

VULNERABILITY OF SLUM TO LIVELIHOOD SECURITY: CASE STUDY OF LUCKNOW

A Project Submitted

in Partial Fulfilment of the Requirements

for the Degree of

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In

Urban and Regional Planning

By

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DECLARATION

I hereby declare that the work, which is represented by me in this dissertation, entitled “Vulnerability of slum to livelihood security: case study of Lucknow”, in partial fulfilment of the requirements for the award of the degree of **Master In Urban And Regional Planning** submitted to the School of Architecture and planning, Babu Banarasi Das University Lucknow, is an authentic record of my own work carried out during the period from **February 2023 to June 2023** under the supervision of **Ar. Shalini Diwakar**, School of Architecture and planning, B.B.D. University Lucknow Uttar Pradesh ,India.

The matter embodied in this thesis has not been submitted by me for the award of any other degree of this or any other institute.

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ABSTRACT

One of the greatest challenges that India faces is increasing population and urbanization. Rapid urbanization is direct result of Increased population. This creates Slums in India which is one of the major problems faced by any planner or government firm. Slums are considered as illegally occupied houses and creating a problem for ecological pollution and degradation of urban living circumstances. The last two decades have witnessed major shifts in the policies and plans of urban development in India. For instance, the earlier policies of slum removal, slum relocation, and slum resettlement have been renewed as redevelopment and up-gradation. This shift corresponds to similar policy changes in many other countries of Asia and in India, too. Lucknow city is the capital of Uttar Pradesh state as well as the district headquarters of Lucknow district and politically well-known constituency in India. The city has 609 slums with 148117 households. Out of the total slums 502 are notified slums and the remaining 107 are non-notified. About 27% of the city population lives in slums. Among the slum population, 77% belongs to OBC and SC division of social groups and 69% are living below the poverty line (BPL). It is found that the slums are having a housing deficit of 78303. In concern to Infrastructure, 73% of the slum households do not have full access to individual water supply connections. It is also found that about 27% of the slum households practice open defecation. For these various the schemes are used like as VAMBAY, JNNURM and Mukhya Mantri Awas Yojana. Vulnerability has been defined as the characteristics of a person or a group of persons i.e., in terms of their capacity to cope with, anticipate, resist and recover from the impacts of natural or man-made hazards or any external event. Vulnerability is also defined as the inability to withstand the effects of hostile environment. Hostile environment refers to livelihood security in this research. Concept of vulnerability is described within four categories of livelihood security, which are economic, social, education, and health. The parameters for assessing the vulnerability of slums for different location are within the four categories of livelihood security that are economic security, social security, education security, and health security.

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CHAPTER 1: INTRODUCTION

1.1 Overview

The world, particularly the developing world, is becoming more urban, with estimates that by over half of the population will live in urban areas (UN Habitat, 2003). While India does not have a very high level of urbanization, it does have the second highest absolute numbers of people living in urban environments (279 million; UN-Habitat 2003). This, coupled with financial constraints and low government capacity and political will to extend services to the poor, places a strain on existing urban services, increases demand for urban employment and leads to poor living conditions and livelihood security for many urban residents. Thus, there is a need to develop a better understanding of the dynamics of urban poverty, or how urban households in India experience and respond to vulnerability, to improve urban planning and service provision.

Increasing urbanization is emerging as the most pervasive and dominant challenge as well as a development opportunity facing India today. Population residing in urban areas in India, according to 1901 census, was 11.4%. This count increased to 28.53% according to 2001 census and crossing 30% as per 2011 census, standing at 31.16%. Number of urban agglomeration /towns has grown from 1827 in 1901 to 5161 in 2001.

Number of the total population has increased from 23.84 crores in 1901 to 121.2 crores in 2011 whereas number of populations residing in urban areas has increased from 2.58 crores in 1901 to 37.7 crores in 2001. This shows that it is increase of 14,61 times of population in urban area demanding increment of equalling nos. of time of infrastructure to accommodate the increase in the population of urban area. It reflects a gradual increasing trend of urbanization. India is at acceleration stage of the process of urbanization. Cities and towns are centres of agglomeration economies, investments, technology, innovation, economic growth, and tertiary jobs.

The migration of the people from the countryside, villages to urban centre brings challenges for the urban authority. The developments of slum pockets with urbanization are a gift to the civil society. With the passage of time, the focus is brought to re-establish the slum dwellers and improve their quality of life and benefits of the urban society.

The different schemes brought by different authority like local body, state government, state housing board, etc. have come up with a plan to provide the housing to a different segment of people of slum. It is a need of time to understand the improvement in quality of life of the people who migrated from slum area and understood the problems faced by them which can be taken as inputs for future.

