CHAPTER-I

AN OVERVIEW OF THE RESEARCH

1.1 INTRODUCTION

One in every three people in the world will live in slums. Within 30 years unless governments control unprecedented urban growth, according to a UN report. The largest study ever made of global urban conditions has found that 940 million people, almost one-sixth of the world's population already live in squalid, unhealthy areas, mostly without water, sanitation, public services or legal security. The emergence of Slums is essentially the product of three forces: demographic dynamism of city, its incapacity to meet the rising demand for housing and existing urban land policies which prohibits the access of the poor to acquire land and they are left with no choice but make or take shelter illegally on any available piece of land. The term slum is being used by researchers and public authorities' differently. Nel Anderson (1970) focuses on the appearance, nature of population, over-crowding, and sanitary conditions.

The first chapter explains the introduction of the study, statement of problem, significance of study, aims, hypothesis, and data sources. In this chapter the researcher made an attempt to discuss historical prospects of slum, its various definitions and characteristics. It gives details about literature review relating to meaning, definition, evolution of slums. It also explains the problems and characteristics of slums in Mysore city. It also provides a brief introduction regarding geographical setting of the study area like, topography, geology, drainage, soil, vegetation and climatic conditions.

The United Nation defines slum as a group of buildings (or huts) unfit for human habitation, or area characterized by overcrowding, deterioration, unsanitary conditions or absence of facilities or amenities which present as a group or many of them endanger the health, safety or morals of the inhabitants or the community”. In other words, slums are result of haphazard and unplanned growth of urban population. Slums usually have inadequate ventilation, toilet and bathing facilities, these are clusters of dwellings that are damp and are often easily subject to health, fire and flood hazards.
Urbanization has been accompanied by growth of slums from the very inception of urban world. There is no exact date since when urbanization began to take place in society and exactly from where. However, some evidence points out that the first city was built at Jericho.

Some eleven thousand years ago, some ancient urban ruins in different continents show that there existed, cheek by jowl, the ramshackle habitats of the poor and the luxurious villas and places of rich and the rulers. It was the former, who fuelled the engine of civilization’s march towards today and on to the future. It designed deprivation of the former by the latter that brought into being the phenomenon of existence of slums in the wake of urbanization. Since the dawn of urbanization the existence of slums has become part and parcel of urban phenomenon. Large number of migrants, mostly from rural background moved to fast growing and industrializing cities in the hope to making a better living. They found their first homes at nominal rents and then went in-search of work to earn a livelihood. Subsequently, they identified a vacant piece of land (Private or Governmental) and constructed temporary living structures with the inflow of such people settlements become overcrowded and usually even the minimum basic facilities were not amiable and if available, they were not at all sufficient for the entire dwellers such settlements were called slums.

Urbanization and industrialization have led to increase slums population at rapid rate in India. Major cities of India like, Mumbai, Delhi, Kolkata, Chennai, Bangalore, Hyderabad and Mysore have experienced slums. Mumbai faces bitter experiences regarding slums as these are rapidly increasing in and around the city. In India, 350 million population lives in urban areas which constitute 30 per cent of the population of India as per 2001 census. Generally slums are specific geographic areas that are physically and socially deteriorated, economically backward and house a floating and often marginalized people. Bangalore also has more number of slums that are spread in all the parts of the city. Slums become obstacles to economical development of any region if they are not attended properly by government or private organizations.
1.2 SLUMS - THE GLOBAL SCENARIO

The term ‘slum’ has diverse connotations across different international contexts and even across different regions in a given country. The term “slum” is derived from an old English word meaning “a poorly drained place” and was applied to the cheap rental housing that developed around the factories and close to the canals in the early Industrial Revolution in the UK. Since its first appearance during the 1820s in London, “Slum” was also perceived as refuge for marginal activities including crime, vice and drug abuse and a likely source for many epidemics.

Since it first appeared in 1820’s the word slum has been used to identify poorest quality housing, most unsanitary conditions places for crime and drug abuse. Moreover, in developing countries, the word lacks the critical and original connotation and simply refers to lower quality or informal housing (UN-Habitat, 2003a). The lack of precise definition of the concept ‘Slum’ contributes to the lack of effective and tailored policy response. Even though slums show some commonalities they have diverse characteristics and they are defined differently in different countries making international comparisons and global monitoring of intervention plans difficult.

Slums are becoming inevitable phenomenon of the urban fabric in the developing world. In the year 2001, it was estimated that one third of the world’s urban population or nearly 1.5 billion people, live in slum areas. Six percent of the urban populations in developed regions are slum dweller. Similarly, in developing regions and least developed countries, the figure goes up to forty-three and seventy eight percent respectively (UN-Habitat, 2003b) Slum areas are characterized by mainly poor quality housing, lack of access to safe water and sanitation, overcrowded living environment and insecure tenure status. Slums are formed because of a number of forces. (See figure 1.1) Among these, rapid rural to urban migration, increasing urban poverty and income inequality and lack of affordable housing contribute to the creation and proliferation of slums.
An Overview of the Research

Fig.1.1: Conceptual Diagrams for Slum Formation

Slums defined differently by a different scholar from time to time. In general, a slum is described as a cramped, squalid, poorly endowed living area with sub-standard housing, lack of sanitation and water facility and negative connotation i.e., evil stage and to be avoided. ‘Slums’ have been defined under section 3 of the slum Areas (improvement and clearance) Act. 1956 as areas where building are in any respect unfit for human habitation by reason of dilapidation, over-crowding faulty arrangement and design of such buildings, narrowness or faulty arrangements of streets, lack of ventilation, light, sanitation facilities or any combination of these factors, which are detrimental to safety, health and morals. Similarly, commissioner of Madras Corporation in 1961 defined slum as not only slum hutments but also overcrowded building in a state of deterioration.

