	0.3	0.6	0.3	1.4
Joints & Neuromuscular disease	9	5	0	6	1	2	23
Tot %	2.6	1.4	0	1.7	0.3	0.6	6.6
Disease of the respiratory system	6	1	0	1	1	5	14
Tot %	1.7	0.3	0	0.3	0.3	1.4	4.0
Blood & Cardiovascular disorder	3	6	2	6	3	0	20
Tot %	0.9	1.7	0.6	1.7	0.9	0	5.7
Digestive & metabolic disorders	11	16	3	16	1	4	51
Tot %	3.1	4.6	0.9	4.6	0.3	1.1	14.5
Urinary, Reproductive & Obstetric problem	0	1	0	2	0	2	5
Tot %	0	0.3	0	0.6	0	0.6	1.4
Others	3	3	0	2	0	0	8
Tot %	0.9	0.9	0	0.6	0	0	2.3
Total	100	104	29	76	17	25	351
Tot %	28.5	29.6	8.3	21.7	4.8	7.1	100

4.3.3 Health Expenditure and Insurance: - Some of the slum residents are availing insurance facilities. Some have Life insurance and others have health insurance. The secondary sources² indicate about the ‘Rashtriya Swasthya Bima Yojana’ (RSBY). Data are available on the website of RSBY about availing the scheme by the people of Odisha. But the present study did not find such data from the study area.

² The website of RSBY (<http://www.rsby.gov.in/statewise.aspx?state=24>) mentioned about the implementation status of RSBY in Khordha district, in which Bhubaneswar city comes.

Figure - 4.6 Households having life insurance and health insurance

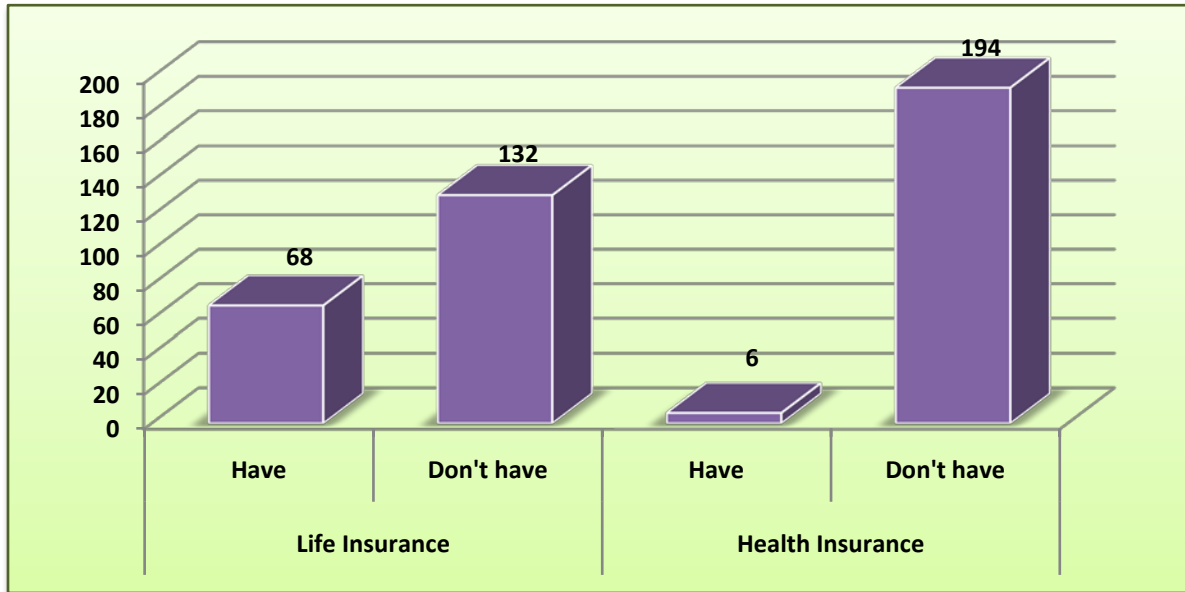


Figure -4.6 shows the coverage of life insurance and health insurance in the study households. Out of 200 households, 68 have life insurance for at least one of their family members. There are only 6 households that reported at least one of their family members have health insurance. None of the households reported about either knowing or using the benefits of ‘National health Insurance Policy’ or the ‘Rashriya Swasthya Bima Yojana’ (RSBY). But the government of Odisha reported that the state has already initiated the policy.

4.3.4 Mortality: - Table - 4.18 shows the death records of the households due to any diseases during last three years prior to the primary data collection for this study. There were 6 households out of 200 where deaths had occurred due to disease.

Out of six deaths, 4 were male and rests 2 were female. One of the deaths was below 1 year (Infant) and found in the family of the only Islamic (Muslim household) followers in present study. Two of others deaths were due to the liver problem. ‘*Continuous consumption of alcohol is the background cause of problem in liver functioning*’ the family reported.

Table- 4.18 Death due to diseases of any members since last three years

	Items	Numbers	Percentage
Death occurred	Yes	6	3.0
	No	194	97.0
	Total	200	100
Age group of the deceased	Below 1 year	1	16.67
	1 to 14 years	1	16.67
	15 to 44 years	2	33.33
	45 and above	2	33.33
	Total	6	100
Sex of the deceased	Male	4	66.67
	Female	2	33.33
	Total	6	100

The health profile in the study area is not found critical; 43 per cent of the study population had any type of morbidity. The demographic profile, living condition and nature of work influence the health status of the people in the slums in Bhubaneswar city. Treatment seeking behaviours are not influenced by the households' income or morbidity patterns alone. It is evident from the present study that, the 'time constraints for travelling to the health institutions', 'familiarity with the health institutions' and 'influences from the place of origin of the residents' are the background factors in treatment seeking behaviours. The peculiar thing in the study is that in some cases morbidity patterns do not have influences to the treatment cost or the health expenditures. It may be because of the poor economic conditions of the people. Therefore, in the following part of the chapter it has been examined about the factors influencing in health accessing behaviours and relationship between the socio-economic indicators and health of the study population.

4.4 CORRELATION OF HOUSEHOLD LEVEL VARIABLES

Correlation in between the health enhancing indicators at household level in the study area were examined. In this regards, a 'Pearson Correlation' has been done to see the relationship between those variables (Table - 4.19).

Table- 4.19 Correlations of the household level variables

Variables	Primary Occupation	Household Income	Type of the House	Toilet Facility	Morbidity pattern	Health Exp.	Source of Water
Primary Occupation	1						
Household Income	.038	1					
Type of the House	.390**	.070	1				
Toilet Facility	.346**	.118	.550**	1			
Morbidity Pattern	.084	.087	.149*	.076	1		
Health Exp.	.058	-.076	.213**	.141*	.527**	1	
Source of Water	.084	.137	.215**	.275**	-.108	-.025	1

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

NB: N = 200 in each category.

From the Table- 4.19 is evident that the primary occupations of the household have a strong correlation with the type of house and toilet facility and the association is significant at 0.01 level. The primary occupation has categorised as ‘labour’ and ‘non-labour’. ‘Labour’ occupation included both manual labour and skilled labour; and all the organised sectors included in ‘non-labour’ occupation. It has experienced from the primary field study that majority of the people who are mainly depending on labour works are living in kachcha and low quality houses, whereas people working in organised sectors (Govt. Jobs, working in NGOs/Pvt. and similar jobs) are living in relatively good quality of houses. It is evident from the field that the occupation leads to the households’ income, type of housing and other economic indicators. Subsequently it also impacted in morbidity and health expenditures of the households. It has shown from the same table that the type of house has strong correlations with toilet facility, main source of water and the households’ health expenditure; having the significant at the 0.01 level. The type of house also have positive correlation with the morbidity; having the significant at 0.05 level.

It is shown that the toilet facility has a strong correlation with the source of water, having significant at 0.01 level. It has also seen from the table that the toilet facility also has correlation with health expenditures, at 0.05 level of significant.

It is the common observation in the study area that, water facility is the main constraint in maintaining toilets. Sometimes people opted for open defecation instead of using more water in flushing their toilets. It has also found from the in-depth interview that some of the households use their toilets occasionally because of shortage of water.

From the table it has observed that the morbidity patterns and the households' health expenditures have a strong correlation, with very high significant. Household income has weak correlation with all the variables in the correlation model. Thus, other than income, these other factors which affect access to health care.

It has seen that the primary occupations of the households, housing, toilet facilities and main sources of water are influencing the reported morbidity, and therefore the health expenditures in the study area. Thus, as it has been argued in previous chapters with bi-variate analysis and field experiences, that 'the basic facilities including the socio-economic conditions influence the health' comes true (Table- 4.19).

4.5 REGRESSION ANALYSIS

Through the following binary logistic regression (Tables - 4.20 and 4.21), it has tested the relations and the likelihoods of changes of one household variable, with one unit changes of another. Morbidity and health expenditures at the household level have been tested in separate regression models. This has been applied to know about the variable that influences in morbidity and health expenditures in the study.

4.5.1 Result of Multivariate Analysis for Morbidity: - Binary logistic model is carried out to show the net effect of each independent variable (HH Size, HH Occupation, Type of House, Cooking Space, and Toilet Facility) on the dependant variable 'Morbidity Type' in terms of odds ratio. The dependant variable is coded as, 'no illness and minor illness = 0' and 'major illness = 1'.³ Odds ratio of reference category is one. So an odds value of less than one indicates lower likelihood of major illness and odds value of greater than one indicates a higher likelihood of major illness (Table- 4.20).

³ The household having none of the members have any illness (no illness) & at least one of the member having minor illness, together coded as 'zero'; households at least one of the member having major illness, coded as 'one'.

Table- 4.20 Result of binary logistic regression for morbidity

Variables in the Equation						
Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Household Size						
Up to 4 members®						
Above 4 members	-.604	.318	3.612	1	.057*	0.547
Primary Occupation						
Labour®						
Non-Labour	.055	.334	.027	1	.869	1.057
Type of House						
Kachcha®						
Semi-pucca & Pucca	-.705	.420	2.815	1	.093*	0.494
Cooking Space						
No kitchen®						
Separate kitchen	-.343	.341	1.009	1	.315	0.710
Toilet Facility						
No toilet®						
Have toilet	-.066	.411	.026	1	.872	0.936
Constant	1.135	.370	9.421	1	.002	3.111
a. Variable(s) entered on step 1: Household Size, Primary Occupation, Type of House, Cooking Space, Toilet Facility						

Note: Dependent variable - 'Type of Morbidity'

*. Significant at the 0.1 level

® Reference Category

OR= Odds Ratio [Exp (β)]

Table - 4.20 shows the value of odds ratio (Exp β) for each category. It has shown that the likelihood of having major illness of people living in semi-pucca and pucca houses is lower (OR= 0.494) with compared to people living in kachcha houses; and it is significant at 0.1 level. It is also evident from correlation table (Table-4.19) that people living in kachcha houses are considered as more vulnerable in income, access to toilets and water supply; therefore more chances to get major illness. Maximum exposures to the unhygienic condition have been experienced by these people as compared to others who live in pucca or semi-pucca houses. Thus, it is obvious that households living in semi-pucca and pucca houses have fewer chances to got major illnesses as compared to those who are living in kachcha houses.

The likelihood of major morbidity between households depends on labour work and non-labour work have more or less same;⁴ that means there is no significant changes in likelihood of getting major morbidity if a households primarily occupation is labour work (unorganized sectors) or non-labour work (organized sectors).

People with large family size (more than 4 members) have lower likelihood (OR= 0.547) of major illness compared to smaller size of households (less than 4 members); and it is significant at level of 10 per cent. But it is not an expected direction. It has also shown in Table- 4.13 that the smaller household size of (2 - 4 members) has highest health expenditures during the time frame. This type of relations between family size and major illnesses may because of less representative of higher (above 4 members) family size in the sample. Therefore, it can be considered as the sampling error.

The table shown that the households with separate kitchen is lower likelihood (OR= 0.710) of major illness compared to households do not have separate kitchen. Similarly, households with toilet facilities have lower chance (OR= 0.936) of major illness compared with households living without toilet facilities (Table- 4.20).

It can be impressed from the above analysis that morbidity at household level is influenced by indicators like type of houses, cooking space and toilet facilities. But other socio-economic indicators in the slums which were not tested or were not significant in this analysis cannot be ignored.

4.5.2 Result of Multivariate Analysis for Health Expenditure: - The Binary logistic model is carried out to show the net effect of each independent variable (HH Income, Morbidity, Toilet Facility, Type of House, and HH Primary Occupation) on the dependant variable 'Health Expenditure' in terms of odds ratio.

⁴ Households primarily depend on manual as well as skilled labour (main source of income) are categorised as 'labour work'; and households primarily depend on organised sectors (govt. services, Jobs at private & NGOs and other non-specified) are categorised as non-labour work.

The dependant variable is coded as, ‘minimal health expenditure or/and no health expenditure = 0’ and ‘major health expenditure = 1’.⁵ Odds ratio of reference category is one. So an odds value of less than one indicates lower likelihood of major health expenditures and odds value of greater than one indicates a higher likelihood of major health expenditures. Table - 4.21 shows the value of odds ratio (Exp β) for each category.

Table- 4.21 Result of binary logistic regression for health expenditure

Variables in the Equation						
Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Household Income						
≤ 500 INR®						
≥ 500 INR	.635	.395	2.577	1	.108	1.886
Morbidity Type						
Minor morbidity®						
Major morbidity	-3.548	.642	30.582	1	.000***	0.029
Toilet Facility						
No toilet®						
Have toilets	-.753	.576	1.709	1	.191	0.471
Type of House						
Kachcha®						
Semi-pucca & Pucca	-1.481	.559	7.016	1	.008***	0.227
Primary Occupation						
Labour®						
Non-labour	.637	.426	2.239	1	.135	1.891
Constant	-.208	.377	.303	1	.582	0.813
a. Variable(s) entered on step 1: Household Income, Morbidity, Toilet Facility, Type of House, Primary Occupation						

Note: Dependent variable- ‘Health Expenditures’

*** Significant at the 0.01 level

® Reference Category

OR= Odds Ratio [Exp (β)]

The likelihood of having major health expenditures of households within income group of above 5000 INR is higher (OR= 1.886) with compared to households having income group of less than 5000 INR per months. It means the families with higher households’ income have more health expenditures. Households earning above 5000 INR have two time more

⁵ Households having no health expenditures and those having health expenditures up to 2500INR since last six months prior to survey are taken as minimal health expenditure (coded as zero); Households having health expenditures above 2500INR during the same time frame are taken as major health expenditure category (coded as one).

chances of occurring expenditure than those earning less than 5000 INR; largely due to their propensity.