Slum is an unhealthy area where basic amenities like water supply, drainage for standard living are lacking, unsanitary conditions prevail and diseases flourish. Slums have legal owner of its land. The ownership may be public, organizational, or private. Squatter settlements contain the same unhygienic condition as slums having no legal owner of its land.

Rapid urbanization and inadequate capability of the respective authority to manage with the housing needs of people in urban areas have contributed to the development of informal settlements. Living in these settlements often poses significant health risks. The sanitation and drinking water quality of the informal settlements are often poor.

1.2 Background Study

Slums have been in existence since the time of cities and their presence has long been documented in the literature (e.g., Booth, 1903). The word ‘slum’ has mainly been used to describe people living under substandard conditions and squalor. For example, Cities Alliance describes slums as ‘neglected parts of cities where housing and living conditions are appallingly poor’.

However, some would argue that there is a distinct difference between slum and informal settlement. Most characteristics of these environments, whether slum or informal settlement, are not found in isolation, leading to multiple levels of deprivation for slum dwellers. Whether slums and informal settlements are viewed separately or as a single entity, they represent disadvantaged communities continuing to have large impact on the physical and economic landscapes. Most of the slums are in less developed countries, and most of the growth in slum populations is expected to occur in such countries.

Approximately 1 of 6 Indian city residents live in an urban slum in India with “unfit for human living” unsanitary conditions. According to 2011 census, around 6.5 crore of Indian population live in slums, of which 1.18 crore live in Maharashtra. Most of the residents are rickshaw pullers, sex workers, small seasonal vendors, house maid servants with a family income ranging from a modest Rs 1500 to Rs 3000. Slum dwellers in India regularly deal with problems such as lack of clean water, constant migration at slums, no sewage or waste disposal facilities. High levels of pollution, lack of basic needs, and room-crowding.

Most of these homeless populations are in below poverty line (BPL) or economically weaker section of the society. Hence, they take shelter in pavements, JJ clusters or an unauthorized slum, though the condition of slums provokes unforeseen circumstances, insecure environment, and lack of dignity. Every year government initiates demolition of slum from their origin sites. Under different policies and programs, both central and state government intervenes to improve the lives of slum dwellers who cannot afford a roof on their head and lives in subhuman conditions. The three-prime solution to home slums living in overcrowded, unsanitary, and vulnerable condition are in-situ up-gradation, in-situ rehabilitation and resettlement or relocation based on the diverse degree of legality, formality, and tenure status.

The government has encouraged private construction companies to develop land and housing on which slums reside, especially in the prime locations, through cross-subsidization of the housing projects. At an everyday level, local elite slum dwellers’ interests intersect with other poorer slum dwellers and the urban elites within the city. This speculation has inflated property prices within the city and the poor citizens have become more marginalized than ever before.

1.3 Need of Study

The job opportunity and living style pull the people from rural areas to cities in search of jobs, better lifestyle, and economic opportunities into a new location. Despite the high rate of employment, the existing housing and services lack to support the population boom. Slums provide affordable shelter to such migrants but with no access to adequate housing and basic services. To tackle the problem of slums in a definite manner, the government introduces different programs or schemes to improve the existing conditions of slum dwellers and prevent future formation of slums.

The people in slums live under the most deplorable conditions, with little access to effective social and health care services, potable water, sanitation facilities and are therefore more vulnerable to epidemics and developmental challenges. Their low socioeconomic status, low level of education and high fertility and mortality- all indicate that they need special attention in terms of public health, family planning and reproductive health programs. However, unfortunately reverse is the case with such segments of slum population. Rapid slummification has caused wide spread of environmental degradation in the city.

1.4 Aim of the study

To assess the vulnerability impact on livelihood pattern of slums.

1.5 Objectives of the study

- To study the current existing scenario for the livelihood pattern of slum.
- To identify the various parameters for vulnerability of slum.
- To analyze the study area on various parameters.
- To review various policies and program.
- To propose suitable guidelines and framework for vulnerability of Slum's livelihood security.