Many cities around the world will be overcrowded by the turn of the century. Rapid growth of the cities and high levels of rural urban migration will be responsible factors (Alterajos, 1990). The present global population is expected to double by the year 2025. Experts predict that urban centers will bear the brunt of the population growth, partly due to economic policies favoring urban centers. By the year 2024, twenty-five cities will have population over 9 million including Mexico (25.8), Tokyo (20.0), Calcutta (16.5), greater Bombay (16.0) and New York (15.8). Rural population will flock to cities in search of better access and opportunities. The rapid growth of cities will inevitably lead to the creation of slums which will hamper urban development.
The Karnataka Slum Clearance Board denotes slum from a legal point of view. i.e., 'People who have occupied land which they have no legal rights (Schenk, 2001, pg 44) while different state laws have adopted different definitions of the word ‘Slum’.

The Census of India 2001 has proposed to treat the following as ‘Slum’ areas:

i. All areas notified as slum by state / local government and UT administration under any Act.

ii. All areas recognized as ‘Slum’ by state/local government and UT administration which have not been formally notified as slum under any Act.

iii. A compact area of at least 300 populations or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities. Slum is also known by different names in different places. In Delhi it is known as 'Katra' 'Galli' and 'Juggi', in Bombay it is recognized as chawls: in Kanpur as Ahatasi in Calcutta as Busthees, in madras as Cheris: in Karnataka as Keri’s and colonies and in Andhra Pradesh as Petas.

The slum is often defined in terms of its physical appearance and differentiated into tenement slums and hutment slums. On the basis of their legal status or existence, slums can be categorized as being of two types, viz., authorized and unauthorized slums. Authorized slums have the right to receive the delivery of basis services from the state or concerned Municipal Corporation. On the Contrary the unauthorized slums are those that are not recognized by the local bodies and therefore, are not provided with any basic serious by the government or other formal agency of governance.

Clinard (1970) argue that a slum embody much more than the manifest, i.e., of poor housing, overcrowding congestion, lack of sanitation and other facilities. Sociologically a slum is a way of life, a sub culture with set of norms and values which is reflected in poor sanitation and health practices, deviant behavior and characteristics attributes of apathy and social isolation. Mitra (2003) puts forth a similar kind of view with regard to slum and their life. He states that ‘the slum dwellers should not be considered merely the victims of
dive poverty, but should also be seen as dynamic agents capable of implementing their own economic strategies and of finding appropriate response to the challenge posed by specific urban environment.

There are number of definitions put forward by number of eminent authors and scholars about what is a slum or what constitutes a slum. Some of the definitions are:

**Oxford English Dictionary defines slum:** “A Street, court, etc. Situated in crowded district of a town or city and inhabited by people of a low class or by the very poor: a number of this streets or courts forming a thickly populated neighbourhood or district where the houses and the conditions of life are of a squalled and wretched character”.

**The New International Dictionary describes slum** as “A thickly populated street or alley, especially one marked by squalor, wretched living conditions, or the degradation of its inhabitants.” (Merriam-Webster)

**The Colombia Encyclopedia defined slum** as “Substandard housing specially in cities” (1956).

**The Chamber's 20th Century Dictionary defines** it as “An overcrowded squalid neighborhood” (1961)

**The Global Report on Human Settlements-2003** sums up the condition of the urban poor succinctly, “The urban poor are trapped in an informal and ‘Illegal’ world- in slums- that are not reflected on maps, where waste is not collected, where taxes are not paid and where public services are not provided”. It is estimated that one out of every three city dwellers is a slum dweller who together constitute a billion people and a sixth of world's population. Currently, over 90% of slum dwellers are in the developing world with south Asia accounting for a major share and where 56% of the region's urban population lives under slum conditions. China and India together have 37% of the world's slums (UN-Habitat 2003:6&15).

Another comprehensive definition of slums has been provided by the **Encyclopedia Britannica** which is as follows:

“Slums are residential areas that are physically and socially deteriorated and in which satisfactory family life is impossible. Bad housing is a major index of
slum conditions. By bad housing is meant dwellings that have inadequate light and air and toilet and bathing facilities: that are in bad repair damp and improperly heated: that do not afford opportunity for family privacy: that are subject to fire hazard and that overcrowd the land leaving no space for recreational use."

**Herbert. J. Gans:** He defined slum as those which are proved to be physically, socially or emotionally harmful to their residents or the community at large. On the other hand, low-rent dwellings and so forth housing and necessary facilities which are not harmful to people who want, or for economic reasons must maintain low rental payments and are willing to accept lack of modernity, high density, lack of privacy, stair climbing and other inconveniences as alternative costs."

Noted demographer **Ashis Bose** has also formulated a comprehensive definition of slums which is as follows:

“I would define as slum as a deprived human settlement, which is demographically, economically and environmentally vulnerable. Slums are looked down upon. Extreme overcrowding, high density and high levels of mortality and fertility are typical demographic features of slums. A large unorganized sector, low levels of productivity and extreme poverty are usual economic features: and the lack of access to basic needs like water, sanitation and clean environment, make these areas environmentally hazardous. My definition of slums includes small clusters of pavement dwellers as well as glorified slums like some of government resettlement colonies. I would call any settlement with the above mentioned Characteristics and with a population of more than one lakh, a super slum.”

1.2.1 Characteristics of Slums

There are some comprehensive characterizations of slums by Anderson which are given below:

**Appearance:** This may be called a universal mark of the slum: its aspect of neglect and disorder with respect to buildings, yards and streets. The appearance is generally one of structural over-age and decline.
Economic Status: Generally a slum is inhabited by people of the lowest income, although there may be occasional buildings of equally run-down appearance inhabited by people of the lowest income, although there may be occasional buildings of equally run-down appearance inhabited by families that are not so poor. In general, however, the slum is a poverty area.

Overcrowding: We may find that the space is overcrowded with buildings or the buildings may be overcrowded with people or both. If the slum is 'retreating' many buildings may have declined until they are unsafe for habitation, but there then be overcrowding in the buildings still occupied. The uninhabited space may then be occupied by such unwelcome occupants as junkyards.

Population: In a slum of heterogeneous occupancy, many of the inhabitants there are persons not welcome in other residential area, or they cannot afford to live elsewhere, thus, it may be a refuge area for the aged, the chronically sick, the homeless, and the socially maladjusted. But such 'odds and ends' may not be welcome even in some slums where a 'sense of community' exists. If the slum population is racial or cultural, it may have a degree of social organization. It is poverty area, slum like in appearance.