There is less likelihood of major health expenditures for the households with major illness (OR= 0.029) as compared to the households having minor illness. Although this relation is highly significant; still the equation is found peculiar in nature. Thus, in Table- 4.10 it has shown that the households who have major morbidity / illness have more health expenditures. Therefore, this relation (Table- 4.21) is contradictory to the previous bi-variate analysis and not in expected direction. It may be because of the sampling error. And during the initial field interactions it has experienced that those households had major morbidity spent more as compared to the households only had minor morbidity to any of their members. It is because; major morbidity generally required referral health care.

Households with toilet facilities have lower likelihood (OR= 0.471) of major health expenditures compared to the households having no toilet facilities. Families living in pucca or/and semi-pucca houses have less likelihood (OR= 0.227) of major health expenditure as compared to the families living in kachcha houses, with highly significant. Such type of relations is also found in previous bi-variate analysis in Table- 4.16.

The likelihood of major health expenditures of the households depending mainly on non-labour works is higher (OR= 1.891) with compared to the households mainly depending on labour works in the study area; which is not significant. It has also seen from the previous table (Table- 4.20) that households mainly depending on non-labour work have more likelihood of having major morbidity, which may leads to more health expenditures also.

Some of the indicators in above analysis found peculiar in relation to the household health expenditures as well as with the morbidity at household levels. These may be because of the sampling error. With understanding the above discussion, inferences can be drawn that, the factors influencing in access to health services and means of accessing health care are rooted to the poor living condition of the people in the study area. The underprivileged living conditions of the people therefore, leads to the poor health outcomes in the study area.

4.6 CONCLUSIONS

The living conditions of the people in slums have influenced the health outcomes and health expenditures in the study area. It found that few indicators in the analysis are different from the normal conditions and not in expected directions. The sample of the present study may not be a suitable size to calculate the variable and get the expected result all the times as it found in case of bigger size data, for example the national level health outcome.

The health expenditure is not directly related to the household's income only. It may be because people having more income are living relatively better lives and less health expenditures. But on the other hand, it is the 'health care providing institutes', the 'prolonged morbidity' and 'its severity' that related the health expenditures. It is evident from the study area that people also have preferred to go for local treatments and traditional beliefs for curing the diseases. And people experiencing lower health status and having less health expenditures leads to further health problems in long run.

CHAPTER – V

HEALTH ENHANCING FACTORS; FINDINGS AND CONCLUSIONS

This chapter deals with the access to health enhancing resources by the respondent households. Also it has thrown lights on the determinants and consequences that are influencing the health and health services in the study area. Lives in slum are different from non-slum urban as well as from the rural area. People in slums travel rarely same distance for various health institutions for their treatment as compared to the non-slum urban residents. There is a difference in accessing health resources within urban among the slum residents and non-slum residents. This chapter explores the determinants related to the health enhancing factors and the health outcomes of the people who are living in urban slums, particularly in study area. It further summarises the study, highlights the findings and concludes with discussions.

5.1 BENEFITS FROM VARIOUS SCHEMES

As the government benefits to the slum residents have been discussed in previous chapters (in Chapter - II, III and IV), this chapter summarized those to see the overall government benefits towards the development of slum residents in Bhubaneswar city. Some of the major benefits are presented in a tabular form in Table - 5.1 which shows that majority of the households who have Voter ID cards accessing the government facilities and civic amenities from the Bhubaneswar Municipal Corporation (BMC). It has been seen that majority of the households (73%) have voter ID cards which indicates two things; people who are living in a particular slum for longer duration have more possibilities to get voter ID cards, and secondly, the politics plays major role in distributing voter ID cards to the slum residents. Slums are considered as the vote bank and units of labour force; the government provided voter ID cards also considered as the identity cards of the residents. It has been observed during the initial field visits and interaction with the people in slums in the city, that majority of the residents expected at least ration cards under the BPL category, Antodaya Anna Yojana (AAY), Annapurna Yojana or any of the government schemes. Such cards can be the

means of their livelihood support and food security. Here, within the sample area only 24.5 per cent of the households have own any type of ration cards; which bears an important support in economy of the people. Households purchase rations from government supplied dealers under PDS scheme through this card. There are 14.5 per cent of the households which have BPL cards. These are identified and considered as most vulnerable households. However, there are poorest households living with no BPL or any support from the government. This is also a reflection of the other factors like political links and bureaucratic familiarity which enabled to avail the cards to those do not deserve and kept away those who deserved and needed. These needy people did not have access to people who could help them get the cards.

Table- 5.1 Benefits through various government schemes

Matrix of Benefits to the Households					
Benefits under the Schemes of Government or/and NGOs	Number of households				
	General	SC	ST	OBC	Total
Voter ID card (any member)	32	14	69	31	146
PDS card (BPL, AAY or other)	10	5	30	4	49
BPL Households	7	3	16	3	29
Health Insurance (any member)	4	0	2	0	6
Life Insurance (any member)	13	6	39	10	68
Urban housing scheme (JnNURM)	2	1	1	0	4
Pension benefits (any member)	4	2	3	6	15
Toilets under TSC (govt. / NGOs)	9	0	10	6	25

The Table- 5.1 shows various government schemes and number of households got benefits under these schemes in the study area. It has been seen that 146 households have voter ID cards for at least one of their adult members. Most of households have voter ID cards in comparison to any other government benefits. But there are still about 27 per cent of households do not have voter ID cards; which means they are not eligible to get any of the government benefits in the city. People must have those cards at least for using as ‘Identity cards’ for various purposes in their day to day life. In other ways, issuing of voter ID card is organising and listing of voters in the city, which accounts for more votes to the people’s representatives. There are 29 BPL families found in the sample. Only six households have Health Insurances whereas 68 have Life Insurances for any/all of their family members.

Forty-nine households have ration cards (including BPL cards). Regarding the pension benefits, it is found that only in 15 households accessed it by any of their family members. Benefits are given under different pension schemes. Availability of toilet facility is important for improving the sanitary condition within the cities; and it is directly linked with the health of the people. Only 25 households (12.5%) got financial help both from government and NGOs for installation of low cost latrines at their houses. Majority of them got 2500 INR for constructing toilets. They got supports through Total Sanitation Campaign (TSC) under the government programme and similar support from non-government organisations.

From the primary data of present study it is found that only 4 households benefited from the housing scheme of JnNURM. Still there are 1135 beneficiary households identified in *Bharatpur* slum for implementing the 'low cost housing for urban poor' under the JnNURM. *Saliasahi* has been left-out from the JnNURM and planning to implement the Rajiv Awas Yojana (RAY). The 'World Vision India', a leading NGO in community development has supported the urban poor in constructing houses. This NGO (The World Vision India) identified beneficiaries through the 'Self Help Groups' (SHGs) of the women and provided materials for house building. The present study although do not find such households, who got housing benefits from NGOs, some of the key informants (Ki5 and Ki6) in *Saliasahi* confirmed about the supports. Information collected about the relief and rehabilitation programmes of the State Government during the Super Cyclone in Odisha in the year 1999. Financial assistances are given to the slum residents time to time by the government as well as NGOs, but such aids and financial supports could not able to change or improve the living conditions of the people. It is observed that there is no visible effect of such programmes within the slum people in the city. No changes in housing structures of the urban poor have been entertained. It requires a bigger programme for coverage of other development components and extended to all the slums in the city for holistic development. The present trend of supporting cannot provide a healthy housing structure to the slum residents in the city.

The health insurance often indicates the health awareness and motivation to pay for health. Only six households have linked with health insurance; none of the households knew about the Rashtriya Swasthya Bima Yojna (RSBY). None of the BPL households reported about

being enrolled in the RSBY facilities in present survey although the scheme is exclusively for the poor. This reflects that there is a need of information dissemination on various development programmes. There are 34 per cent of the households having Life Insurances and 15 households (7.5%) were getting some type of pension benefits under different government schemes.

The shortages of toilet facility in urban is one of the biggest challenges among many urban issues. It has identified that 25 households got financial benefits from government or NGOs in constructing toilets. There were no uniform criteria in accessing fund from government or NGOs for constructing toilets. In this regards, one of the key informants (Ki5) informed that *'politics, lobbying, pressurising and influential role of the residents is making more possibilities in getting any of the benefits from the government as well as NGOs working in the area.'*

It has been observed that along with the government schemes various NGOs have initiated the developmental process of the slums in the city. Sometime it happens that because of limitations at policy level government could not able to reach to the people but the NGOs do. It has found in case of the water supply, support in housing and sanitation in the slums like *Saliasahi* and *Bharatpur* in the city.

5.2 FACTORS INFLUENCING ACCESS TO HEALTH CARE

Being residence of slum, people faced many other problems in accessing health services. Many of the external factors are influencing in access to the health services among the people. The financial constraint is one of the big reasons of poor access to health care in the study area. The physical characteristics of a slum itself indicate the health situation of the people living within it. The factors responsible in accessing health enhancing resources described as follows:

5.2.1 Socio-Economic Condition: - The slums in Bhubaneswar are unhealthy in their environment, unhygienic in living conditions and are structurally inadequate in basic infrastructures. Thus, lack of civic amenities and social facilities, hazardous working conditions and low level of socio-economic conditions are the key features of slums leading to problems related to health, housing, employment and social life (Rout, 2008). This city is

more or less similar to other metropolitan cities. Majority of the houses in slums are constructed with mud and bricks and few of those have cemented walls. Houses are not enough spacious for healthy life. People have toilet facilities with miserable conditions as they do not have sufficient space and money to construct a hygienic toilet and water for flush the toilets. Lack of water supply is also a big factor for having toilets with good conditions. Availability of safe drinking water is another major problem in the slums in Bhubaneswar city. Slums are considered as unwanted in the city. It is seen that government water supply has limited and specific to some parts of *Saliasahi* and other slums in the city. Concern department denied giving water connection to the people. It has evident from the present study that majority of the people have accessed water supply at their door steps not because of the government water supply; but the people themselves have installed bore-wells and tube-wells collectively and have made water supply available at their door steps. In *Saliasahi* most of the living units (committees)⁶ have their own system of water supply; they accessed the ground water for the purpose. The World Vision India has also played major role in supplying water to the people in slums in the city. It provides financial support to the committees in the slums for installing bore-wells and constructing water tanks.

The unorganised sectors play dominant role in work participation within the slum population. The nature of work is mainly daily wages or contractual basis with weekly or monthly payments, having no job security. People have to search jobs according to their physical strengths. Payments may vary in some cases. Because of the poverty they cannot bargain for the wages they get. Their economic status is directly related to the nature of work they do, and it influences accessing to the health services. In the study area it has seen that some of the household members had experience of illnesses; but they could not spend for their treatment.⁷ In some cases people were delayed in seeking treatment. ‘The people do not seek health care services unless the disease is very serious and interferes with working abilities’ (Routray, 2003). These are all negative factors in accessing health care services and related to the living conditions of the people in slums.

⁶ The local term used for the living units is ‘committee’. Each committee has its own president. These committees organize monthly meetings for the area.

⁷ There are 17 households (8.5%) have no health expenditures although any of their family members had illness during the specified time period.

The social milieu in the slums is different from the place of origin of the residents. People from all parts of Odisha migrated to Bhubaneswar city. They bring their own cultures and social beliefs to the city. Therefore, a mixed social system can be experienced in the city and particularly within the slums. That also influences accessing health services and source of treatment. During the primary field visit it was observed that people opted to go to their place of origin for treatment in some of the diseases.

5.2.2 Influence of the Place of Origin: - People are mainly depending on the Allopathic treatment as found in present study. Both private as well as government health institutes are preferred by the patients for treatment. But it was observed and found during the in-depth interviews that if the treatment required referral services, prolonged treatment and expenditures above the capacity of the households then people changed their source of treatment. Some of them prefer Ayurvedic system; majority of them preferred the traditional system of treatment including 'GUNI GAREDI', 'JHAD FOONK' and 'POOJA PATHA.'⁸ It has reported that households are supposed to be dealing with spirituality, worship to remove of the evils and many other systems generally believed in many places in rural Odisha. In such cases they have to go to their native villages for treatment. It has been criticised many times that the traditional systems are more or less have irrational beliefs which deteriorated the health conditions. But still people have practiced such systems in the area in certain conditions. Mainly the socio-economic conditions compelled people in preferring such healing system.

5.2.3 Health Infrastructures: - Both private and government health infrastructures are scattered all over the city in Bhubaneswar. Since, people in slums do not have enough time and money to access better health services, which may require travelling to the other parts of the city. Health care institutes those close to the slums and having lesser fees for treatment were given priority. People working as daily wage labourer have given priority to their jobs instead of treatment. Health awareness, education and influences from neighbours and relatives tend towards seeking treatment by the people in the slums like *Bharatpur* and *Saliasahi* in the city.

⁸ Terms are used in local area in Odia language; commonly used in rural Odisha. Now it has been used in all regions in the State.

5.2.4 Free Medicines vs. Paid Treatment: - Some of the key informants in the study area have states that '*some people have believed that, free medicines are less effective*' (Ki2, Ki3 and Ki7). It is evident from the in-depth interview that people having minor illness prefer to take medicines from government health institutes, preferably free medicines. But it was found from the data analysis that majority of people having minor illness preferred the private clinic for their treatment and went to public sector facilities for treatment of major illness.

5.2.5 Health Differences in between the Living Places: - People have experienced more illnesses and health expenditures in the slums as compared to their previous residents at place of origin. It has found during the primary interactions with the people in the slums. A case study (Case study: 1) has been presented here in this regards.

Case study (1): Rabi (Name has been changed) is one of the respondents resides in *Saliasahi*, since last seven years along with his family. His family members consist of himself, his wife, one son aged about 9 years and another daughter aged about four years. His family has been migrated from one of the rural districts of Odisha in search of work. Rabi had come to the city leaving his family at native village and stayed here for a complete year. Then his wife and son migrated to this place. His education is less than matriculation so he preferred the daily wage labour for his earning. After his wife came both of them work in same working site. There were job constraints in their place of origin. Therefore, living was better here as compared to their native village.