1.6 Scope of the Study

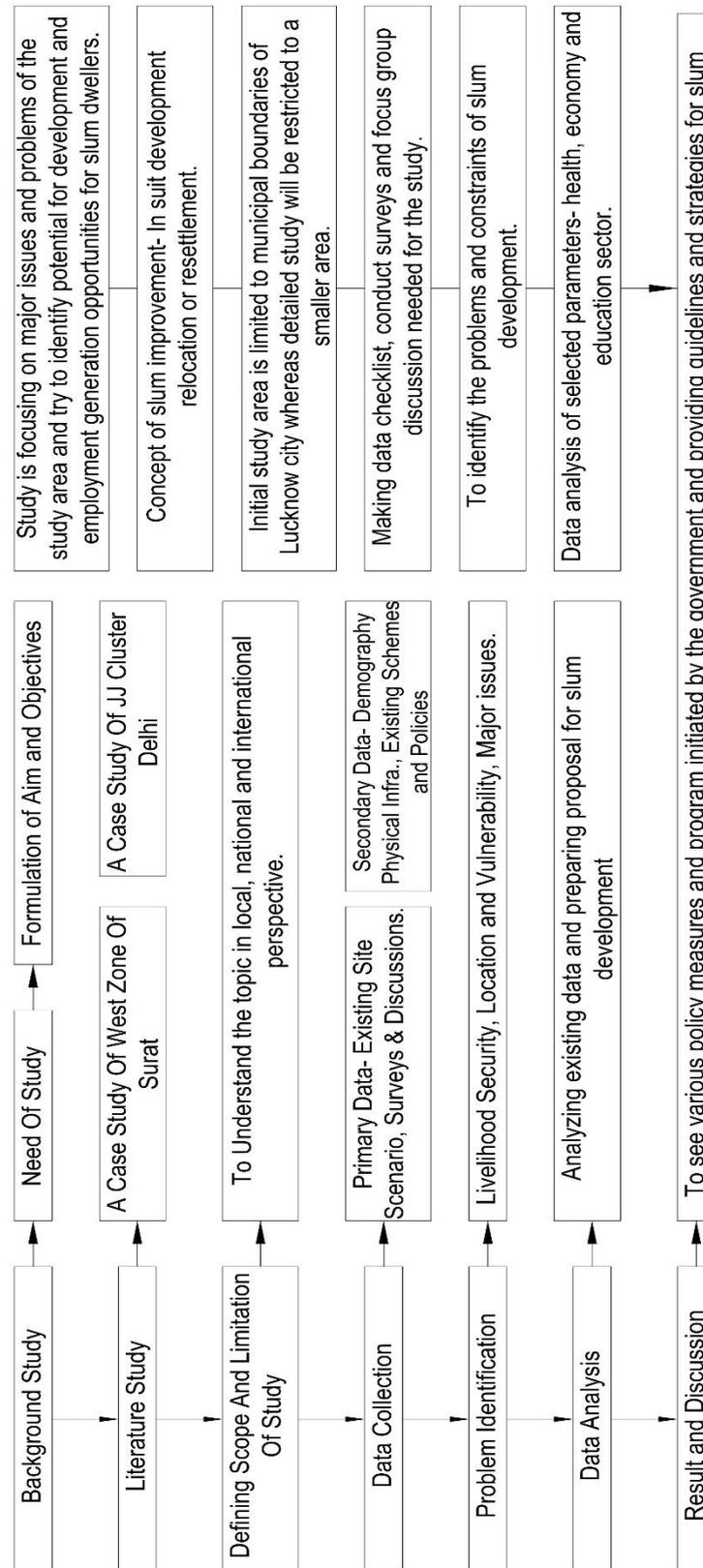
The concludes result is to providing guidelines, framework, and strategies for Vulnerability of Slums to Livelihood Security. • The parameters for assessing the vulnerability of slums are within the categories of livelihood security that are economic security, education security, and health security.

1.7 Limitation of study

The study is restricted to selected slums of Lucknow which is **Paper mill ward**.

1.8 Methodology

The methodology which is followed for the work is as follow



CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

According to the planning commission of India, 12th plan, compare to other developing countries urbanization in India has occurred more slowly. As per Census 2011, 377 million of the population live in urban areas. In cities, rapid growth and employment will act as a powerful magnet. The growth rate of population as per census 2011 is 31.8%. In India, rapid urbanization poses an unprecedented managerial and policy challenges but still no attention is given to it. With an increment of urban population and income, the demand of basic services such as water, transportation, sewage treatment, low-income housing also increases. Some Indian cities have 2030 master plans which include peak transportation loads, requirements for low-income affordable housing and climate change. Several areas like urban governance, funding, planning, capacity building and low-income housing should be properly managed to manage the urbanization of India. The poor and lower income group must be in the mainstream in the cities. Slum definition in the 2011 census, as follows:

According to R. Harris, in International Encyclopedia of Human Geography, 2009.

A slum is a residential area with substandard housing that is poorly serviced and/or overcrowded, and therefore unhealthy, unsafe, and socially undesirable.

According to A. Olotuah, in International Encyclopedia of Housing and Home, 2012.

A slum is an area characterized by poor buildings in physical state of disrepair, degraded environment in insanitary conditions, and absence of basic and essential facilities such as electricity, potable water, drainage system, schools, health facilities, and recreational grounds. Slums can be described as substandard housing environment.

The proper regulations should be there to manage the densities and discourage the migration. The sources of funding for Indian cities are monetizing land assets, higher collection of property taxes, user charges that reflect costs, debt, and public-private partnerships and central or state government funding. Schemes of central government such as JnNURM and Rajiv Awas Yojana are also there for urban poor. In India, there is a need of “cascaded” planning structure in which large cities have 40 and 20 years plans at metropolitan level that are binding on Municipal development plans.