Health and sanitation: For understandable reasons, when compared with other areas of residence, the slum is characterized by low standards of sanitation. The slum is often most neglected by the public services for sanitation. For mixed reasons, it may also be an area of high sickness and death rates.

Morals: The slums may be an area of delinquency, crime and vice, but this is more likely to be true of the socially disorganized slum. While such a slum may not be the habitant of 'successful' criminals, it may be the habitant of marginal types or the hiding place of fugitive criminals. Vice may be found in the slum, but is by no means confined to the slums.

Way of life: Slums differ widely with respect to the social organization of their inhabitants. They range from the slum in which the inhabitants are strangers to one another and wish to be: to the family slum in which there is wide acquaintance between the inhabitants. Slum inhabited by immigrant groups may have a firm social organization.
Social isolation: While every residential area within the modern city tends to be socially isolated from others, partly by choice and partly by location, the slum is especially so. It is the area of lowest status and this known to slum dwellers. Their chief link with the rest of the community is their identification with the labour market. But there may be an additional link through politics. Slum dwellers function equally with others as citizen and as they are able to identify themselves with political groups.

Mobility: This slum is usually an area of high residential mobility, but a family occupied slum may have a low rate of residential mobility.

Socially Deprived: Residents of the slum may also belong to socially deprived group such as Scheduled Caste, Scheduled Tribes and Minorities.

Poor Housing: Houses in the slum area generally used low-cost building construction materials with poor hygiene and sanitation.

Fig.1.2: Characteristics of Slum
1.3 SLUMS IN INDIA

In India, slums are referred to by various names depending on the region and local traditions. In Delhi for e.g. slums are called as “chawls” and in Mumbai as “busthees” meaning poor quality housing or hutments. In Karnataka slums are generally known as “Kolegeri” meaning an area without proper sewerage system and garbage removal facility. Even in the official parlance, slums are called as “Kolache Pradesha” which means the same as “Kolegeri”.

In India, slums are a common sight in the cities and form what the development circuits euphemistically call the other side of development.

Development, urbanization and growth are terms that have been in currency for many years now. While the relationship between urbanization and the proliferation of slums is taken for granted, the intricacies are yet to be explored.

It is estimated that India would become 50% urban by 2020. The subsequent censuses have been showing a steady rate of growth. The percentages of urban population in the country shoot up from 25.7% in 1991 to 27.8% in 2001. Following the neo-liberal cities of the West, India has adopted the modernist notion of a city with a liberal market and deregularized systems. The cities are today the sprawling hubs of economic growth and attract millions from the rural hinterlands. The limited resources and amenities of the cities however fail to accommodate them. These wherewithal’s gradually turn to commodities available only for price. The poor thus get pushed aside to congregations called slums.

Worryingly, 65.3% of the total slum population of the country is accounted by just five states. Maharashtra, Andhra Pradesh, Uttar Pradesh, West Bengal and Tamil Nadu. Maharashtra has the highest percentage of slums to urban population 27.3%.

The spread of the issue is palpable if we notice that apart from the above states, Karnataka, Madhya Pradesh, Delhi, Gujarat and Haryana have above a million slum dwellers each. The numbers can only be a guide to the actual problem. With the liberty to move freely and settle in almost all parts of the country, migration and slums will continue, unless due intervention is made, to be persisting problems of the cities.
An Overview of the Research

Chart 1.1: Slum Population in Metropolitan Cities

As the figure clearly shows, 60% of slums are in the four biggest metros. Let it not be ignored that these percentage figures hold within them sizable Populations. To get a better picture, let’s look at the actual slum population in our Million plus cities:

Table-1.1: Slum Population in Million Plus Cities

<table>
<thead>
<tr>
<th>Million Plus City</th>
<th>Slum Population (In million)</th>
<th>Population(as % of population of the listed cities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater Mumbai</td>
<td>6.5</td>
<td>51.59</td>
</tr>
<tr>
<td>Delhi</td>
<td>1.9</td>
<td>15.08</td>
</tr>
<tr>
<td>Kolkata</td>
<td>1.5</td>
<td>11.9</td>
</tr>
<tr>
<td>Chennai</td>
<td>0.8</td>
<td>6.35</td>
</tr>
<tr>
<td>Nagpur</td>
<td>0.7</td>
<td>5.56</td>
</tr>
<tr>
<td>Hyderabad</td>
<td>0.6</td>
<td>4.76</td>
</tr>
<tr>
<td>Bangalore</td>
<td>0.4</td>
<td>3.17</td>
</tr>
<tr>
<td>Lucknow</td>
<td>0.2</td>
<td>1.59</td>
</tr>
<tr>
<td>Total</td>
<td>12.6</td>
<td>100.31</td>
</tr>
</tbody>
</table>

Source: Census of India 2001.
These million human lives live in Kuccha houses that face the perils of destruction during rains and floods and demolition, if built on encroached lands. The jhuggi jhonpais of Delhi, Keris of Bangalore, Cheris of Chennai and chawls of Mumbai, all tell the same story of swaulor. It is intriguing to note that none of the cities could escape the syndrome of slums.

According to census of 2001, there are 62 million slum dwellers in India. This is more than double of 27.9 million slum dwellers in 1981. As per this census, 640 towns spread over 26 states and union territories had slums. Thus, one out of every four persons resides in slums in our cities and towns. The NSSO survey in 2002 reported 51,688 slums in urban areas of which 50.6% were declared as notified slums.

1.4 SLUMS IN KARNATAKA

The total population of Karnataka in 2001 was 52.7 million of which the urban population was 17.9 million or 34%. The decadal growth of urban population in Karnataka over the last 100 years is shown in Table 2. During the last five decades, urbanization in Karnataka registered rapid growth except during 1951-61 when the rate of growth was only 18.26%. The highest growth was recorded during 1941-51 (61.7%) and 1971-81 (50.6%). However, during the following two decades, the eighties and nineties, the rate of growth of urban population declined to 29.09 and 28.85% respectively.