Initially his family earned a good amount of money from daily wages work. Later, they decided to stay back, because there were constraints of jobs at their native village. They built an earthen house here with thatched roof. They were living peacefully for five years. Afterwards they spent all their savings in medicines. The changes in environment as compared to their place of origin and unhygienic living conditions in the slum resulted Asthma to his wife, frequent fever and diarrhoea and skin diseases to both of their children. That deteriorated the health conditions of the family since last one and a half years. During the time period they spent more than 50000 INR for treatment. They lost their work status. Now it is difficult to go back to their original home and also a challenge to survive here with

comfort. He (Rabi) admitted that, if his family was at his original village, then at least they can maintain their health.

The constraints in accessing health services differ from one to another. Poverty, ignorance and priority to work by the household members are influences in accessing health services and therefore health status. Therefore, health is not the outcome of lack of accessing health services only. Other factors which revolve round the poverty must be addressed to minimise the gap between the health facilities and access to it by the urban poor.

In the Table- 5.2 it has been listed the major ‘Health Enhancing Outcomes’ and ‘Health Obstructing Outcomes’ that experienced by people in the study area. It gives a brief idea about the problems faced by people and kind of measures should be taken in addressing those hindrances.

Table- 5.2 Major health enhancing and impeding factors

Factors	Health Enhancing Outcomes	Health Impeding Outcomes
Housing Finance	<ul style="list-style-type: none"> ⇒ 4 households got housing benefits under JnNURM. A huge share of households does not access the facilities. ⇒ Some of the NGOs provided house building materials for constructing houses to the needy people in the slums. 	<ul style="list-style-type: none"> ⇒ People who did not get housing benefits made their houses with own costs. ⇒ Poor structures of housing linked with unhygienic living conditions particularly in slums. ⇒ Kachcha and temporary houses are the only option for the poor who did not get any housing supports from govt. or NGOs.
Record of Right (RoR) of Homestead Land	<ul style="list-style-type: none"> ⇒ RoR became the key to access other government benefits. ⇒ Only 7 households have RoR and all belong to Bharatpur rehabilitate slum. 	<ul style="list-style-type: none"> ⇒ Households those do not have RoR did not get other public facilities like housing facility, water supply, electricity and similar benefits from the govt. ⇒ People preferred to construct temporary houses in fear of eviction in any moment.

Voter ID Cards	<p>⇒ 146 households (73%) have voter ID, those accessed other facilities.</p> <p>⇒ It is a right of any adult citizen of India; therefore, government also tried to provide these cards as soon as it possible.</p>	<p>⇒ Households with no voter ID cards debarred from other social benefits. Newer migrants have faced problem in getting voter ID cards immediately.</p> <p>⇒ People do not have voter ID cards denied casting their votes during elections.</p>
Water Supply	<p>⇒ There are 93 households accessed water supply at their door steps.</p> <p>⇒ These households also availed other living facilities (like toilet facilities) and a proxy to avail safe drinking water.</p>	<p>⇒ Lack of water supply is a common problem in slums in the city, which is linked with the sanitation and safe drinking water of the households.</p> <p>⇒ Some of the households have to travel more than 150 mts for getting water. It became difficult to maintain the sanitary and healthy living for those.</p>
Rashtriya Swasthya Bima Yojana (RSBY)	<p>⇒ Only 6 households enrolled under Health Insurance schemes.</p> <p>⇒ None of the households reported about the RSBY. Even they do not know about the benefits of the scheme.</p>	<p>⇒ Those who do not know about the RSBY difficult to access the benefits under it.</p> <p>⇒ People have direct effect on health expenditures, which could be avoided through right information on RSBY.</p>
Insurance	<p>⇒ There are 68 households have Life Insurance; that considered as financial support to the households in long term.</p>	<p>⇒ Households who do not have insurance considered as very poor or unaware about the system.</p> <p>⇒ Because of shortage of money people do not go for Life insurances.</p>
Regular Work	<p>⇒ Regular work is essential for earning and therefore economic wellbeing.</p>	<p>⇒ Households' income is directly related to the availability of regular work.</p> <p>⇒ Unorganised sectors do not provide job security to the workers. This sector never gives importance to workers welfare rather see the profit of the company itself.</p>

Adequate Wages	⇒ Adequate wages for the worker influences the workers for better performance.	⇒ It has experienced by the new migrants in the slum that the work providers pay less considering ‘new workers’ as compared to other workers who are working since long. ⇒ They cannot bargain in fear of thrown-out of jobs by the employer.
Provisioning of Infrastructures	⇒ People living in <i>Bharatpur</i> slum with RoR have accessed the basic facilities that make life comfortable.	⇒ It is evident that in the slums in Bhubaneswar city has poor in accessing infrastructures like road, electricity, water supply, toilet facilities and housing. ⇒ Health care institutes in Public-Private-Partnership (PPP) mode are there inside the slums but only provided the primary care.
BPL Category	⇒ Availability of a BPL card secured from extreme poverty. Households having BPL cards get subsidised benefits from the government.	⇒ Those households having no BPL do not got those benefits being very poor. ⇒ Without BPL some of the government schemes fail to support the needy people.
Public Distribution System (PDS) Cards	⇒ PDS card supports the households in getting essential goods in reasonable prices. ⇒ 49 households have ration cards under BPL, AAY, and other schemes.	⇒ Those who have no PDS cards depend on local shops for buying goods. ⇒ These households did not get any subsidies or discounts in buying goods as in case of availed by the PDS card holders.
Pension Benefits	⇒ Pension benefit is important for the people who are in need of it. Only 15 households accessing the pension benefits under various schemes.	⇒ Some of the physically challenged and elderly persons in the study area are not getting pension benefits, which could support in their comfort living. ⇒ They did not access the benefits because of not having resident proof in the slum.

5.3 SUMMARY OF THE STUDY

This part of the chapter summarises the study and highlights the findings. From the field based data and in-depth analysis of both primary and secondary data; the study highlights major issues of the urban poor in the Bhubaneswar city. It highlights the growth history of the city; and critically reviews the planning process particularly during post colonial period. There are issues related to the urban planning and development. It is evident that the growth of slum population worldwide is faster than the growth rate of urban or national population. In India policies are focused mainly on the rural development; because, till very recent development thrust was on the rural area. More emphasis was given on the rural population while planning for the country in India. The present uneven growth of urban India is the outcome of multiple factors; one being the less attention towards the urban since long.

During the initial Five Year Plans as part of the urban development process, industries and services were developed. Priorities were given on the government infrastructures rather than holistic approach of urban development. Being state subject urbanisation and regulations for urban development has been neglected by the central government. On the other hand all state governments are not equally competent to regulate similar policies throughout the country. Fund is the main concern for the States; before regulating any rule, states have to think again- 'whether the centre will support or not'. In such situations the major policies for the urban development are became the components of Five Year Plans. It has observed that almost all Five Year Plans have given emphasis on urban development. The national policies like the 'JnNURM (2005)', 'National Urban Transport Policy (2006)', 'National Urban Housing and Habitat Policy (2007)', 'National Urban Sanitation Policy (2008)', 'National Urban Health Mission (2008)', 'National Mission on Sustainable Habitat (2010)' and the 'Rajiv Awas Yojana (RAY) of 2011' are few of the recent policies addressing urban areas. Through these policies of the central government, the state governments of the respective states prepare guidelines according to their capability and suitability.

Therefore, the planning for the urban development depends on the state governments. Recently 16.68 per cent of Odisha's total population lives in urban area (RGI, 2011). Predominantly rural population influences the planners to give important on the rural development more than urban. There are regulations in the state for urban development

according to the population norm, which is based on the country norms. The planning milestones in the city has mentioned in Chapter- II of the present study in brief. The government has been making plans for the city and also for the slum population in the city, including those who work in unorganised sectors. These people get fewer wages in the exchange of long duration of heavy work. They have no job securities or the social securities.

The ‘Alma Ata Declarations’⁹ emphasises on the participation of the people in planning and implementation of health care. It is also instructed by the centre (Government of India) for participation of various stakeholders while planning for the cities by state governments. Still the participation of the people in planning for their health needs is very little. The planning process in JnNURM, has encourages participations. ‘The JnNURM project proposals were to be preceded by preparation of CDP, ideally to identify the city’s development priorities through stakeholder participation. The CDP preparation was completed by experts. The poor, instead of being major participants or vital stakeholders, treated as mere beneficiaries in the CDP is subjected to change. In case of the Bhubaneswar, meetings had been organised continuously for preparing urban plans and claimed as the people oriented plans. Still there were poor representation from the real beneficiaries except few of the office bearer and people’s representatives¹⁰ in the city. It is not sufficient to get actual knowledge about the problems and potentials of the poor in the city.

5.4 MAJOR FINDINGS

5.4.1 Demographic Characteristics

Age, Sex and Marital Status: - The age group of 15 - 64 years constituted highest percentage (66% of the total population) in the study area. The sex ratio is 887 females per 1000 males. The ever married (married, widow, widower and separated) population in the study area constitutes 53 per cent.

Literacy: - The literacy rate in the study area is 79.89 per cent (male literacy rate 88.22 and female literacy rate 70.06 per cent), whereas the total literacy rate in urban India is 85 per

⁹ The International Conference on Primary health care was held at Alma Ata, Kazakhstan in the year 1978. It was very well known as the ‘Alma Ata Declaration’.

¹⁰ Only the Mayor, Deputy Mayor and some members of partner NGO were attended the planning meetings in urban planning. BDA is the planning authority and enjoyed all rights in planning for the city.

cent; urban Odisha is 86.45 per cent and in the urban area of khordha district is 92.24 per cent (RGI, 2011). Sixty-six per cent of total population having the education level up to matriculations.

Households: - Majority of the households (62%) having the household size of 2 - 4. There are 5 households having only one family member each. There are 81.5 per cent households living in their own houses. Eighty-three per cent of the households have alternative houses (house property) at their place of origin. Only one household is found living in rented house does not have property anywhere. Within the social groups SCs have less percentage in owning houses (73.92% of total SC households) as compared to other social groups; (General Caste have 84.09%, STs have 83.91% and OBCs have 78.26% have of their respective total households).

Residents, Languages and Religions: - Out of total 815 surveyed population 76.7 per cent are living in surveyed slums since 15 years or less than that; other 23.3 per cent are living before the time line of 15 years in their respective slums. Hindu followers are found majority (85.5 per cent); STs are dominant social group sharing 43.5 per cent of total households. Almost all the households know Odia; 59 per cent of the households claim that Odia is their mother tongue. Majority of others are STs migrated from different parts of the State. Inter-state migration is very low in the study area.

Work Participation: - The working-non-working ratio in the study area is 39:61. Most of the working populations are within the age group of 25 - 44 years of both the sexes. Sixty-three per cent of total households are primarily depending on the labour work (both manual and skilled labour). Within their own social groups, around 65 per cent households of deprived classes (SCs, STs and OBCs) mainly depend on labour work for their livelihood. There are 9 households (4.5%) having at least one of their members working as domestic helper (domestic labour) outside in the city.

Income: - Forty-two (42%) per cent of the households have the monthly household income of up to 5000 INR that represents the economic status of the people living in slums in Bhubaneswar city. Only 4.5 per cent of the total households earn more than 15000 INR per month. Only the General castes and STs have the income level above 20000 INR per month.

5.4.2 Basic facilities

Housing and Electricity: - There are 52.5 per cent of the households that do not have ventilations or having only one skylight in their houses. Out of that, 36 per cent of the total households do not have any type of ventilations. The Kachcha houses have more in trouble that 28.5 per cent do not have any type of ventilations. Most of the households (87%) have 1 or 2 roomed houses, whereas 44 per cent of the families live in single roomed houses. There are 9.5 per cent of the households who have the family size of 5 members or more than that and live in single roomed houses; which can be considered as extremely crowded among the study households in Bhubaneswar city. Only 37 per cent of the total households have separate kitchen; 28 per cent of the households prepare their food inside the main room; and others prepare it outside their rooms or in front of their squatters. There is 31.5 per cent (63 nos.) of households do not have electricity in their houses. Twenty-three households (16.79% of total electrified households) use the electricity only for lighting the rooms. Most of the people (29 households) afford house rent up to 1000 INR per month; which constitutes 78.39 per cent of the total households living in rented houses. Majority of the house structures found semi-pucca in nature, which constitutes 58.5 per cent of the households. There are 2730 households of *Bharatpur* slum have Record of Right (RoR) of their homestead lands.¹¹ Households who were displaced and re-settled in *Bharatpur* have RoR of their homestead lands. Only 7 such households are covered in present study. There is no RoR of the residents in *Saliasahi*. Only 7 households have pucca houses, out of which 4 got housing benefits from the JnNURM.

Water Supply: - There are 46.5 per cent of the total households accessing the source of water at their door step; within the rented households it is 43.2 per cent, whereas it is 47.2 per cent within the households living in their own houses. There are 13 (6.5%) households whose sources of water are 100 metres or above it; and 10 (5%) households getting their water from more than 150 metres distance from their residence. It has found that all households earning above 15000 INR per month avail the water sources at their door steps or distance up to 50 metres from their houses. Economically weaker (poorest of the poor) households mainly

¹¹ Data are from the SPARC Organisation; Households who are displaced from the core city have rehabilitated in *Bharatpur* and the govt. of Odisha provided land for making houses with RoR of the land to those households during 1990s.

depend on government facilities, whereas relatively well-off are trying to avail the water sources at their door step with expenditure. Only 11 per cent of the households have accessed the public water supply at their door steps; it is peculiar that none of the rented households using public tube well. There are only 9 households who treat the water for drinking purpose; it is found that none of the social factors are responsible in influencing treatment of water for drinking purpose.

Toilet Facility: - There are 28.5 per cent of the households do not have toilet facilities; 16.5 per cent have fully concreted toilets; and only 2.5 per cent (5households) have concrete toilets inside their houses. There are 29 households (14.5%) got assistance from State Government and NGOs in constructing toilets (4 households are benefited from the government and other 25 from the NGOs). Fifty per cent of the total households (59 households) with toilet facilities, spent up to 2500 INR in constructing their toilets.

Drainage System: - There are 59.5 per cent of the households do not have accessed to any type of drainage system. These households reported that the waste waters from their houses flows openly or/and stagnate outside their houses. Most of the SC and ST households are reported about stagnation of water outside their houses as compared to other social groups. There are only 20.5% households accessing the drainage system for disposing household waste water.