There should be the focus on linking public transportation with zoning for affordable housing for low-income groups. For affordable housing, the policies and incentives should be such that it will enable a sustainable and economically viable affordable housing model for both government housing agencies and as well as private developers. India should also encourage rental housing as an option for the poorest of the poor who may not be able to afford a home with incentives.

2.2 Definitions

Slum

A slum is an area characterized by poor buildings in physical state of disrepair, degraded environment in insanitary conditions, and absence of basic and essential facilities such as electricity, potable water, drainage system, schools, health facilities, and recreational grounds. Slums can be described as substandard housing environment. Slum conditions result from the combined effects of natural ageing of buildings, lack of maintenance and neglect, wrong use of the buildings, poor sanitation in the disposal of sewage and solid waste, wrong development of land, and increasing deterioration of the natural landscape. Often the dirty living habits of slum dwellers and the neglect of the buildings bring about the emergence of slums while the physical deterioration of an area encourages slum habits in the dwellers.

Urban poor

The urban poor are largely the overflow of the rural poor who had migrated to urban areas in search of alternative employment and livelihood, labourers who do a variety of casual jobs and the self-employed who sell a variety of things on roadsides and are engaged in various activities.

Vulnerability

Vulnerability has been defined as the characteristics of a person or a group of persons i.e. in terms of their capacity to cope with, anticipate, resist and recover from the impacts of natural or man-made hazards or any external event. Vulnerability is also defined as the inability to withstand the effects of hostile environment. Hostile environment refers to livelihood security in this research.

Livelihood

A person's livelihood refers to their "means of securing the basic necessities (food, water, shelter and clothing) of life". Livelihood is defined as a set of activities essential to everyday life that are conducted over one's life span. Such activities could include securing water, food, fodder, medicine, shelter, clothing. An individual's livelihood involves the capacity to acquire necessities to satisfy the basic needs of themselves and their household. The activities are usually carried out repeatedly and in a manner that is sustainable and providing of dignity.

Reasons For Prevalence of Slums

Simply put, most people in slums live there because they have no other viable housing options. However, even slum redevelopment schemes in places such as Mumbai have failed because the rehabilitated people tend to sell their allotted housing and look for housing in slums again so that they may earn some money. Hence, poverty and lack of well-paying jobs capable of improving people's living conditions also contribute to the perpetuation of slums. Most people migrate to urban areas in search of employment. Once in the city, they find only underpaid unskilled jobs in the tertiary sector. Thus, with such jobs these persons cannot

afford suitable housing in cities where the cost of living is quite high. Hence, they are forced to find accommodation in a settlement or slums.

India is a third largest country that suffers from poverty, malnutrition, diseases, unhealthy conditions, and more in Indian slums, which is alone responsible for more deaths of children than any other country in the world.

2.3 Livelihood Impact in The Slum Origin

Insecurity Of Tenure

The ownership of the land on which the slum dweller resides was not on their name. This has immediate adverse effects on all the slum dwellers and put them under the threat of eviction. In 2010, informal households were evicted from the origin site. Most of the respondents knew they would face displacement anytime and have a weak negotiation position.

Deteriorated Living Conditions and Hygiene

The slum dwellers live in a temporary structure with inadequate sanitation and water supply. The process of displacement and location of resettlement colonies enforced them for community initiate with technical support from NGO to develop upgrade their living standards.

Financial Stability

Slum induced several positive impacts on the financial stability of the inhabitants like renting in slums gives them extra income and community-based saving groups and small business with social cohesion.

Social Cohesion

The slum residents were living in a mixed community of Hindu and Muslims but staying for more than three decades build unity and concern among the residents. But there were cases recorded that single mother face insecurity and children were abused in the locality.

Family Welfare and Income Generation

In every household adult member of the family take an active part in income generation. Most of the men work as daily wage workers or in small businesses while women were domestic helpers. Sometimes children help in business to add-on the income. Thus, expenses on food, education and miscellaneous were well managed for family welfare.

2.4 Livelihood Impact in The Slum Origin

The Physical Characteristic of The Dwelling Unit

The new housing with secured tenure has a positive impact on the residents. The improved housing condition, privacy, basic amenities, and utilities had upgraded their living standards. On the other side, families with large household size were not satisfied by the size of the dwelling units. Land and housing are key assets.

Loss Of Space

The informal spaces developed by the slum dwellers for their recreational and home-based small businesses were lost in the new housing site. New houses were too small to continue their businesses which were perceived as a loss of self-employment.