Significantly, the urban population in Karnataka has been growing faster than the rural population. During 1991-2001, the former registered a growth rate of nearly 29% compared to 12% of the latter. Three factors account for the growth of urbanization in the State: natural growth, migration and reclassification of cities. Towns have been classified into six categories on the basis of their population size. In order to appreciate the direction of the urbanization process, it is necessary to examine the distribution of population between different classes of towns and regions and their growth trends.
Chart-1.2: Comparison of Urban Population in Slums

![Comparison of select states - Slums](image)

In respect of slums, Karnataka fares comparatively better than the states except Kerala. It may be seen from Figure 3 that only 7.8% of the urban population of the state lives in slums in 35 towns compared to 10.4% in Tamil Nadu, 24.9% in Andhra Pradesh and 27.3% in Maharashtra. According to NSSO, 58th round (2002) survey of urban slums the number of slums in Karnataka is estimated to be 1983 with 4,83,828 households.

1.5 STATEMENT OF THE PROBLEM

Slums have grown in Mysore city from its olden times but the magnitude of slums with issues have started when Mysore has got its city status. Slums are more in number in intermediary and fringe of the city which has affected Mysore city image. The study made from last few years reveal that more than one lakh population already living in squalid, unhealthy areas, mostly without water, sanitation, public services or legal security. Policies and government programmes have made little effort which has not solved the problems. In Monsoon season the slums covered with drainage mixed with drainage and sewage water and will be logged to create havoc in the surrounding areas people will find it difficult to move freely in the streets. In the process number of slums turn into stink smell and become mosquito breeding stations and spread lots of epidemic diseases among slum dwellers.
Mysore city also faced bitter experiences in crime activities, the registered cases prove that slums share majority of criminal cases took place. The slums have poor infrastructure facilities like water supply, electricity; health-care, education, etc. will pose poor economical development of the city. Hence, addressing the slums by taking a piece of research work is need of an hour. The researcher has tried his level best to analyze slums of Mysore city so as to understand their economical, social and physical characteristics.

1.6 SOURCES OF DATA

The primary data has been collected through questionnaire and interview method from slum dwellers of Mysore City. The data has also been collected through GPS. Secondary data has been collected from the followings, Census of India 2001 (District Population Booklet-Mysore), District Gazetteer of Mysore, Karnataka Slum Clearance Board (KSCB), Karnataka State Pollution Control Board (KSPCB), Water Supply and Sewage Board, Mysore Urban Development Authority (MUDA), Mysore City Corporation (MCC) and Karnataka State Remote Sensing Application Centre (KSRAC). The Population data is collected from Census of India, Bangalore.

The satellite data LISS-III 2001 and 2004 are collected from Karnataka State Remote Sensing Centre. Toposheets (1970) are collected from Survey of India and Land use and Ward Maps are collected from Mysore City Corporation and Mysore Urban Development Authority (MUDA).

Data are collected from different Central and State Government institutions like,

**Primary Data**

- Survey of India Topographic Sheets (1970)
- Satellite Images (Liss III 2004)
- GPS data
- Mysore City Guide Map
- Field survey and personnel observations.
Secondary Data

- Karnataka slum Clearance Board Annual reports 2001 to 2010
- Mysore city Census Hand Book. 2001
- Census of India, Bangalore
- Mysore District Gazetteer, Government of Karnataka
- Mysore Urban Development Authority reports
- Articles and magazines
- Newspapers and other Publications
- Related Thesis
- Website related to slums.

1.7 HYPOTHESES

Following hypotheses have been formulated to test them so as to check the result carrying the weight.

- The growth of slums in the city over a time has led to changes in the structure of land use and land cover pattern.
- Basic services do not reach slum dwellers adequately
- Slums are affected to tourism development of cities.
- The mushroom growth of slums in urban areas has led to various socio-economic problems.

1.8 SOCIETAL BENEFITS

The outcome of the research will surely make possible in answering practical issues connected with the slum dwellers in Mysore city. The city is looming large with slum population in unhygienic living conditions for the past couple of years, besides being close to the place of residence and convenient in approaching the slum dwellers. The study offers a view of the slums from the perspective of the urban poor. It throws light on the poor people's realities, drawing on their experiences of poverty and the quality of their interactions with a range of institutions, from the state to the household. The outcome of this intensive case study will help researchers, policy makers, government and non-governmental agencies, public and other concerned to take suitable steps to promote the welfare of the slum dwellers.
1.9 SIGNIFICANCE OF THE STUDY

Mysore city is the crucial instrument in Karnataka's engagement with the regional economy; yet the pitfalls of its rapid growth of slums are observable. Failure to ensure clearance of slums will harm the very assets which have forget the city's achievement. As the city situates among the belt of tourist and cultural heritage face the burden of an increasing number of slum number and their population. We should feel that the poor are an asset, hardworking and honest people. But with policies that discourage them, how do we expect them to improve their lot? These issues have pressing relevance at the current time because of recent problems faced by the city. Growing number of slums and increasing criminal activities connecting with slums is main threat for the city. With these, it is necessary to study the slums of Mysore city for which geospatial technologies have been used as tool to achieve the set goals. The innovations of this proposed research is that it will deal with the practical slums issues in a substantial and considered manner, thus providing a platform for policy action. Moreover, this may also provide a ‘demonstration effect’ for other cities, and thus promote the use of geospatial technologies as tool. This study will focus on development of new methods and concepts that will involve a combination of slum improvement and image classification for slum mapping. The study will generate knowledge by extending the frame work to a local level which will effectively map the Mysore city slums. This information therefore, can be used by local authorities, government bodies and NGO' involved in slum upgrading and monitoring. The planning of the city can take into account the findings from this research.

1.10 OBJECTIVES

The main objectives of the study follow as under:

- To Identify & demarcate of slums in the city
- To study the growth and spatial distribution of slums in Mysore city with respect to the time and space.
- To evaluate the role of government in rehabilitation in the city.
- To study the crime analysis of the Mysore city slums.
To examine the governmental policies and programmes for the slum clearance.

To know socio-economic conditions of slums.