Benefits from Government Schemes: - In the study area about 73 per cent of the households have voter ID cards to any of their family members. There are 14.5 per cent of the households Below Poverty Line (BPL) in the study area; and 24.5 per cent (49 households) have ration cards under BPL, AAY, and others schemes. Fifteen households reported that at least one of their family members are getting pension benefits (old age, widow, disability, ex-servicemen). All ration card holder households and the households those are getting pension benefits have voter ID cards except one who is getting the pension as ex-servicemen. There are 34 per cent of the households have life insurance and only 3 per cent having health insurance for any of their family members. Only two per cent of households got housing

benefits from the government under JnNURM. However, 1135 households are identified in *Bharatpur* slum to provide housing support under JnNURM.¹²

5.4.3 Health status

Morbidity and Mortality: - The total morbidity is 43.1 per cent (people reported any type of morbidity) in the study area. The morbidity among the age group of above 64 has shown highest (82% within the age group). Morbidity among female is higher than male (female have 45.2%, whereas male have 41.2%). In case of major illnesses men are reported more (52%) as compared to the women (48%). More of the working populations reported the major illnesses; whereas more of non-workers reported minor illnesses. It was found that 16 per cent of the households did not experience any type of diseases during last six months prior to the primary data collections. There are 6 deaths due to any type of disease have reported since last 3 years prior to the data collections. One of the reported deaths was of an infant (within 1 year). There are 49 households (24.5%) who uses public tap at stand post for collecting water reported having major illness to any of their family members. Households who accessed the public water supply at their door steps reported more of major illness (in percentages) as compared to others within their own categories.

Treatment Seeking Behaviour: - About 54 per cent persons reported some illness and preferred to go to private clinics or private hospitals for their treatment. Government institutions were given priority next to the private by the people. It has seen that people having minor illnesses preferred to go to the private clinics (60% of total minor illness) and people having major illnesses preferred government hospital for treatment (40% of total major illness). But, combine of private clinics and private hospitals treat more major illnesses as compared to the government hospitals (45% goes to private clinics and private hospitals; whereas 40.6% goes to government hospitals). People having higher level of education preferred the Allopathic system for their treatment. Some people have been influenced by local and traditional healing system; perhaps because of dominance of tribal population in these slums in the city. In case of treatment through Allopathic system, majority of the people (50.7% of total Allopathic treatment) preferred to go to the private clinics.

¹² The BMC has identified 1135 households in *Bharatpur* slum to provide the housing support under JnNURM; all the households have RoR of their homestead land, those who are selected for the benefit from the scheme.

Health Expenditure: - Households' income level is not influencing the health expenditures in the study area. It was found that one's status of primary occupation is not the only criteria to influence the level of health expenditure. Severity of the disease or the morbidity pattern influencing health expenditure; it has a positive correlation between these two. Majority of the households (50.5%) have the health expenditure level up to 2500 rupees during last six months. At individual level majority of the people (58% of who experienced any type of illnesses) have the health expenditure is up to 500 INR within six months. Fourteen per cent of the households reported about the outsourcing of money (loan from outside) for treatment of any member. Health expenditures of SCs are found lesser as compared to other social groups (General Castes, OBCs and STs). There are 15 households (7.5%) in which none of the family members experienced any type of illnesses during the specified time period; and 32 households (16%) reported no expenditures for health. Here it is evident that 17 households (8.5%) having any type of illnesses did not spend for their health during the time period. People living in pucca houses have lesser health expenditures as compared to others who are living in Kachcha or semi-pucca houses.

5.5 CONCLUSIONS

This study has examined the growth of Bhubaneswar city and its shifts in the process of urbanisation. This study so far covered the living conditions of the urban poor in the city and how the government of Odisha implemented various policies including the JnNURM towards the development of this specific group of population. With the secondary review of literature, it is reflected that there are many programmes and policies have been implemented for urban development and slum development. It is important to understand whether these policies and programmes have positive impact on the living conditions of the urban poor and understand the health status of the people living in slums in the city. It examines the expected outcome of the programmes implemented by the government and the actual results after their implementation. The major thrust area as we recommend for further study is what are the factors those influencing in urban planning both at regional, state and central level; so that it can be argued further about 'why health is given low priority in present urban development process'.

The plan documents do not show much concern about the health of the people. The National Urban Health Mission (NUHM) is expected to work towards the health of the urban population. But is still awaiting implementation. At state level planning has been incorporated according to the NUHM. The NUHM was to be launched in April 2008; but has not been as yet. Urban planning gives importance to industries, infrastructures, transportations and communications but not health. It has been observed that both at the centre as well as the state government have been making policies separately for the 'urban development' and 'health.' The health aspect must be included in the process of 'urban development' planning. In urban development importance has been given on people's well being as a whole. But health aspect is not included as a component of urban development; it is also found in JnNURM. Health must be included in urban development planning process because most of the urban poor work in unhealthy working environment. During the initial Five Year Plans of India, policies were formulated purely on anti-poor basis. 'Slum clearance' was a component of urban development. Later, 'slum rehabilitation', 'slum upgradation' and 'slum development' have changed the ideologies of the planners. In all the terminologies, the government's priority is to remove or re-settles the squatters from the main city to the adjacent of it. That is why priorities were given only on housing of the poor. Health, economy, education and social characteristics are not given adequate importance. Alternately, these values can be developed in mainstreaming the poor in the city in the urban process. This will also work towards the principles of WHO in developing a 'Healthy City' planning at regional and sub regional level.

The present study has also examined the living conditions of the people in the slums in Bhubaneswar city. Some of the important public health indicators have been found relevant. The health and living conditions of the urban poor in the city is lagging behind the state and national level overall performances. So it can be concluded that only housing and basic sanitation cannot solve the problems of the urban poor. Rather, it solves the problem of the urban planners; that they aimed at making a slum free and hygienic city. For the holistic urban development it is important to include the 'access to health services to all irrespective of paying capacity' (Bhore Committee, 1946) and provide referral health services; it includes the economy and livelihood of the people, free and quality education to the children, water supply and sanitation similar to the non-slum urban area and healthy recreations of the people

in the slums. Instead of exploiting the labour force of the people living in slums, importance must be given on the innovative ideas of the people living in slums.¹³ However, the overall balanced development of the urban can be possible only if the poor communities are well represented in planning process and their existing problems and potentials will considered in local level development planning.

¹³ Innovative can be the 'traditional means of livelihood' the people have in their place of origin. It has seen that major parts of the slum people are from rural Odisha. They have their own art and crafts; which can be encouraged carrying on here in the city. It can be a part of the craft industries in the city and can attracts the tourists, which can improve the economic condition of the people as well as the state's economy

BIBLIOGRAPHY

BOOKS AND REPORTS

- **Acharya, S. (1994):** “Urban Environment- Growing Ecological Concern”, in Pathak K.B., Sinha U. P. and Pandey A. (ed.) Dynamics of Population and Family Welfare, Bombay Hamalaya Publishing House.
- **Anthony, O. (2011):** “Encyclopedia of Social Theory”, Sage Publications, Available at: <http://www.sagepub.com/oswmedia3e/study/chapters/handbooks/handbook15.2.pdf>, Last access ed on 20 June 2012.
- **Behuria, N. C. (ed.) (1991):** “Orissa State Gazetteers”, Vol II, Department of Revenue, Govt. of Orissa, Bhubaneswar.
- -----, “Orissa State Gazetteers”, Vol-III, Department of Revenue, Govt. of Orissa, Bhubaneswar.
- **Bhatt, K. N. (ed.) (2008):** “Population, Environment and Health: Emerging Issues”, Rawat Publications, Jaipur, India.
- **Bhubaneswar Municipal Corporation (2006):** “Bhubaneswar City Development Plan”, Govt. of Orissa, Bhubaneswar.
- **Black, D. and Margaret, W. (1982):** “Inequalities in Health and the Health Divide”, Penguin Books, England, (Reprinted in 1992).
- **Cobden-Ramsay, L. E. B. (ed.) (1910):** “Feudatory State of Orissa”, Vol-21, Bengal District Gazetteers, Bengal Secretariat Book Depot, Bengal.
- **Corburn, J. (2009):** “Towards the Healthy City: People, Places, and the Politics of Urban Planning”, The MIT Press, Cambridge, Massachusetts, London, England.
- **Directorate of Economics and Statistics (2001):** “District Statistical Handbook, (Khordha)”, Govt. of Orissa, Bhubaneswar.
- **Housing and Urban Development Department (2010):** “Annual Activities Report 2010-11”, Govt. of Orissa, Available at: http://urbanorissa.gov.in/pdf/annual_activity_report/Annual_Activities_Report_2010-11.pdf, Last accessed on 07 June 2012.
- -----, (2011): “The Annual Activity Report 2010-2011”, Govt. of Orissa, Bhubaneswar.

- **Jain, A. K. (2011):** “The Informal City: Inclusive Growth for Poverty Alleviation”, Readworthy Publications, New Delhi.
- **Kalia, R. (1987):** “Chandigarh: in Search of an Identity”, Southern Illinois University Press, Available at: <http://books.google.co.in/books/about/Chandigarh.html?id=xV3aAAAAMAAJ>, Last accessed on 19 June 2012.
- **Ministry of Health and Family Welfare (2009):** “Health and Living Conditions in Eight Indian Cities”, National Family Health Survey (NFHS-3), Govt. of India, 2005-06, International Institute for Population Sciences, Mumbai, India.
- ----- (2010): “District Level Household and Facility Survey (2007- 08)”, Orissa, International Institute for Population Sciences, Mumbai, India.
- **Ministry of Statistics and Programme Implementation (2001):** NSSO, “Concepts and Definitions used in NSS”, National Sample Survey Organisation, Govt. of India, Golden Jubilee Publication, New Delhi, Available at: http://mospi.nic.in/mospi_new/upload/nss/concepts_golden.pdf?status=1&menu_id=49, Last accessed on 20 June 2012.
- **Ministry of Urban Development (2012):** “Jawaharlal Nehru National Urban Renewal Mission”, Govt. of India, Available at: <http://innurm.nic.in/>, Last accessed on 23 June 2012.
- **Novick, L. F. et al, (2008):** “Public Health Administration: Principles for Population-Based Management”, Jones and Bartlett Publishers, (2nd Edition), Available at: <http://books.google.co.in/books?id=E9EQolxqR6wC&pg=PA411&lpg=PA411&dq=Novic+and+Morrow&source=bl&ots=0Qg5gOBRQP&sig=ZrQraHKIYX8L88MrGTwUVPmXoUE&hl=en&sa=X&ei=IZQNUJP1BoeurAe2stnKCA&ved=OCfgQ6AEwAg#v=onepage&q=Novic%20and%20Morrow&f=false>, Last accessed on 17 June 2012.
- **O’Malley, L. S. S. (1908):** “Bengal District Gazetteers, Puri”, Logos Press, Darya Ganj, New Delhi (Reprinted 2007).
- **Office of the Registrar General of India (2011):** “Provisional Population Total, Urban Agglomerations and Cities”, Census 2011, Govt. of India, Available at: http://censusindia.gov.in/2011-prov-results/paper2/data_files/India2/1.%20Data%20Highlight.pdf, Last accessed on 20 June 2012.
- -----, “Provisional Population Totals- Orissa - Rural-Urban distribution”, Census 2011, Govt. of India, Available at: http://censusindia.gov.in/2011-prov-results/paper2/data_files/India/Rural_Urban_2011.pdf, Last accessed on 25 June 2012.
- **Park, K. (2011):** “Park’s Text Book of Preventive and Social Medicine”, Bhanot Publishers, Jabalpur, India, (21st Edition).
- **Qadeer, I. (1992):** “Poverty, Class and Health Culture in India”, Vol- 1, Prachi Prskashan, New Delhi.

- ----- (2006): “Gender and Health: Beyond Numbers”, in Shaila DeSouza (ed.), *Women’s Health in Goa a Holistic Approach*, Concept Publishing House, New Delhi.
- ----- (ed.) (2011): “Public Health in India: Critical Reflections”, Daanish Books, Gazipur, Delhi.
- **Ramachandran, R. (1989):** “Urbanisation and Urban Systems in India”, OXFORD University Press, New Delhi, (Tenth impression 2001).
- **Sebastian, K. S. (2001):** “Public Health Issues of Small Towns: The Case of Alleppey”, in Qadeer, I. Sen, K. and Nayar K. R. (ed.), *Public Health and the Poverty of Reforms: The South Asian Predicament*, Sage publications, New Delhi.
- **Senapati, N. (ed.) (1977):** “Orissa District Gazetteer, Puri”, Department of Revenue, Government of Orissa, Bhubaneswar.
- **Sing, K. and Shukla, S. (2005):** “Profiling Informal City of Delhi: Policies, Norms and Scopes of Intervention Institutions”, Water Aid India and Delhi Slum Dwellers Federation, New Delhi.
- **Snow, J. (1965):** “On the Mode of Communication of Cholera”, John Churchil, New Burlington Street, London, (2nd Edition).
- **UN-HABITAT, (2003):** “The Challenge of Slums”, Global Report on Human Settlement, Available at <http://www.unhabitat.org/content.asp?typeid=19&catid=555&cid=5373>, Last accessed on 25 June 2012.
- **World Health Organization (1989):** “Health Principles of Housing”, Geneva.
- **Zubrigg, S. (1984):** “Rakku’s Story: Structure of Ill Health and the Source of Change”, Centre for Social Action, Madras.

JOURNALS / NEWS CLIPPINGS

- **Agarwal, S., et al (2007):** “Urbanization, Urban Poverty and Health of the Urban Poor: Status, Challenges and the Way Forward”, *Demography India*, Vol- 36, No. 1, pp 121-134.
- **Baru, R. V., et al (2010):** “Inequalities in Access to Health Services in India: Caste, Class and Region”, *Economic and Political Weekly*, Vol- 45, No. 38.
- **Bhagat, R. B. (2011):** “Emerging Pattern of Urbanization in India”, *Economic and Political Weekly*, Vol- 46, No. 34, Aug 20.