Loss Of Employment

The resettlement colonies are in far from their existing workplace. The location of Para and Laulai colonies was approximately 15 Km from their job place. Resultants, many families lost their jobs and income. Another attribute was an unfamiliar place and occupation which was different from their skill sets. Women were most vulnerable since the locations of resettled sites were in the outskirts.

Loss Of Income

The increased distance from the place of employment resulted in the loss of income and increased expenses in daily commuting. Whereas rental space in slums add income to the resident, which was not a case in public housing, so residents were not satisfied by the displacement from their origin site.

Fragmented Family Structure

The household size of the slum dweller was on average. The existence of a joint family was observed where brothers, a father with women of the house lives and work united for the family. However, after the resettlement the size of the family reduced. The common reason recorded was uncertain migration of family members to other places in search of job opportunity like the unmarried members. While some families forced members to leave because of the loss in income in resettlement housing.

2.5 Slums in India

Slums refer to makeshift housing or shanties found especially in urban areas, and are characterized by lack of basic facilities, squalor, and overcrowding. There is no regular supply of water, electricity, or proper sanitation facilities. Slums are generally built on government land that is lying unclaimed or vacant. They are mostly occupied by migrant workers, unskilled labour, domestic workers, and other such persons who cannot afford proper housing in the cities. Almost 49% of the total population in Mumbai lives in slums. Hence, its widespread prevalence is unquestionable.

Slum Population in Urban Indian Cities

Slums form and grow in different parts of the world for many different reasons. Causes include rapid rural-to-urban migration, economic stagnation and depression, high unemployment, poverty, informal economy, forced or manipulated ghettoization, poor planning, politics, natural disasters, and social conflicts.