Examine the living conditions of slum population of Mysore city.

1.11 METHODOLOGY

The present study is both analytical and descriptive in nature. It involves both micro and macro approaches. It is macro while dealing with issues like population, poverty and pollution at global and national level. This is only to give some information and insight for broader analysis. It is micro in approach while dealing with urban poor slum dwellers covering socio-economic issues of development based on the survey conducted on 1000 households in 40 selected slums of Mysore city.

The study is presented in a systematic and logical manner by making use of statistical tables, chart, graphs and map in order to interpret and analyze the data collected through survey and secondary sources. Besides, photographs have been taken while conducting the survey in selected slums and enclosed to give an actual view of the living conditions of the slum dwellers.

- ARC GIS has been used for analyzing the data. GPS has been used for collecting data of Mysore city slums.
- LISS -III I has been used for classifying slum areas.
- Statistical techniques have been applied to analyze the socio-economic change in the Slums.
- The socio-economical data of the slums have been collected through questionnaire by random method.
- For crime evaluation, data have been collected from Mysore city police station. SPSS statistical package has been applied to analyze the crime cases.
- For socio-economic analysis the same package has been used. Regression and correlation techniques have been used here to get results.
LISS-III Indian Satellite data and topographical sheets produced by Survey of India have merged to get spatial information for further study.

Google earth images have been used for demarcation of slum areas.

The present study deals with the research methods and materials used in conducting this study under the following heads.

1.11.1 Location of the Study

The study was conducted in selected slums of the Mysore city under the Karnataka slum clearance board, Mysore City Corporation and Mysore urban development Authority situated within 65 wards of Mysore City Corporation.

1.11.2 Selection of Slums

According to Karnataka Slum clearance Board report there are 63 declared and 19 undeclared slums. Out of these 40 slums were randomly selected for the purpose of study.

1.11.3 Variable Used in the Study

The dependent variables in the study were knowledge, attitude and adoption of different nutritional, health and hygienic practices.

The independent variables included were age, education, annual income, size of family, type of family, family occupation, social participation and other socio-economic conditions.

1.11.4 Selection of Respondents

For the purpose of present study, 1000 slum peoples were randomly selected from 40 slums. The lists of the slums were obtained from the office of the Karnataka Slum clearance board. For effective analysis total sample of 1000 respondents was personally interviewed with the help of a structured schedule.

1.11.5 Development of Interview Schedule

An interview schedule was designed for the study. It considered background information of the respondents along with the knowledge, attitude, demographical and socio-economic and other selected variables.
1.11.6 Collection of Data

Data were collected from the respondents through personal interview. The respondents were interviewed generally at their homes. Information has also been collected through extensive talks with officials of Municipal Corporation and general observation of the sample slum households by the researcher. The interview schedule was prepared in local language (Kannada) which helped the researcher to collect the information easily and accurately.

1.11.7 Measurement of Variables

Age, Education, type of Family, Size of the family, Annual income, family occupation, awareness programmes, attitude of the respondents, availability of basic infrastructure, knowledge about up gradation programmes by the Govt institutions are effectively measured through questionnaire.

1.11.8 Analysis of Data

Keeping in view the objectives of the study various statistical methods and test were used. The data was processed on computer. Frequencies and percentages were used to explain the simple comparison between data of bench mark survey and present and also the slum dwellers and the non slum dwellers.

1.11.9 Geoinformatics

Geoinformatics is a science which develops and uses information science infrastructure to address the problems of geosciences and related branches of engineering. Geoinformatics combines geospatial analysis and modeling, development of geospatial databases, information system design and human-computer interaction, both wired and wireless networking technologies. Geoinformatics include Geographic information system (GIS), Spatial Decision Support System (SDSS), Global Positioning System (GPS) and Remote Sensing (RS). Geoinformatics uses geo-computation for processing geographic information.
A Geographic Information System (GIS) is a system for capturing, strong, analyzing and managing data and associated attributes which are spatially referenced to the Earth. GIS is referred to as geo matrices in Canada. In the strictest sense, it is an information system capable of integrating, storing, editing, analyzing, sharing and displaying geographically-referenced information. In a more generic sense, GIS is a tool that allows users to create interactive queries (User created searches), analyze the spatial information, edit data, maps, and present the result of all these operations. Geographic information science is the science underlying the geographic concepts, applications and systems.

1.1.10 The Global Positioning System (GPS)

GPS is the only fully functional Global Navigation Satellite System (GNSS) utilizing a constellation of at least 24 medium Earth orbit satellites that transmit precise microwave signals, the system enables a GPS receive to determine its location, speed, direction and time. As the beneficiary of technological revolution, after the introduction of navigator GPS, there is an impetus which would otherwise be a cumbersome process.

Another potential field which has active role in Geoinformatics is Remote Sensing (RS). Remote sensing is the science (and to some extent, art) of acquiring information about the Earth's surface without actually being in contact with it. This is done by sensing and recording reflected or emitted energy and processing, analyzing, and applying that information.” In much of remote sensing, the process involves an interaction between incident radiation and the targets of interest. This is exemplified by the used of imaging systems where the following seven elements are involved. Note, however that remote sensing also involves the sensing of emitted energy and the use of non-imaging sensors.

Urban growth remains a major topic concerning GIS, Remote Sensing and GPS applications. Remote Sensing and GIS have proved to be effective
means for extracting and processing varied resolutions of spatial information for monitoring urban growth. GIS has gradually shifted its emphasis from system-oriented to science-oriented. Apart from key Techniques, GIS needs to incorporate broader and more fundamental scientific concepts in order to better understand geographical phenomena such as process, pattern, heterogeneity, scale etc. Urban growth is the projection of political, social and economic activities onto a land system at the level of the urban area. The spatial and temporal dimensions are major concerns of GIS and remote sensing. Studying of spatial and temporal urban growth enriches the spatial science of GIS. Methodological research into urban land transformation can contribute to improving current GIS, in particular its spatial analysis and modeling functions such as exploratory spatial data analysis and spatial econometrics (Goodchild, 2000).