- **Business Standard (2007):** “Plan to Develop Bhubaneswar, Cuttack”, Bhubaneswar, Daily News Paper, March 21.
- **Childress, et al (2002):** “Public Health Ethics: Mapping the Terrain”, Journal of Law Medicine and Ethics, Vol-30, No. 2, pp 170- 78.
- **Jena, M. (2008):** “Pollution in the Mahanadi: Urban sewage, Industrial Effluents and Biomedical Waste”, Economic and Political Weekly, Vol- 43, No. 20, May 17.
- **Kundu, A. (2009):** “Exclusionary Urbanisation in Asia: A Macro Overview”, Economic and Political Weekly, Vol- 44, No. 48, Nov 28.
- **----- (2011):** “Politics and Economics of Urban Growth”, Economic and Political Weekly, Vol- 46, No. 20, May 14.
- **Mahadevia, D. (2011):** “Branded and Renewed? Policies, Politics and Processes of Urban Development in the Reform Era”, Economic and Political Weekly, Vol- 46, No. 31, July 30.
- **Pathak, C. R. (2004):** “Towards an Urbanization Policy in India”, Institute of Town Planners, India Journal, Vol- 1, No. 3, pp 70 - 72, Available at: <http://itpi.org.in/pdfs/july2004/chapter9.pdf>, Last accessed on 22 June 2012.
- **Priya, R. (1993):** “Town Planning, Public Health and Urban Poor: Some Explorations from Delhi”, Economic and Political Weekly, Vol-28, No. 17, pp. 824 - 834, April 24.
- **Qadeer, I. (1985):** “Health Service System in India: An Expression of Socio Economic Inequalities”, Social Action, Vol-35, No. 3, pp. 199-223, July.
- **Rout, N. R. (2008):** “Slum growth in Bhubaneswar: A Problem or Solution?”, Institute of Town Planners, India Journal, Vol- 5, No. 4, pp 59- 64, Available at: http://itpi.org.in/content/pdfs/journal_5x4/07_Nihar%20Ranjan%20Rout.pdf, Last accessed on 24 June 2012.
- **Sclar, D. (2003):** “Slum, Slum Dwellers and Health, Editor’s Choice, American Journal of Public Health, September, Vol 93, No 9, pp 1381, Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447975/pdf/0931381.pdf>, Last accessed on 05. June 2012.
- **-----, et al (2005):** “The 21st Century Health Challenge of Slums and Cities”, Lancet, Vol- 365, pp 901-903, Available at: <http://www.unmillenniumproject.org/documents/TheLancetSlums.pdf>, Last accessed on 05 June 2012.
- **Sengupta, B. K. and Mandal, G. (2010):** “Regional Development Through Perspective Plan for Bhubaneswar-Cuttack Urban Complex (BCUC): Vision 2030”, World Academy of Science Engineering & Technology, Vol- 66, pp 297, June.
- **Times of India, (2012):** “City Civic Body Plans Advanced Street Lighting”, Bhubaneswar, Daily News paper, Feb 06.

WEBSITES / ONLINE ACCESSES

- **Archive for the Pragativadi Category:** “A Platform to Discuss and act about Infrastructure Development of Odisha”, Available at: <http://www.orissalinks.com/orissagrowth/topics/urban-renewal/bhubaneswar>, Last accessed on 01 March 2012.
- **Bhubaneswar Municipal Corporation:** (official website) Available at: <http://www.bmc.gov.in/BMCProfile.asp?lnk=1&PL=4>, Last accessed on 15 June 2012.
- **Burgess, E. W. (1920):** “Three Models of Urban Land Use”, Available at: <http://geoearth.uncc.edu/people/hcampbell/landuse/3models.html>, Last accessed on 12 March 2012.
- **Department of Architecture and Regional Planning (ND):** “Perspective Plan Vision- 2030 and Comprehensive Development Plan for Bhubaneswar-Cuttack Urban Complex: A Concept Paper”, IIT Kharagpur, Available at: <http://www.orissa.gov.in/housing&urban/Vision-2030/Concept%20Paper-VISION-2030.pdf>, Last accessed on 16 June 2012.
- **Draft National Slum Policy:** Govt of India, Available at: <http://www.whoindia.org/LinkFiles/PolicySlum-Policy-2001.pdf>, Last accessed on 19 June 2012.
- **Housing and Urban Development Department (ND):** “City Bus Service in Bhubaneswar and Puri on PPP Mode & Reforms”, Govt. of Orissa, Available at: http://www.cseindia.org/userfiles/saurabh_garg.pdf, Last accessed on 15 June 2012.
- **Ministry of Urban Development (ND):** “JnNURM, City Development Plan of Bhubaneswar”, Govt. of India, Available at: <http://jnnurm.nic.in/cdp-of-bhubaneshwar.html>, Last accessed on 03 March 2012.
- -----, “JnNURM, Overview” , Govt. of India, Available at: <http://jnnurm.nic.in/wp-content/uploads/2011/01/PMSpeechOverviewE.pdf> , Last accessed on 24 June 2012.
- -----, “JnNURM, Towards Better Cities...” , Govt. of India, Available at: <http://jnnurm.nic.in/wp-content/uploads/2010/12/broucher.pdf>, Last accessed on 03 March 2012.
- **Mishra, M, et al (2005):** “Urban Sprawl Mapping and Land Use Change Analysis Using Remote Sensing and GIS, (Case study of Bhubaneswar City, Orissa)”, Available at: <http://www.geospatialworldforum.org/2011/proceeding/pdf/Monalisha.pdf>, Last accessed on 05 Nov. 2012.
- **Planning and Co-ordination Department (2007):** “Orissa Public Private Partnership Policy- 2007”, Govt. of Orissa, Available at: http://203.129.205.48/OGPV3/ORISSA PPPPolicy_2007.pdf, Last accessed on 20 June 2012.

- **Planning Commission (2009):** “Eleventh Five Year Plan: Bharat Nirman and Flagship Programmes, Chapter- 6”, Available at: http://planningcommission.nic.in/plans/planrel/fiveyr/11th/11v3/11v3_ch6.pdf, Last accessed on 29 June 2012.
- -----, “Flagship Programme including Bharat Nirman Programme”, Govt. of India, Available at: <http://pbplanning.gov.in/pdf/Flagship%20Programme%2030-9-09.pdf>, Last accessed on 29 June 2012.
- **Press Information Bureau (ND):** “State Wise Booklets on Flagship Programmes on Four Years of UPA Government”, Govt. of India, Available at: <http://pib.nic.in/archieve/flagship/english/benglish.asp>, Last accessed on 30 June 2012.
- **PRUDA (2010):** “Draft City Sanitation Plan”, Bhubaneswar, Available at: http://urbanindia.nic.in/programme/uwss/CSP/Draft_CSP%5CBBSR_CSP.pdf, Last accessed on 15 June 2012.
- **Turkstra, J. and Raithel Huber, M. (ND.):** “Urban Slum Monitoring”, Available at: <http://proceedings.esri.com/library/userconf/proc04/docs/pap1667.pdf>, Last accessed on 17 June 2012.
- **UN Millenium Project, (2005):** “Task Force on Improving the Lives of Slum Dwellers: A Home in the City”, Available at: <http://www.unmillenniumproject.org/documents/SlumDwellers-complete.pdf>, Last accessed on 06 June 2012.
- **UN-HABITAT, (2006):** “State of the World’s Cities”, Available at: http://www.unhabitat.org/documents/media_centre/sowcr2006/SOWCR%205.pdf, Last accessed on 24 June 2012.
- **Verweij, M. and Dawson, A. (2007):** “Ethics, Prevention, and Public Health”, Clarendon Press, Available at: http://books.google.co.in/books/about/Ethics_Prevention_and_Public_Health.html?id=BJpLoRKuAIOC&redir_esc=y, Last accessed on 17 June 2012.
- **“Infrastructure”,** Draft Report, Chapter- 5, Available at: http://www.odisha.gov.in/forest&environment/pdf/Chap_5.pdf, Last accessed on 15 June 2012.
- **“Location of Orissa in India map”,** Available at: <http://www.mapsofindia.com/maps/orissa/orissalocation.htm>, Last accessed on 05 June 2012.
- **“Mainstreaming Institutionalization of Disaster Risk Reduction”,** Bhubaneswar, Orissa, India, 2011, Available at: http://www.unisdrapps.net/confluence/download/attachments/9994280/ISDR_BBSR_Report_25.02.2011.pdf?version=1, Last accessed on 05 March 2012.
- **“Orissa Outline Map”,** Available at: <http://www.mapsofindia.com/maps/outlinemaps/orrissa.htm>, Last accessed on 05 June 2012.

- **“Primary Health Care in India: Review of Policy, Plan and Committee Reports”**, Available at: [http://www.whoindia.org/LinkFiles/CommissiononMacroeconomic and Health Primary Health Care in India Review of Policy Plan and Committee Reports.pdf](http://www.whoindia.org/LinkFiles/CommissiononMacroeconomicandHealthPrimaryHealthCareinIndiaReviewofPolicyPlanandCommitteeReports.pdf), Last accessed on 19 June 2012.
- **“Social & Economic Aspects”**, Draft Report, Chapter- 4, Available at: http://www.orissa.gov.in/forest&environment/pdf/Chap_4.pdf, Last accessed on 12 April 2012.
- **“Weather and Climate of Bhubaneswar”**, Orissa Tourism, Available at: <http://www.orissatourism.org/travel-to-orissa/bhubaneshwar/bhubaneswar-weather.html>, Last accessed on 25 March 2012.
- **World Bank (2011):** “More than Half the World is Now Urban, UN Report Says”, News and Broadcast, Available at: <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21405637~pagePK:64257043~piPK:437376~theSitePK:4607,00.html>, Last accessed on 08 June 2012.

OTHERS

- **Mallick, S. K. (2010):** “The Lesser Known Temples of Bhubaneswar: Enquiries in Art, Architectures and Patronage”, unpublished M. Phil dissertation, submitted to Jawaharlal Nehru University, New Delhi.
- **Routray, S. K. (2003):** “Urban Planning and Public Health Consequences for Poor Migrants: A Study of Delhi”, unpublished M. Phil dissertation, submitted to CSMCH, JNU, New Delhi.

ANNEXURE – I:

‘WHO’ PRINCIPLE FOR DEVELOPING A HEALTHY CITY PROJECT

WHO Principles for Developing a Healthy Cities Project

- **Equity** All people must have the right and the opportunity to realize their full potential in health.
- **Health promotion** A city health plan should aim to promote health by using the principles outlined in the Ottawa Charter for Health Promotion (Annex 1): build healthy public policy; create supportive environments; strengthen community action and develop personal skills; and reorient health services.
- **Intersectoral action** Health is created in the setting of everyday life and is influenced by the actions and decisions of most sectors of a community.
- **Community participation** Informed, motivated and actively participating communities are key elements for setting priorities and making and implementing decisions.
- **Supportive environments** A city health plan should address the creation of supportive physical and social environments. This includes issues of ecology and sustainability as well as social networks, transportation, housing and other environmental concerns.
- **Accountability** Decisions of politicians, senior executives and managers in all sectors have an impact on the conditions that influence health, and responsibility for such decisions should be made explicit in a clear and understandable manner and in a form that can be measured and assessed after time.
- **Right to peace** Peace is a fundamental prerequisite for health and the attainment of peace is a justifiable aim for those who are seeking to achieve the maximum state of health for their community and citizens.

Source: World Health Organization (1997).

Source: - J. Corburn, (2009), *Towards the healthy*, pp - 8

ANNEXURE – II:

‘WHO’ CHARACTERISTICS OF HEALTHY CITY

WHO Characteristics of a Healthy City

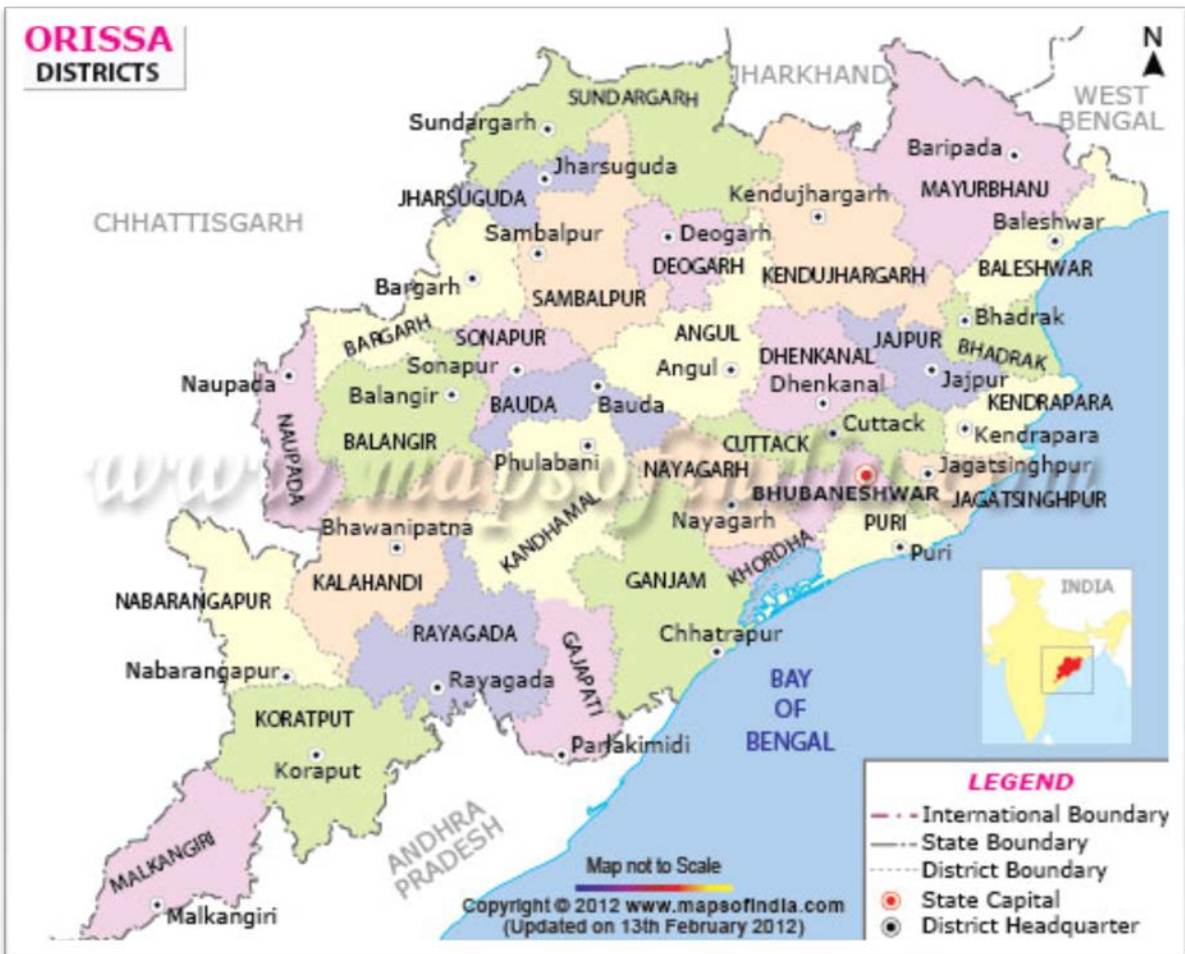
- A clean, safe physical environment of a high quality (including housing quality)
- An ecosystem that is stable now and sustainable in the long term
- A strong mutually supportive and nonexploitative community
- A high degree of participation, and control, by the citizens over the decisions affecting their lives, health, and well-being
- The meeting of basic needs (food, water, shelter, income, safety, and work) for all the city’s people
- Access by the people to a wide variety of experiences and resources, with the chance for a wide variety of contact, interaction, and communication
- A diverse, vital, and innovative economy
- The encouragement of connectedness with the past, with the cultural and biological heritage of city dwellers, and with other groups and individuals
- A form that is compatible with and enhances the preceding characteristics
- An optimum level of appropriate public health and sickness care services, accessible to all
- High health status (high levels of positive health and low levels of disease)

Source: World Health Organization (1995).