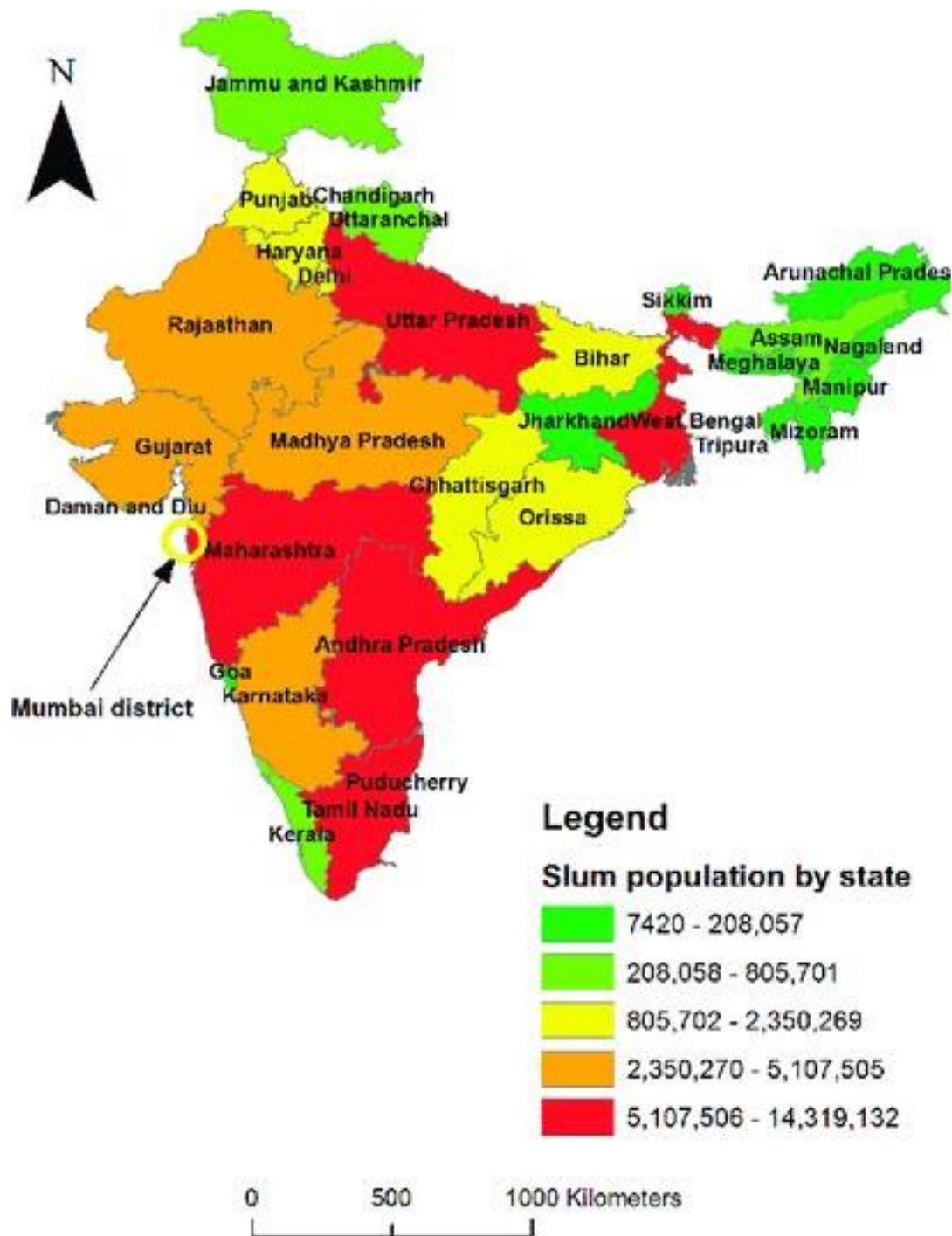


Figure 2. 1 slum population by state

Source: researchgate.net geographical distribution of slums in India

Increasing urbanization is emerging as the most pervasive and dominant challenge as well as a development opportunity facing India today. Population residing in urban areas in India, according to 1901 census, was 11.4%. This count increased to 28.53% according to 2001 census and crossing 30% as per 2011 census, standing at 31.16%.

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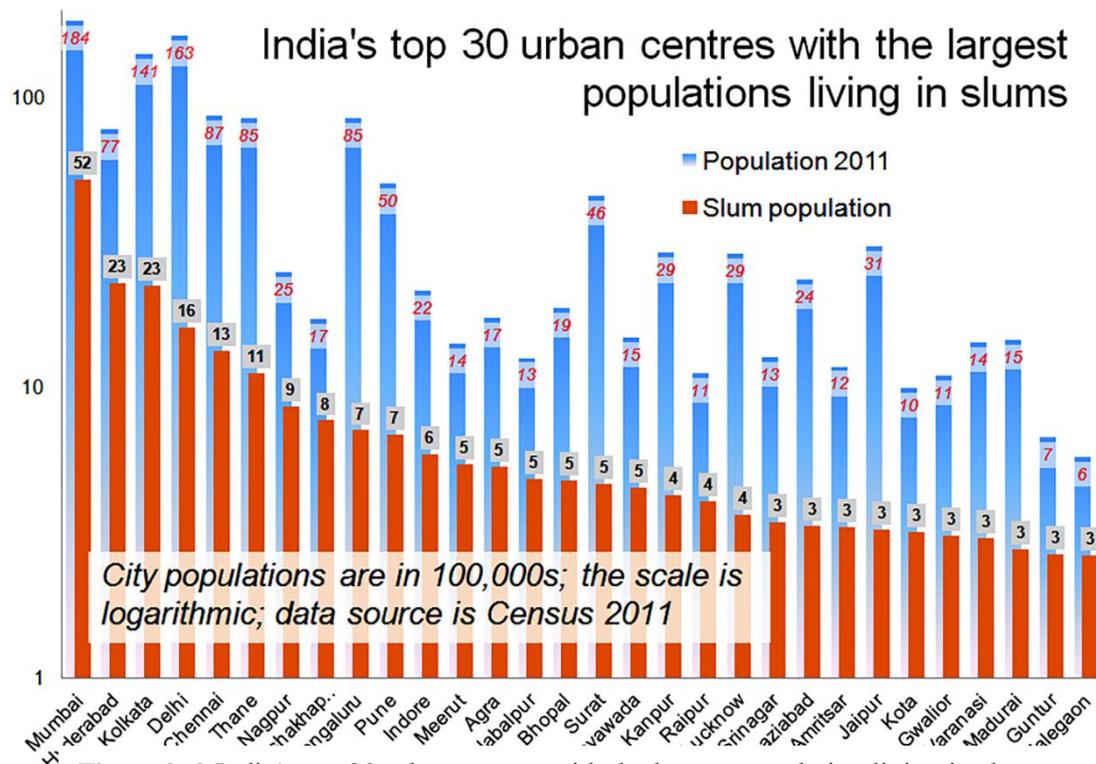


Figure 2. 2 India's top 30 urban centers with the largest population living in slum

STATE WISE URBANISATION AND SLUM POPULATION, 2011



be taken as inputs for future.

Figure 2.3 State wise Urbanization and Slum Population

In Above Chart Slum Population Of Uttar Pradesh Is 4th In India and Around 64 Lakh People Lives in Slum (2011).

2.6 Parameters for Livelihood Security

The parameters for assessing the vulnerability of slums for different location are within the four categories of livelihood security that are: -

- Economic security
- Social security
- Education security
- Health security.

Each component is comprised of several indicators or sub-components. These were being developed based on a review of the literature on each major component.