1.12 LIMITATION OF THE STUDY

- Despite the fair proceeding and accomplishment of the research, a number of challenges were encountered in the process. To mention some of them.
- Slums of Mysore City Covers large area of land, is not easily surveyed all slums of the city.

1.13 DATABASE AND DESIGN

In order to assess the needs of the household of individual slums, information was collected on household composition, present services at household as well as at slum level, the level of satisfaction, desired levels of housing, upgradation needs and training requirements of household. A list of 40 slums was selected at random for survey from the record maintained by Mysore City Corporation and Karnataka Slum clearance Board. Further 25 households per slum were chosen randomly irrespective of the slum population in each slum.
1.14 ORGANIZATION OF THE THESIS

The entire thesis has been classified into six chapters based on aims, methods and results drawn. These chapters are briefly explained in the following.

The first chapter gives the introduction of the study, statement of problem, significance of study, aims, hypothesis, and data sources. This chapter gives details about literature review relating to meaning, definition, evolution of slums. It explains the problems and characteristics of slums in Mysore city. It also provides a brief introduction regarding geographical setting of the study area like, topography, geology, drainage, soil, vegetation and climatic conditions.
The **second** chapter aims at distributional pattern of the city slums. To achieve this, general method of distributional pattern has been followed which indicates three distributional pattern namely random, uniform and cluster distributions. The results obtained indicate that the slums are 80 in number which are randomly distributed in the city. However, in the center part of the city cluster distribution can be seen this is mainly because of nearness to the working place for the inhabitant of the slums.

The **third** chapter exhibits about socio-economic status of the slums in the city. The SPSS statistical package has been used to analyze the set goals. Regression and correlation analysis have been well-performed here for evaluating the data collected through questionnaire. The outcome of the research reveals about the social and economical conditions prevailed in the city. Economical condition of the slums depicts that the large number of workers are from building and road construction, factory workers as well. Hardly few have from government forth-class jobs. This represents that the slums provide huge labour force for the economical development of the city. As for social conditions concerned forty eight per cent of slum dwellers have katcha houses which indicate housing conditions in the city in critical. Houses are overcrowded and poor both in terms of basic facilities thus invite various diseases and infections. Majority of the slum dwellers are belongs to scheduled caste, scheduled tribe, backward and minority.

Chapter number **four** is connected with crimes occurring in the slums of the city. The registered crime cases relating to the slums of the city have been collected from the police station. GIS software has been applied to analyze the crime occurred during 2006-2010. The outcome of the research connecting to the crime shows that crimes have been taking place from many slums of the city. Temporal and spatial analysis of the crime cases in the slums of the city has been carried out to understand the rate of crimes committed. Based on type and number of crimes occurred the map has been prepared to show the crimes.

The **fifth** chapter deals with analysis of government policies and programmes on slum clearance. For this, number of policies from state and central government and Supreme Court guidelines have been thoroughly
discussed. The various policies to rehabilitation programs carried out from 2000-2010 have been studied. Some of the central and state governments programmes for slum rehabilitation are Jawaharlal Nehru National Renewal Mission and Integrated housing and Slum Development Programme, Nirmala Jyothi Scheme, Valmiki Ambedkar Awas Yojana, National Slum development programmes (NSDP), Nirmala Bharathi Abhiyan Yojana and Integrated Housing and Slum development programme (IHSDP). These programmes have been well-compared based on their applicability, well-received from the slum dwellers and successful in terms of infrastructure and employment opportunities. The basic objective of these programmes is to strive for slumless city with a healthy living and good environment by providing adequate shelter and basic infrastructure facilities to the slum dwellers in Mysore city.

The sixth chapter concludes with the findings and suggestions.

1.15 TERMINOLOGIES

Urban is relating to a town or city. Urban settlements are large and nucleated settlements in which the majority of employed inhabitants are engaged in non-agricultural activities. Urban areas may be defined by national governments according to different criteria: for e.g. Size, population density and type of local Government.

Urbanization refers to the concentration of people engaged in non-agricultural occupation and land uses around a single nucleus or multiple nuclei. This is primarily the result of rural to urban shift of population, with urban centers growing either at the expense of the countryside or serving the countryside through modern transport and communication systems.

Urban Poor refers to individuals or families in urban areas with incomes below the poverty line as defined by the National Economic Development Authority (NEDA) or who are incapable of meeting the minimum basic needs, and who live in slums, squatter and resettlement areas, or along danger zones like railroad tracks, esters, riverbanks, cemeteries, high tension wires, or other places in urban areas. They are the underprivileged or homeless sector of society – the unemployed, underemployed and the irregularly employed, who, because of lack of income become squatters and slum dwellers. They are most visible in sidewalks, dumpsites, cemeteries, unoccupied government or private
lands and danger areas like railroad tracks, river banks, and road right-of-way. Their combined family income falls below the poverty line as defined by the National Economic Development Authority.

**Urban Poor Organization** refers to voluntary grouping of urban poor with at least 15 members and who are organized along community-based or occupational-based projects and activities.

**Squatter Settlements** refers to illegal settlements of people “squatting” on land that is not their own, now often including new settlements where inhabitants do have legal title. Numerous other adjectives have been used to qualify the term “settlements,” including “marginal,” “spontaneous,” “illegal.” and “unauthorized.

**Community-based Organization** refers to an organization within a community, and organized along issue and problems common to the members.

**Occupation-based Organization** refers to an organization with members living within urban poor communities, having similar work or livelihood, and organized primarily along work/livelihood-related issues and problems.

**Urban area** refers to all cities regardless of their population density and to municipalities with a population density of at least 500 persons per square kilometers.

**Urbanizing Area** refers to sites and lands which, considering present characteristics and prevailing conditions, display marked and great potential of becoming an urban area within a period of five (5) years.

**Accreditation** refers to the process of recognizing an urban poor organization for purposes of ensuring community action and participation in policy formulation, program planning, implementation, and evaluation.

**Slum Upgrading** became an option when it became clear to governments that the massive slum clearances of the 1970s were bond effective solutions to the rural – urban poor (Werlin 1999). Slum upgrading projects have been attempted through various approaches. Some approaches involved the upgrading projects have been attempted through various approaches. Some approaches involve the upgrading of physical facilities such as water supply,
sanitation, roads, street lights and footpaths and land readjustments (Mehta, janus et al.2008).