Source: - J. Corburn, (2009), *Towards the healthy*, pp - 7

ANNEXURE – III:

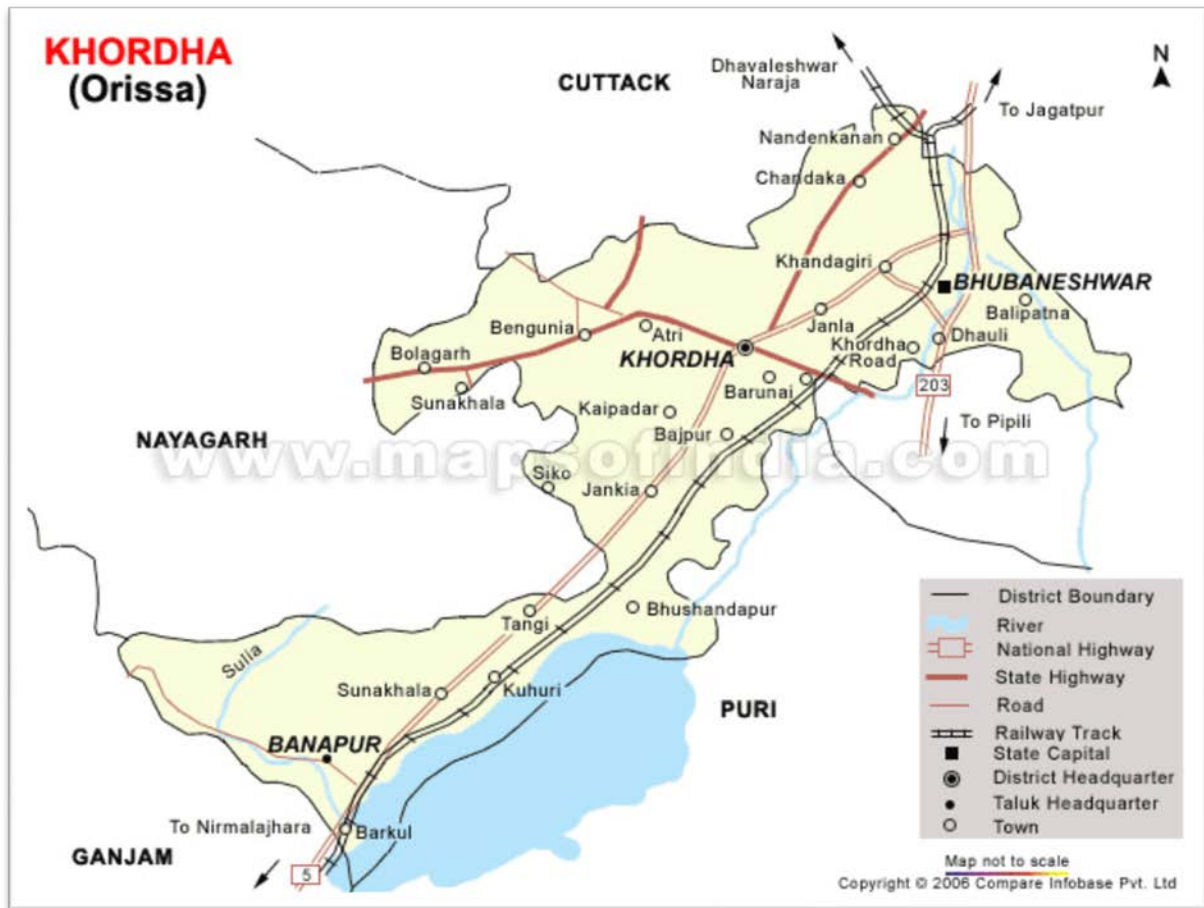
MAP OF ODISHA WITH DISTRICT BOUNDARIES



Source: - <http://www.mapsofindia.com/maps/orissa/orissa.htm#>, Last accessed on 25 June 2012

ANNEXURE – IV:

MAP OF KHORDHA DISTRICT LOCATING BHUBANESWAR CITY, ODISHA



Source: - <http://www.mapsofindia.com/maps/orissa/districts/khordha.htm#>
Last accessed on 25 June 2012

ANNEXURE – V:

IMPORTANT MILESTONES IN DEVELOPMENT OF THE BBSR CITY

BHUBANESWAR IN A DEVELOPMENTAL SHIFT AFTER INDEPENDENCE		
<i>1948: Otto H. Koeningsberger has prepared the Master Plan for the Bhubaneswar City as the new capital City of Odisha. Late Pandit Jawaharlal Nehru, the then Prime Minister of India, laid foundation stone.</i>	Bhubaneswar Notified Area Committee	<i>Bhubaneswar was established with a population numbering less than 20,000 during the year 1948 (13.04.1948) as per the Bihar Orissa Municipal Act – 1922, comprising 4 revenue villages, viz. Old Town, Kapileswar, Kapilaprasad and Samantarapur.</i>
<i>1968: The GoO has created a special planning Authority for the Bhubaneswar City. The Directorate of Town Planning of the GoO has prepared a draft Master Plan for the city (known as First Master Plan).</i>	Bhubaneswar Notified Area Council	<i>Notified Area Committee became Notified Area Council during 01.10. 1952 as per the Orissa Municipal Act – 1950 and the area of the town was expanded to other Revenue Villages adjacent to Bhubaneswar such as Nayapali, Baramunda, Laxmisagar, Baragada, Jharpada, etc.</i>
<i>1976: Bhubaneswar Regional Improvement Trust (BRIT) was formed.</i>		
<i>1977: First Master Plan for the Bhubaneswar City was submitted to the GoO for approval.</i>		
<i>1983: Bhubaneswar Development Authority (BDA) was constituted under the provision of Orissa Development Authorities Act, 1982.</i>	Bhubaneswar Municipality	<i>During the year 1979, it was observed that the town grew beyond expectation and the population of the town became one lakh. Some of the major development initiatives like National Highway – 5, South East Railway, etc. Have taken major role for expansion of Bhubaneswar City and the population of the city was more than 2 laks at that time. Thus, the then Municipal Development Department declared the Bhubaneswar Notified Area Council as a Municipality (29.03.1979).</i>
<i>1983: The GoO approved the First Master Plan for the Bhubaneswar City and the same Master Plan was treated as an interim development plan for Bhubaneswar.</i>		
<i>1994: The BDA has prepared the Comprehensive Development Plan for and was approved by the GoO.</i>		
<i>1995: The Comprehensive Development Plan for Bhubaneswar came into operation.</i>	Bhubaneswar Municipal Corporation	<i>Subsequently, the population increased to more than 4 lakhs and new revenue villages were included in the city. Being the State Capital, Bhubaneswar Municipality was upgraded to a Municipal Corporation vide notification No. 24148 dated 18.07.1994, issued by the Housing & Urban Development Department, GoO.</i>
<i>2006: The City Development Plan (CDP) under JnNURM has come into effect.</i>		
Source: - Govt. Of Orissa (2006): Bhubaneswar City Development Plan, Bhubaneswar		

ANNEXURE – VI:

CLASSIFICATION OF DISEASES (REPORTED MORBIDITY)

Sl. No.	Disease Category	Name / Type of the diseases
01	Common symptoms of minor illness	Cold cough, Cold fever, Eosinophilia, Fever, head ache, body ache, weakness
02	Parasitic disease	Brain Malaria, Malaria fever, Typhoid, Filaria, Chikungunia
03	Injuries, and poisoning	Accidental Injury, Bone fracture, Dog bite
04	Disease of the skin and sensory organs	Ear discharge, Eye ache, Eyesight Problem, Skin itching, Eczema
05	Surgical procedure undergone	Abdominal Surgery, Post surgery infection, Appendicitis
06	Joints & Neuromuscular disease	Arthritis, Paralysis, Joint pain, waist pain, fits, mentally ill
07	Disease of the respiratory system	Asthma, Respiratory Problem, Tuberculosis, Post TB weakness
08	Blood & Cardiovascular disorder	Blood Pressure, Heart attack, Chest pain, anemia
09	Digestive & metabolic disorders	Diabetes, Diarrhea, Dysentery, Gastric, piles, Stomach ache, Throat infection, Tooth ache, Vomiting, Jaundice
10	Urinary, Reproductive & Obstetric problem / disorders	Obstetric problem / antenatal disorder, Urine Infection, Kidney problem
11	Others	Chicken pox, Goiter, Hydrocele, Physically Handicapped

ANNEXURE – VII:

MAJOR FLAGSHIP PROGRAMMES OF GOVT. OF INDIA

1. **Sarva shiksha Abhiyan (SSA):** The Sarva Shiksha Abhiyan was conceived as a centrally sponsored scheme at the end of the Ninth Five Year Plan to improve the educational status through interventions designed to improve accessibility, reduce gender and social gaps and improve the quality of learning. The SSA laid down a framework for achieving the goals of universal enrolment through time bound targets. The objective of this programme is to provide educational facility to all children of 6 to 14 years of age.
2. **Mid-day Meal Scheme (MDM):** Under the MDM Programme, hot cooked meal of a minimum 300 calories and 8 - 12 grams of protein is being provided to children studying in primary schools. This programme is expected to help in Universal Elementary Education by improving enrolment and regularity of attendance, by reducing drop-outs, and by improving children's level of learning and self esteem.
3. **Integrated Child Development Services Scheme (ICDS):** The ICDS scheme aims at enhancing the health, nutrition and learning opportunities of infants, young children (0- 6 years) and their mothers. This scheme provides an integrated approach for converging basic services through community-based workers, viz. Anganwadi Workers and Helpers.
4. **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA):** This programme is initiated to provide legal guarantee of work and to transform 'the geography of poverty'. It envisages securing the livelihood of people in rural areas by guaranteeing 100 days of employment in a financial year to a rural household. The Act provides a social safety net for the vulnerable households and an opportunity to combine growth with equity.
5. **Jawaharlal Nehru National Urban Renewal Mission (JnNURM):** The aim of this programme is to encourage reforms and fast track planned development of identified cities. Its focus is on efficiency in urban infrastructure and service delivery mechanisms, community participation accountability of Urban Local Bodies towards citizens.

6. **National Rural Health Mission (NRHM):** The National Rural Health Mission launched in April 2005; aims to provide accessible, affordable and accountable quality health services to the rural poor. The objectives of the mission includes reduction in child and maternal mortality, universal access to health care services, prevention and control of communicable and non-communicable diseases, population stabilization, revitalization of local health traditions, mainstreaming AYUSH and promotion of healthy life style.
7. **Total Sanitation Programme (TSP):** This programme was originally envisaging construction of household toilets, schools, Anganwadi sanitation and community complex with overall behavioral changes in the rural habitation. In March 2006, the Government of India made certain changes by increasing the cost for individual household latrines and by incorporating new item of solid and liquid waste management and provision for revolving fund.
8. **National Social Assistance Programme (NSAP):** It envisages Pension schemes, Family Benefit schemes and Scholarship schemes to the students.
9. **Backward Regions Grant Fund (BRGF):** The backward Regions Grant Fund has replaced the Rastriya Sam Vikas Yojana (RSVY) in order to provide a more participative approach through the involvement of Panchayat Raj Institutions (PRIs). This scheme aims at help in convergence and adds value to other programmes that are explicitly designed to meet rural infrastructural needs.
10. **Rashtriya Krishi Vikas Yojana (RKVY):** The Rastriya Krishi Vikas Yojana was lunched to address the slow growth of agriculture and allied sectors with meet the needs of the farmers in the country.
11. **National Horticulture Mission (NHM):** The National Horticulture Mission is being implemented through the District Horticulture Development Societies. The schemes under the NHM are establishment of new orchards of fruits, flowers, spices and medicinal plants, development of nurseries to produce quality planting materials, seed production programme, rejuvenation of old orchards, development of water sources, establishment of green houses, shade nets, promotion of bee keeping, organic farming, certification of organic farming, vermin compost production and cold storages etc.

BHARAT NIRMAN PROGRAMMES

The Bharat Nirman Programme has been a major initiative conceived as a time-bound plan for the rural infrastructure during 11th Five Year Plan, by the Government of India.

Following are the six components covered under the programme:

a. **Rural Electrification**

Rajiv Gandhi Gramin Vidyutikaran Yojana (RGGVY): Electricity has become one of the basic human needs. Rural electrification is a vital programme for socio-economic development of rural area. The RGGVY aims at providing electricity in all villages, and connections to BPL families are given free of cost.

b. **Rural Water Supply**

National Rural Drinking Water Programme (NRDWP): This programme's instrument is Accelerated Rural Water Supply programme (ARWSP) under implementation since 1972-73. It has been modified as NRDWP in 2009-10 with major emphasis given on ensuring sustainability in terms of potability, adequacy, convenience, affordability and equity organization.

c. **Rural Housing:** The Bharat Nirman Programme has recognized and accorded due priority to the need to end the shelter-lessness of the rural households. The housing component under the programme is being implemented in parallel with Indira Awas Yojana (IAY), which addressing the housing shortage an important component of poverty alleviation in rural India.

d. **Rural Road**

Pradhan Mantri Gram Sadak Yojana (PMGSY): The goal of the PMGSY is to provide connectivity to all habitations with population of 1000 persons and above (500 in case of hilly and tribal area). Presently the population norm changed and is 500 persons in case of plain and 250 person in case of hilly or tribal area.

e. **Rural Telephony:** Under the Bharat Nirman Programme revenue villages those not having telephone connectivity are to be provided with Village Public Telephone (VPT).

f. **Irrigation**

Accelerated Irrigation Benefit Programme (AIBP): This programme was formulated in the year 1996 by the Government of India in order to provide financial assistance to States to complete various ongoing multipurpose irrigation projects in the country so as to extent irrigation to more areas. Over a period of time the scope of the programme has widened.