Table 2.1 Parameters And their Sub-Components

Sr. No.	Health	Economy	Education	Social
1.	Water	Female HH	School going children	CBO/NGO participation
2.	Toilet	Distance to workplace	Literate Male	Access to CBO/NGO
3.	Drainage	Unnecessary expenditure	Literate Female	Involvement of planning
4.	Electricity	Structure of House	Adult male literacy	Social assistance
5.	Morbidity	HH income	Adult female literacy	Widow
6.	Immunization	Family savings	Education level	HH size
7.	Access to health	Occupation	Access to education	Teenage girls
8.		Travel cost		

2.7 Schemes and policies

1. National Urban Livelihood Mission (NULM)

NULM was launched to reduce poverty and vulnerability of the urban poor households by enabling them to access gainful self-employment and skilled wage employment opportunities, resulting in an appreciable improvement in their livelihoods on a sustainable basis, through building strong grassroots level institutions of the poor.

The primary target of NULM is the urban poor, including the urban homeless. NULM will be implemented in all the district headquarters town and cities with population of more than one lakh as per census 2011. Various components to be taken up under the mission are as follows:

- Social Mobilization and Institutional Development (SM&ID)
- Capacity Building And Training (CB&T)
- Employment Through Skills Training And Placement (EST&P)
- Self-Employment Programme (SEP)
- Support to Urban Street Vendors
- Scheme of Shelter For Urban Homeless (SUH)

10 City Livelihood Centers (CLC) under NULM are to be established in Lucknow. Four CLCs are already opened in the city located in DUDA office at Naval Kishore Road, Patel Dharamshala in Kapurthala (Zone 3), Hussainabad (Zone 6) and at Kanpur Road between Mawaiya and Alambagh crossing.

Key aims of the CLC are to improve the job prospects of skilled artisans and to ensure that they got fair wages based on their skills. Services relating to carpentry, gardening, construction, security, plumbing, electrical, security and housekeeping would be made available through the centers.

The centers apart from providing employment to skilled persons would also make available quality and reliable services to people.



National Urban Livelihoods Mission
Ministry of Housing & Urban Poverty Alleviation

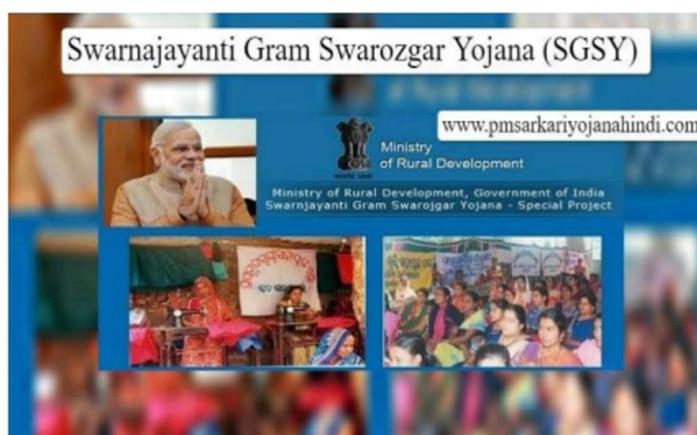


Figure 2.4 National Urban Livelihood Mission- Logo and Website

Source: SGSY website

2. Swarna Jayanti Shahari Rozgar Yojana (SJSRY) (Merged with NULM)

The objectives of the revised SJSRY are:

- Addressing urban poverty alleviation through gainful employment to the urban unemployed or underemployed poor by encouraging them to set up self-employment ventures (individual or group), with support for their sustainability; or undertake wage employment.
- Supporting skill development and training programmes to enable the urban poor have access to employment opportunities opened by the market or undertake self-employment; and
- Empowering the community to tackle the issues of urban poverty through suitable self-managed community structures like Neighborhood Groups (NHGs), Neighborhood Committees (NHC), Community Development Society (CDS), etc.
-

3. Rajiv Awas Yojna (RAY)

Encourage States/Union Territories (UTs) to tackle slums in a definitive manner, by focusing on:

1. Bringing all existing slums, notified or non-notified (including recognized and identified) within the formal system and enabling them to avail the basic amenities that is available for the rest of the city/UA.
 2. Redressing the failures of the formal system that lie behind the creation of slums by planning for affordable housing stock for the urban poor and initiating crucial policy changes required for facilitating the same. Rajiv Awas Yojana (RAY) envisages a “Slum Free India” with inclusive and equitable cities in which every citizen has access to basic civic infrastructure, social amenities, and decent shelter.
- The implementation phase of the scheme is for the period 2013-2022.
 - RAY was initiated by central government in 18 cities of Uttar Pradesh to make the cities slum free.
 - Detail report and mapping for slums in Lucknow has been done under RAY program in December 2012 however the implementation part still needs to be done.