1.16 BACKGROUND OF THE STUDY AREA

Mysore is the second largest city in Karnataka and commonly known as city of palaces and Gardens. The city is famous as a historical, rich heritage and tourist spot comprising of palaces, monuments, gardens, hills, art galleries, zoo, museums, etc., attracting tourists from all around the world. During September and October there is annual ten-day festival which is celebrated as a traditional festival since the olden kingdom of Mysore.

Mysore formerly was the capital of the former princely state and is now the Divisional Head Quarters. The history of Mysore has been closely linked with the kingdom of Mysore. References from the times of Mahabharata and Ashoka refer to Mahisha Nadu or Mahisha Mandala. References can also be found in Tamil literature about Ezimahi Nadu. The earliest documented evidence of the town is in the form of stone carvings (saasanas) found in villages around Mysore, inscribed around 1021 AD. From 1499 the name mahisuru has been recorded in inscriptions. Till the year 1610, when Srirangapatnam was acquired, Mysore was the centre of administration. It became the capital of the kingdom of Mysore after the death of Tippu Sultan in 1799. The administrative centre was shifted to Bangalore in 1831.

The city acts as a water divide for many small rivulets which join the two rivers. The city proper has uneven topography. With elevated ridges on the east and west. There is thus a great natural divergence in the gradient within the city. It ranges from 1 to 100 m in certain places to steeper gradients of 1 to 50 m in other areas. There is a convergence of slopes towards core of the city from all the sides. The general slope of the city can be linked to that of the flat saucer with a wide rim. The rim which is a better drained area was formerly occupied by several palaces. These palaces now have been converted into institutions of research and higher learning.

Mysore city is connected by a State Highway i.e., Bangalore-Nilagiri road and two similarly highways, Mysore-Cannanore road and Mysore – T.Narasipur Road. In addition a number of highways radiate from the city.
The state capital Bangalore is at a distance of 140 kms towards North-East of Mysore and Mangalore port is at a distance of 256 kms on the west. Mysore has a railway junction with three railway lines i.e., Bangalore- Mysore, Mysore - chamarajanagar and Mysore -Arasikere.

Enhancing the glory of Mysore and enabling it to force ahead as the cultural, tourism, educational information technology, information enabled services and wellness hub. Further, the objective is to provide better place for citizens and improving their quality of life by providing improved urban services: catering to the needs of the urban poor, sustaining the environment and greenery: preserving the charm and culture of the city and improvement of human resources quality.

1.16.1 Location

Mysore city bounded by Mandya district to the northeast, Chamarajanagar district to the southeast, Kerala state to the south, kodagu district to the west and Hassan district to the north. It is situated in the southern region of the state of Karnataka. It is situated at the base of the chamundi Hills spreading across an area of 128.4 sq.km. Mysore is 140 km away from Bangalore, the capital of Karnataka.

1.16.2 Topography

Geographically, Mysore is located between at 12°18′ North latitude and 76° 42 East longitude with the altitude is 770 meters above Mean Sea Level. The topography of the Mysore city is characterized by a series of well-defined natural valleys which radiate from a ridge on high ground and fall directions extending beyond the MCC and also in certain case even beyond Mysore Urban Development Authority (MUDA) boundary. The general slope of the city is from North to south. The general ground elevation of the city varies from both northwest to Northeast portion. The city comprises of ponds, ditches, low-lying areas and water bodies which serves as retention basins in reducing the flood intensity and controlling the flood damages during heavy rainfall.
1.16.3 Geographical Setting

The city is situated at an altitude of about 762 M above mean sea level. Chamundi hill is about 1064M above mean sea level and serves as a backdrop to enhance the beauty of Mysore City. River Cauvery traverses from West to East at a distance of 16 kms from Mysore. There is a great natural divergence in the gradient within the City.

Map.1.1: Location Map of Mysore City

1.16.4 Geology

Geologically, the district is mainly composed of igneous and metamorphic rocks of pre-Cambrian age, either exposed at the surface or covered with a thin mantle of residual and transported soil. The rock formation falls into two groups: Charchocite series and gneissic granite. Most area of the district consists of Charchocite series of rocks. Some of the minerals found are Kyanite, sillimanite, quartz, magnetite, chromites, felsites, corundum, graphite, limestone, dolomite, silicone and dunite.
1.16.5 Climate

Mysore has a salubrious climate even though it is located in the tropics and in the interior of the peninsula. The equable climate of Mysore is due to its elevation on the plateau surface and its situation in the rain shadow region of the Western Ghats. It has neither extremes of temperature nor high rainfall. Mysore is comfortable for stay for about 10 months of the year and higher humidity and temperature are experienced only in two months of the year and higher humidity and temperature are experienced only in two months, that is, April and May. Due to its rain shadow location, it experiences 1834.8 mm of rainfall. Rain comes down in about 56 days on an average. As such, the climate of Mysore is comparable to any stations in the middle latitudes. The climate of the study area is divided into four different seasons. They are as follow:

- Hot dry Season (March-April)
- Hot moist season (May-September)
- Cool moist season (October to November)
- Cool Dry season (Dec – February)

**Hot dry Season (March-April):** It begins in March and ends in May. In this season weather is hot-dry and sultry. There is high temperature and low humidity. Due to northward movement of the sun, from February onwards temperature begins to increase. It will have a mean temperature of about 27.25° C, while 37.8° C will be the maximum temperature during this season. The weather is warm but not sultry and the humidity is about 50%. The rainfall is meager with only 50 to 80 mm during this period, thin and short lived. The later days are marked by heavy rains, winds, thunder lightning and hail sometimes, damaging the crops and property. Such rains are known as “Coffee blossom-showers” in Karnataka as they are highly beneficial to the coffee plantations. Generally in South India, these rains are called as “Mango Showers” as it helps to the mango crop.