ANNEXURE – VIII:

LIST OF KEY INFORMANTS AND FGDs

Key Informants (Ki)	Identity of the Key Informants	Discussed Topics
Ki1	Shopkeeper, Sarnapali, Saliasahi	Role of BMC in slum development. Slum development programmes implemented by the government.
Ki2	Church Priest, Sarnapali, Saliasahi	Spirituality and health. Treatment system adopted by the slum people.
Ki3	ANM, Nilachakranagar, Saliasahi	Diseases pattern, treatment seeking behaviours. Surrounding health care institutes and their role in provisioning health care to the slum people.
Ki4	School teacher, Nilachakranagar, Saliasahi	Educational institutes in slums. Parents' employment and enrolment of students in schools inside the slum.
Ki5	Govt. Employee, Nilachakranagar, Saliasahi	Basic infrastructures in the slums in Bhubaneswar city and its provisioning by the government. Common health problems of the slum people, source of health care. Traditional system of healing adopted by the people in the slums.
Ki6	NGO worker/resident, Mayfair Nagar, Saliasahi	Role of NGOs in slum development. Housing, water supply, sanitation and economy of the slum people.
Ki7	Anganwadi worker, Mayfair Nagar, Saliasahi	ICDS and its benefits to the slum people. Common diseases in the slum.
Ki8	Educated youth, Mayfair Nagar, Saliasahi	Employment pattern of the slum people in the city. Source of employment, wages and facilities at work place.
Ki9	Senior resident, IDCO Nagar, Saliasahi	Emergence and establishment of slums in the city. Problems in the city now and then.
Ki10	Private Employee, IDCO Nagar, Saliasahi	General understanding of health by the slum people. Knowledge of slum development schemes implemented in the city including JnNURM and RAY.
Ki11	Shopkeeper, Aditya Nagar, Saliasahi	Major causes of changes of residents by the people, from one slum to another in the same city.
Ki12	New immigrant, Aditya Nagar, Saliasahi	Problems in getting a house in the city to reside. Life in slums as compared to the rural village. Availability of basic services.

LIST OF KEY INFORMANTS AND FGDs (Continued from previous table)

Key Informants (Ki)	Identity of the Key Informants	Discussed Topics
Ki13	Youth wage labourer, Shakti Nagar, Saliasahi	Health problems of the wage labourers in the slums. Care seeking behaviours and role of the place of origins.
Ki14	Committee President, Santoshi Nagar, Bharatpur	Development of committees in slums. Role of committees in managing the living units. Politics in slum development.
Ki15	NOG worker, Santoshi Nagar, Bharatpur	Type of government benefits accessed by the households who have RoR. Problems faced by the households those do not have RoR in the slums.
Ki16	Anganwadi worker, Chandeswar, Bharatpur	ICDS and health of the children and women in the slum. Role of government and other stakeholders in improving the health of these vulnerable groups.
Ki17	Daily wage labourer, Chandeswar, Bharatpur	Problems of non-recognised slums in the city. Accessed to the PDS and other benefits from the government.

Note: - All the discussions undertaken are related to the concern slums, from which the key informants belong to or their field of operations. Other persons were also involved in discussions in some part of the slums besides the key informants. But, for convenient the discussions were named under the key informants only.

FOCUSED GROUP DISCUSSIONS

FGDs	Discussed Topic	Place of Discussion	Participants
FGD1	Major health problems, their causes and treatment.	Saliasahi (ward no15)	Youth group
FGD2	Participation in local governance, Planning for their slum (committees), Understanding about various govt. schemes, Benefits from those schemes.	Saliasahi (ward no16)	Committee members, educated senior members in the slum
FGD3	Major health problems, their causes and treatment. Govt. benefits to the households who have RoR and who do not have RoR.	Bharatpur (ward no 17)	Committee members, Youth, Volunteers

ANNEXURE – IX:

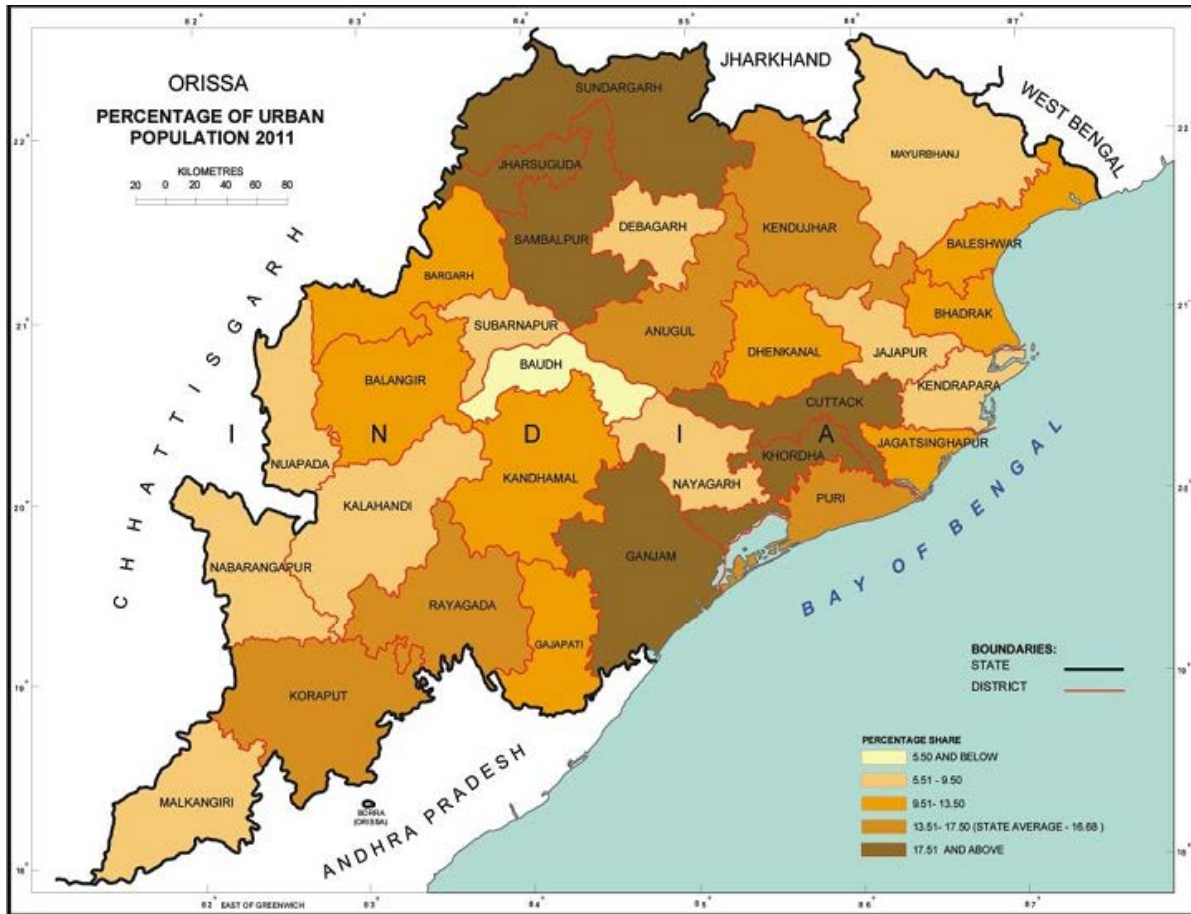
REFORM PRIMERS OF JNNURM

Sl. No.	PRIMERS FOR MANDATORY REFORMS
01	e-Governance
02	Municipal Accounting
03	Property Tax
04	Rationalization of Stamp Duty
05	Community Participation Law
06	Public Disclosure Law
07	Repeal of Urban Land Ceiling & Regulation Act (ULCRA)
08	Implementation of the 74th Constitutional Amendment and Integration of City Planning and Delivery Functions
09	Rent Control Reform
10	Provision of Basic Services to Urban Poor
11	User Charges
12	Internal Earmarking of Funds for Services to Urban Poor
	PRIMERS FOR OPTIONAL REFORMS
13	Introduction of Computerized Process of Registration of Land and Property
14	Administrative Reforms
15	Encouraging Public Private Partnership
16	Revision of Bye laws to Make Rainwater Harvesting Mandatory
17	Reuse of Waste water
18	Structural Reforms
19	Revision of Building Bylaws to Streamline the Approval Process-Optional Reform
20	Implementation of The 74th Constitutional Amendment
21	Simplification of Legal and Procedural Framework for Conversion of Agricultural Land to Non-Agricultural Purposes
22	Land for Poor
23	Introduction of Land Title Certification System

Source: - Ministry of urban Development, JnNURM, Government of India, Available at: <http://jnnurm.nic.in/primers.html>, Last accessed on 30 June 2012.

ANNEXURE – X:

PERCENTAGES OF URBAN POPULATION IN ODISHA (CENSUS 2011)



Source:- Census Report of India, 2011, Provisional Populations Total
(Orissa: percentage of urban population)

INTERVIEW SCHEDULE

INTERVIEW SCHEDULE FOR THE HOUSEHOLD

Topic of the research:

Public Health Issues in Urban Planning: Understanding JnNURM in Bhubaneswar City, Odisha.

Centre of Social Medicine and Community Health, Jawaharlal Nehru University, New Delhi - 110067

The information collected from the respondents will be use only for Academic purpose.

Objectives of the study:

- To analyse the Planning Process of Health and Urban Development in Bhubaneswar city.
- To examine the Trends and Patterns of Urbanisation in Bhubaneswar city.
- To Study the Planning Process of Bhubaneswar Municipal Corporation under JnNURM.
- To examine the Illness and Source of Care seeking among the urban poor in the Study Area.
- To understand the access to Public Health Services (safe drinking water, toilets, sanitation and road connectivity) by urban poor in the Study Area.
- To study the Benefits derived by the people in the Study Area under JnNURM.

A000 GEOGRAPHICAL IDENTITY

A001 Name of the Slum (Social Map)	
A002 Name of the hamlet/committee/Sahi:	
A003 Ward No:	

H100 RESPONDENT'S PROFILE

H101 Name of the Respondent:	
H102 Address:	
H103 Caste (use verbatim): (General=1, SC=2, ST=3, OBC=4, Others; Specify)	
H104 Sub caste (verbatim):	
H105 Religion: (Hindu=1, Muslim=2, Christian=3, Buddhist=4, Others; Specify)	
H106 Mother tongue:	

H200 HOUSEHOLD PROFILE

H201 Household Composition (Referrer last page of the schedule)	
H202 Household size:	
H203 Ownership Status: (Own house=1, Rented=2, By govt. Schemes=3, Others; specify)	
H204 Whether you have Record of Right/patta of your home stead land: (Yes=1, No=2)	
H205 If provided by the government then mention in details (name of the scheme, total fund allotted etc.)	

INTERVIEW SCHEDULE

H206	If rented; rent per month (Rs.):
H207	Type / Structure of the House: (Kachcha=1, Semi Pucca=2, Pucca=3)
H208	Number of rooms in the house:
H209	Ventilation in the room: (Yes=1, No=2)
H210	If yes then, type of ventilation: (Skylight in all rooms=1, Skylight only one room=2, Windows in all rooms=3, Window at least one room & no skylight=4, Window at least one room=5, Window at least one room & skylight=6, Others; specify)
H211	Separate cooking space: (Yes=1, No=2)
H212	If yes, then (kitchen=1, cooking space outside the house=2, Others; specify)
H213	Cooking fuel: (Electric heater=1, Solar heater=2, LPG=3, kerosene stove=4, Wood=5, Coal=6, Hay & dry leaves=7, Cow dung=8, Agricultural waste=9, Gobar gas=10, Others; specify)
H214	Whether the house electrified: (Yes=1, No=2)
H215	If yes, then who has provide it: (Govt.=1, Self financing=2, Sharing with neighbour=3, Others; specify)
H216	Use specification of electricity: (Only for lightening room=1, Lightening, fan and other use=2, Others; specify)
H217	Mention the source of light in the house (if there is no electrification): (Kerosene lamp=1, Lantern=2, Petromax=3, Gaslight=4, Candle=5, Others; specify)
H218	Household assets ownership: (Radio=1, Black & white TV=2, Colour TV=3, LCD/LED TV=4, Telephone-Landline=5, Cell-phone=6, Washing Machine=7, Refrigerator=8, Desktop=9, Laptop=10, CD/DVD Player=11, Generator=12, Inverter=13, Bicycle=14, Two Wheeler=15, Four Wheeler=16, Auto-Rickshaw=17, any other; specify)
H219	Do you have own a house elsewhere: (Yes=1, No=2)
H220	If Yes, then where is it? (At your place of Origin=1, In other area in this city=2, Others; specify)

H300 DOMESTIC HELP (DOMESTIC LABOUR)

H301	Does anyone work in your house as a domestic helper: (Yes=1, No=2)
H302	If yes, then nature of work she /he does, wages given to her / him:
H303	Does any member of your house work as a domestic helper outside: (Yes=1, No=2)
H304	If yes, then where does she /he go for the work: (exact address may provide)
H305	Distance of work place from your residence (in km):

INTERVIEW SCHEDULE

H306	Nature of work and duration per day (in hrs.):
H307	Wages per day / per month (in Rs):
H308 some	Whether the wages deducted if he/she can't go to work for a day/few days for some reason (illness for instance)?
H309	Any instance of ill-treatment by the household where the member is working as domestic help? Give in specific.