**Hot moist season (May-September):** This is also known as “South west monsoon” hot moist season. It commences from late of May or early June and ends in September. As the temperature rises by the end of summer season, a low pressure area develops over the central India. On the other hand high pressure develops over the Indian Ocean. Hence the winds begin to blow from
the south west, laden with moisture towards the sub continent of India. They are known as South west monsoon.

The seasonal mean temperature during this period is about $27.6^\circ$C. During this season the city receives a rainfall of about 480 mm. Hence it can be said that rainy days are the main characteristics of this period, but study area is situated in rain shadow belt, hence, compared to Agumbe or other places of rainy region it receives low rainfall.

**Cool moist season (October to November):** This season is also known as “North East Monsoon”, which begins in October and ends in November. This is a period of unsettled weather condition. By the end of September the south west monsoon ends. The pressure begins to rise gently over the land and the low pressure located on the sub continent of India moves to the south in response to southward migration of the sun. A low pressure area is developed in the Bay of Bengal and adjoining lands. So, south west monsoon winds change their direction and start blowing from north-east during October-November. The maximum rainfall of about 180 mm occurs during the month of October. Bright days and cool nights are characteristics of this season.

**Cool Dry Season (December- February):** It start early in December and ends in February. The main characteristics of weather condition during the season are low temperature and humidity. Clear skies. Fog and mist, the mean monthly temperature varies from $21.7^\circ$C to $24.7^\circ$C.

**Temperature and Rain fall:** Mysore lies in the tropics, with summer temperatures ranging from $20^\circ$ C to $37^\circ$ C, while winter sees the temperatures dropping down to from $15^\circ$ C to $30^\circ$ C. The city gets an average of 86 centimeters of rain annually, most of it during the monsoon, in the June–October period.

The study area receives the major portion of its rainfall from the south west monsoon. The normal annual rainfall is spread over a period of about seven calendar months form the later half of April to October. The average annual rainfall in the study area is 761.9mm. But actual rainfall is 785 mm annually. Sometimes it suffers from occasional droughts. Most of the rainfall in the study area is confined to the period from April to November. October is the rainiest month. The rainfall during the south-west monsoon months from June to September constitutes only about 40 percent of the annual rainfall.
The rainfall during April, May and October is mostly in the form of thunder-showers. The variation in annual rainfall from year to year is not large. The average rainy days are 56 days per year.

**Relative Humidity:** Relative humidities are generally high during the south-west monsoon season. They are generally about 70 percent and above in the mornings throughout the year while in the afternoons, humidity is comparatively lower except during the south-west monsoon season. The period from January to April is the driest part of the year with relative humidity of about 30 percent and lowers in the afternoons.

**Winds:** The winds are generally moderate with some strengthening during the south-west monsoon season. During the period from May to September winds are mostly westerly or south-westerly. North-Easterlies and Easterlies appear in October and these become more predominant in the next four months. In March and April, winds are mainly south-westerly or westerly in the mornings. While in the afternoons, they blow from directions between north and east.

**Soil:** Soils are the top portion of the earth’s surface. They are formed as results of weathering of rocks and minerals. Soil is important natural
resources. It is media for the supply of food and water to the plants. Black and red soil dominates the study area. I.e., Srirangapatna, Ranganathittu, Somanathapura, which are situated in bank of river Cauvery, and wet land area. Red soil is predominant in Krishnaragasagar and Mysore.

The district has five types of soil: red lam, sandy loam, black cotton, red clay and laterite. The red loam soil occurs in the northwestern part of the district. The red sandy loam soils are derived from the granites and gneisses. The black cotton soil is found mostly in the northeastern portion of the district, while the laterite occurs mostly in the western part of the district. The hill terrain in the Hunsur taluk contains red shallow gravelly soils. The red lam occasionally inter-separated with black soils in seen in the T. Narasipura and Nanjangud taluks. The red soils are shallow to deep well drained and do not contain lime nodules. The black soils are 1 to 1.5 meters deep with good water holding capacity for a longer time.

Natural Vegetation: The plants, trees and grains that grow by themselves without any arid o man is known as natural vegetation. The growth and types of natural vegetation of a region is the combined result of climate, soil, physiographic and biotic factors. But climate is the most important factor.

The natural vegetation that surrounds an area plays a major role in determining the economic activities of the people which live within it and it will have its impact on the social conditions, changes in the community. Sometimes it is most supportive to development of tourism. I.e., Ranganathittu, which creates a Bird is an island of river Cauvery with plants more trees growing naturally, attract the birds for the purpose of breeding (give birth). Many gardens are found in and around Mysore city liked Zoological garden, Brundavana Garden etc. A number of trees and plants are planted in these gardens and maintained by local authorities. It is also one of the major attractions to the tourists to Mysore surroundings. In natural vegetation, can be seen at Chamundi Hills and Ranganathittu and along the bank of river Cauvery and Kabini.

Hydrology: Mysore is situated between the rivers Cauvery and Kabini, which are a source of drinking water to the city. Mysore has several lakes, prominent among are the kukkarahalli, Karanji and Lingambudhi lakes along with the
Devanoor and Dalavai lakes. Three of the four major catchments namely, Dalavoy kere catchment, shetty Kere (Yenne Hole kere) catchment and Devarayanaghundikere (Lingambudhikere) catchment run generally from North to South direction dividing the greater zones. A fourth major catchment, referred to as the Bannimantap catchment (Devaraya canal basin) area, forms the drainage zone in the North of the ridge and runs in North East direction and another two minor catchments i.e., Hebbalkere and Kempayyanahundikere catchment areas drain out independently. The system consists of the Cauvery River.

The well known Krishna raja Sagara Dam (KRS) is built across the river Cauvery with the beautiful world famous Brindvan Gardens immediately downstream after the dam. The waters from this dam are used for irrigation as well as for drinking water to Mysore city.
REFERENCES


County. “Maryland Crime Prevention Studies” Vol.8: Willow Tree Press, Inc.


An Overview of the Research


Websites:

- fwief.fw.vt.edu/tws-gis/glossary.htm
- en.wikipedia.org/wiki/remote_sensing
- collections.ic.gc.ca/satellites/html
- http://landcover.usgs.gov./class