H400 WATER AND SANITATION

H401	Source of Drinking Water: (Own hand pump=1, Tube well=2, Public hand pump=3, Tap in dwelling=4, Public tap at stand post=5, Own protected dug well=6, Own unprotected dug well=7, Public unprotected dug well=8, Public protected dug well=9, Municipality tanker=10, Others; specify)
H402	Distance of the Source of drinking water (mtrs.):
H403	Does the waste water from the household go to the outside drain? (Yes=1, No=2)
H404	Does the waste water from the household stagnate outside the house? (Yes=1, No=2)
H405	Does the stagnate water from your house collected by Sanitation work? (Yes=1, No=2)
H405	Treatment of water for Drinking: (Electronic Purifier=1, Filter=2, Chlorinate=3, Boil=4, Bleach=5, Use of Alum/Phitikiri=6, Use without treatment=7, Others; specify)
H406	Source of water used other than drinking (bathing, washing clothes and cleaning / flushing house): (Same as of drinking purpose=1, Others; specify)
H407	Do you have toilet facility: (Yes=1, No=2)
H408	If yes, then location of the toilet: (Inside house=1, Outside the house for one household=2, Outside the & sharing=3, Public toilet=4, Others; specify)
H409	Specification of the toilet: (Fully concrete structure=1, Only base is concrete=2, Septic tank=3, Pit latrine=4, Covered dry latrine=5, Others; specify)
H410	Whether it constructed under total sanitation campaign: (Yes=1, No=2)
H411	What was the cost incurred (in Rs.):
H412	Use of the toilet (Brief description):

INTERVIEW SCHEDULE

H500 HEALTH AND OTHER GOVT. BENEFITS UNDER VARIOUS SCHEMES

H501	Do you have Voter ID Card? (Yes=1, No=2)
H502	Do you have Ration Card? (Yes=1, No=2)
H503	Type of Card: (BPL=1, APL=2, AAY=3, Any others; specify)
H504	Do you / any of your family members get the following Pension benefits: (Old Age=1, Widow Pension=2, Ex-servicemen=3, Any other; specify)
H505	Any other benefits? (girls scholarship/ bicycle grant to girls student and any others)

H600 COVERAGE OF LIFE / HEALTH INSURANCE

H601	Do you / any of the family members currently have Health Insurance or Life Insurance? (Health Insurance=1, Life Insurance=2, Don't have any Insurance=3, Others; specify)
H602	Which agency provides it?
H603	How many members of your family covered under it (give details):
H604	Your opinion about Health insurance (both positive as well as negative):

H700 MORTALITY AND CAUSE OF MORTALITY

H701	If there occurred a death in the Household since last 3 years: (Yes=1, No=2)
H702	If yes then Age of the decease:
H703	Sex of the decease:
H704	Reported Cause of death:

INTERVIEW SCHEDULE

H816 Please describe about the life time episode / disease in brief (if any in your family):
H817 Did you ever borrow money / take loan for treatment of illness since last six months? (Didn't borrow=1, Borrowed without mortgage =2, Borrowed with mortgage=3, Loan from bank=4, loan from money lender=5, others; specify)
H818 Give details of the disease episodes and amount of money borrowed:
H819 Amount of money repaid? (Fully repaid=1, Half or less than half of total amount=2, Others; specify)

INTERVIEW SCHEDULES

INTERVIEW SCHEDULE FOR THE KEY INFORMANTS

<p>Topic of the research: Public Health Issues in Urban Planning: Understanding JnNURM in Bhubaneswar City, Odisha.</p>
<p>Centre of Social Medicine and Community Health, Jawaharlal Nehru University, New Delhi - 110067</p>
<p><i>The information collected from the respondents will be use only for Academic purpose.</i></p>
<p><u>Objectives of the study:</u></p> <ul style="list-style-type: none"> • To analyse the Planning Process of Health and Urban Development in Bhubaneswar city. • To examine the Trends and Patterns of Urbanisation in Bhubaneswar city. • To Study the Planning Process of Bhubaneswar Municipal Corporation under JnNURM. • To examine the Illness and Source of Care seeking among the urban poor in the Study Area. • To understand the access to Public Health Services (safe drinking water, toilets, sanitation and road connectivity) by urban poor in the Study Area. • To study the Benefits derived by the people in the Study Area under JnNURM.

A000 GEOGRAPHICAL IDENTITY

A001 Name of the Slum (Social Map)	
A002 Name of the hamlet/committee/Sahi:	
A003 Ward No:	

K100 RESPONDENT'S PROFILE

K101	Name of the Respondent:
K102	Address:
K103	Caste (use verbatim): (General=1, SC=2, ST=3, OBC=4, Others; Specify)
K104	Sub caste (verbatim):
K105	Religion: (Hindu=1, Muslim=2, Christian=3, Buddhist=4, Others; Specify)
K106	Mother tongue:
K107	Place of Birth:
K108	Place of last residence:
K109	Resident in the study area since:

INTERVIEW SCHEDULES

K200 COMMUNITY PROFILE

K201	Profile of the slum: [Number of sub areas; facilities; infrastructure; market/shops; PDS shops; sources of water; toilet facilities; drainage; roads and by lanes; housing type and building material; electrification; Health infrastructure UHPs (Urban Health Posts); AWCs; dispensary; schools, Tuition centres, Youth club; library; playground; place of worship; community centre; mobile clinics / creaches; Women SHGs; Voluntary Organisations etc]
K202	Community's Profile: (population size, men, women, children, elderly, youth, boys, girls, caste & religion)

K300 COMMUNITY HEALTH AND ILLNESS PROFILE

K301	What are the major diseases which people in this area fell ill with during last year (brief note with name of the diseases and time line)
K302	In case of illness, where do people generally go for treatment?
K303	Who are the care providers they mostly choose to get treated from? (doctors, paramedical staffs, ISM, others...(specify)
K304	Who are the care providers whom people visited to seek treatment for these illnesses in last one year (Probe public and private providers and average expenditure)
K305	In your opinion, how does the health centre function here? (Does it open in time? Are providers present, are medicines available)

K400 ACCESS TO THE HEALTH SERVICES

Do you know that your community has the following facilities for giving health care services; where are they located?

Facilities	Available inside the slum (Yes =1 No =0)	Location of Facility (if not available inside the slum)	Distance in km from home	Time taken to reach there (in hours/minutes)
Sub- Centre				
Primary health Centre (PHC)				
Anganwadi Centre (AWC)				
Dispensaries				
Private clinic				
Mother and child welfare centre				
Maternity Hut				

INTERVIEW SCHEDULES

Urban health Posts				
Private hospital/nursing home				
Family planning clinic				
Ayurvedic/Unani/Homeopathic dispensary				
Any other (specify)				

K500 WASTE MANAGEMENT IN THE SLUM

K501	How is the domestic waste water disposed?
K502	How is the waste water disposed from the slum?
K503	Describe the nature and type of drainage: (Concrete & Open=2, Concrete & Covered=2, Partially concrete & partially covered=3, Partially Concrete & Open=4, Earthen & Open=5, Natural flow=6, Others; specify)
K504	Who cleans the drains? (Municipality workers=1, Community people themselves=2, Contract workers by the Municipality=3, NGOs=4, Has not been cleaning=5, Any others; specify)
K505	Is there any community dustbin to dispose household solid waste? (Yes=1, No=2)
K506	If yes then, who installed the dustbin: (Municipality=1, NGOs=2 (name it), Any others; specify)
K507	Who collect the solid wastes from your community for its dispose? (Municipality=1, NGOs=2 (name it), No one collect it=3, Any other; specify)
K508	If there has no community dustbin, where do you dispose your household solid wastes?

K600 WATER SUPPLY, ROADS AND BY-LANES

K601	Type of approach road to the community: (Concrete=1, Cemented=2, Metal and Murom=3, Earthen=2, Others; specify)
K602	Type of road inside the community: (Concrete=1, Cemented=2, Metal and Murom =3, Earthen=4, Earthen footpath=5, Others; specify)
K603	Is the government water supply system functioning in your community? (Yes=1, No=2)
K604	If yes, then: (Stand posts water taps=1, Household level water supply=2, Daily municipality water tanker=3, Bore well water=4, Any other; specify)
K605	Duration of water supply:
K606	Is the supply adequate?

INTERVIEW SCHEDULES

K607	Do people need to store water?
K608	If there is no water supply by the government / municipality then from which source the community get water for its day to day life?
K609	What are other sources of water supply? (Bore well; hand pump; submersible motor)

K700 PUBLIC LAVATORIES

K701	Do you have community toilet or public toilet in your slum? (Yes=1, No=2)
K702	If yes then, it is run by [Municipality=1, NGO=2 (name it), Any other; specify]
K703	If not then: [people go for open defecation=1, Households have individual latrines=2 (brief description)]
K704	What are the problems faced by people, especially girls and women in open defecation?

K800 PEOPLE'S PARTICIPATION

K801	Do you have any committee/ body in this area to look into the matters of concern in the locality? (Yes=1, No=2)
K802	If yes, then its name:
K803	Which are these matters: (housing, health, sanitation water, educational facilities; specify)
K804	Who are the members of the committee?
K805	How are these members chosen?
K806	Have you ever participated in decision making process for the development of your community with the government / line department? (Yes=1, No=2)
K807	Do you have any community level meeting to address any health issue in your area to refer to the concern department? (Yes=1, No=2)
K808	Who organises these meetings?

INTERVIEW SCHEDULES

K900 URBANISATION AND MIGRATION

K901	When did this slum come into existence? How big was it then (Persons/ area)
K902	When you came to live here, how big was it? What are the changes (population, area, services, facilities, and infrastructure) you see since then?
K903	What are the problems which you think (people in the slum may be facing due to the following:
- Growing size of the city	
- Change (of residence) from one slum to the other	
- Migration into the city and into the slum	
- Pollution (vehicular, waste, noise) in and around the slum where you live	
- Means of livelihoods (getting one, and sustaining it)	
- Access to services (education, health, PDS)	

K1000 SPECIFIC ISSUES WHICH THE RESPONDENT WANT TO SHARE

K001	Any other specific issues you may want to talk about for development of the place and the people here?
K002	Do you know about the JnNURM? Its role in the city, and particularly in this slum?
<i>IF NOT FAMILIAR, THEN SOME INFO CAN BE GIVEN on HEALTH AND URBANISATION (That impacts upon food, livelihoods, nutrition, education...) RELATED ASPECT BE DISCUSSED</i>	

FOR INTERVIEWER

Name	Signature	Date

INTERVIEW SCHEDULES

INTERVIEW SCHEDULE FOR THE SERVICE PROVIDERS

Topic of the research:

Public Health Issues in Urban Planning: Understanding JnNURM in Bhubaneswar City, Odisha.

Centre of Social Medicine and Community Health, Jawaharlal Nehru University, New Delhi - 110067

The information collected from the respondents will be use only for Academic purpose.

Objectives of the study:

- To analyse the Planning Process of Health and Urban Development in Bhubaneswar city.
- To examine the Trends and Patterns of Urbanisation in Bhubaneswar city.
- To Study the Planning Process of Bhubaneswar Municipal Corporation under JnNURM.
- To examine the Illness and Source of Care seeking among the urban poor in the Study Area.
- To understand the access to Public Health Services (safe drinking water, toilets, sanitation and road connectivity) by urban poor in the Study Area.
- To study the Benefits derived by the people in the Study Area under JnNURM.

A000 GEOGRAPHICAL IDENTITY

A001 Name of the Slum (Social Map)	
A002 Name of the hamlet/committee/Sahi:	
A003 Ward No:	

S100 IDENTIFICATION PARTICULARS

S101 Name of the Service provider:	
S102 Address:	
S103 Caste (use verbatim): (General=1, SC=2, ST=3, OBC=4, Others; Specify)	
S104 Sub caste (verbatim):	
S105 Religion: (Hindu=1, Muslim=2, Christian=3, Buddhist=4, Others; Specify)	
S106 Mother tongue:	
S107 Place of Birth:	
S108 Place of last residence:	
S109 Resident in this community since:	
S110 Position/designation in the office: (Medical/Health officer =1, Para medicals=2, Sanitary inspector=4, Sanitation worker of BMC=5, Field level worker of BDA=6, AWW=7, Community Organiser of BMC=8, NGO worker=9, Other; specify)	
S112 Your area of coverage:	

INTERVIEW SCHEDULES

S200 TYPE OF SERVICE PROVIDERS

S201 Medical / Health Officer / For Paramedical staff:

S201 (i)	What types of patients are generally visited to this health centre?
S201 (ii)	What is the opening timing of this centre?
S201 (iii)	Do you have sufficient medicines available for the patients who visit this Health Centre?
S201 (iv)	What type of medicines do you preserve for emergencies?
S201 (v)	Where do you refer the patients for secondary treatment?
S201 (vi)	Do you have any fees collection from the patients?
S201 (vii)	What is the amount of fee? (its need, use)
S201 (viii)	Do you have to organise health camps for any specific diseases during any Day / week in this slum?
S201 (ix)	What are the obstacles you faced in providing services and how do you solve those?

S202 Health worker / visitor

S202 (i)	How many days (in a week) you visit this slum?
S202 (ii)	What are the specific services you have to do in this slum?
S202 (iii)	Is there any obstacles arise in providing those services?

S203 Sanitary Inspector

S203 (i)	Are you permanent or contractual worker? Since when you are working here? Nature of your work:
S203 (ii)	How many workers are working under your supervision?
S203 (iii)	How many workers are working in this slum under your supervision?

INTERVIEW SCHEDULES

S203 (iv) What is the frequency of your visit to this slum in monitoring the work?
S203 (v) What is the frequency of cleaning the drains and streets in this area/slum?
S203 (vi) What are the obstacles you faced in providing services in this slum?

S204 Sanitation Worker at specific slum

S204 (i) How many days (in a week) you have to work in this slum?
S204 (ii) What type of works you have to do here in this slum?
S204 (iii) Do you clean the drains as well as the streets (waste water and solid wastes)?
S204 (iv) What are your wages?
S204 (v) Do you have any protective gear/uniform/gadget that you use for your work? If yes who provided you with it?
S204 (vi) Do you face any problem in providing services in this slum? How do you overcome those?

S205 Anganwadi Worker

S205 (i) What type of services provided by your centre in this slum?
S205 (ii) What is the morbidity pattern in this slum and how do you handle those? (treatment, caring, counselling, reference for treatment)
S205 (iii) How do you cover the issues of domestic and local sanitation in the area? (Domestic- Water outlet, drains garbage; Local sanitation- cleaning of drains, lanes, water clogging)
S205 (iv) How do you cover the issues of personal hygiene of Children: Women: Adolescent girls:

INTERVIEW SCHEDULES

**S205 (v) Do you face any problem in providing services in the community?
Name those. How do you solve them?**

S206 NGO worker (health specific)

S206 (i) What are the specific services provided by your agency in this slum?

S206 (ii) How do you focus on the health of the community?

S206 (iii) Do you have any partnership with the government health providers in this slum?

S206 (iv) What are the major health problems you see in this slum?

**S206 (v) Do you have any problem / obstacles in providing health services in this slum?
Give details of the problem(s) and ways in which you overcome them**

**S300 How do you link your services with the Jawaharlal Nehru National Urban
Renewal Mission (JnNURM) in this slum? Give brief idea.**

FOR INTERVIEWER

Name	Signature	Date