Subsidized Slum Upgrading Model

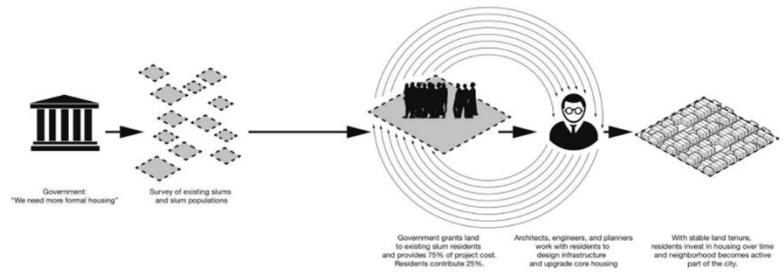


Figure 2.5 Subsidized slum upgradation model

Source: RAY 2012

4. Aasra Yojna (Residential)

- Aasra housing scheme for the urban poor has been launched by state government, in which preference will be given to the minorities. The scheme is being executed by the State Urban Development Agency under the Department of Urban Employment and Poverty Alleviation.
- Construction of approx. 780 houses for urban poor has been proposed and funds for the same has been approved and released to Construction and Design Services (C&DS), division of Jal Nigam for construction work.

5. Basic Services for Urban Poor (BSUP)

In the financial year 2005-06 central government started the scheme Basic Services for Urban Poor for the cities with population of more than 10 lakhs. Between year 2006 and 2010, ten DPRs were approved under BSUP program for Lucknow city with total cost of Rs. 376.65 Crores for housing and infrastructure facilities



Source: Hindustan times



Source: Hindustan times

Figure 2.6 Some initiations took by NGOs and government to aware people in slums

2.8 Case Studies

CASE STUDY-1 Urban Poor Living in Slums: A Case Study of Raipur City in India

Introduction

The strategies and priorities for improving slums are evolving over time and new initiatives are adapted based on the experiences gained by implementing many schemes launched over previous plan periods. The study will focus on how Government helps to enable poor urban residents to take advantage of economic opportunities by equipping them with education, skills, and good health. Government is now working on proper urban development plans together with all the major stakeholders. The paper deals with issues like Human capital improvements, particularly requirement of basic infrastructure and services, such as water, sanitation, solid waste management, land registration, educational and vocational training, access to appropriate basic health care (free or subsidized) and financial support. To improve the lives of people who live in slums and informal settlements requires community empowerment, good local governance, dialogue among all stakeholders and political commitment from the State.

Slum in Raipur city mostly developed surrounding the city center, where more affluent citizens, who have moved to the city, have abandoned property taken over by the poor. Although the immediate environment deteriorates because of the crowding, pollution, wealthy, and middle-class families, including those who have fallen on hard times, hangs on to their properties. “The root cause of urban slumming seems to lie not in urban poverty but in urban wealth” (Verma, 2002). Raipur city and leading forces of development

- 1 City Population and Economic Changes
 - Urban population is increasing rapidly
 - Urban population soon numerically dominant
 - Urban economic activities driving national economics
 - Havoc changes in communication systems
- 2 Global Economic Factors
 - Globalization
 - Market liberalization
 - Rapid technological change
 - Localization
- 3 Global Political Factors
 - Decentralization
 - Devolution
 - Rise of Governance- moving beyond government
 - Rise of municipal civic leadership

In Raipur the following reasons of growth of slums can broadly be summarized namely-

- Land encroachment
- Locational incompatibility
- Unplanned development
- Unauthorized construction
- Temporary/semi-permanent structures

Absence / inadequacy of basic amenities. The key question may be asked here is why do people live in slums? Here there are two reasons for this: one is internal to the slums, and the other is external. Internal reasons include lack of collateral assets; lack of savings and other financial assets; daily wage or low-income jobs (which in many cases are semi-permanent or temporary). External reasons include high cost of land and other housing services; apathy and antipathy on the part of the government to assist them; high acceptable building standards and rules and regulations; loop sided planning and zoning legislation.

Objectives

The present study mainly focuses on the several aspects of slum development in Raipur city. The main thrust of this study is to examine various concerns of slums. The following objectives have been framed for the present study. These are follows:

- 1 To examine the demographic characteristics of slum dwellers.
- 2 To examine the nature and extent of slum and factors responsible for growth.
- 3 To evaluate the people's participation in slum improvement programme.
- 4 To know the living conditions and infrastructural facilities available in the slum areas.
- 5 To study the health and nutrition level of slum dwellers.
- 6 To explore the level of general awareness among the residents of slums.
- 7 To see the various policy measures and programmes initiated by the government.
- 8 To review the environmental aspects of the city.
- 9 To identify the problems and constraints of slum development.

Selection of Slums

Raipur city has total 154 slums in which 135 slums are declared formally by the government located in various places within the city boundary. Some of these are situated in the heart of the city. It should be noted that out of 135 slums only few are densely populated whereas others are thinly populated. These slums have 22777 dwelling units with total population 1, 59,120. Two slums from each phase are taken as sample covered with all the components are selected for in-depth survey. During the process of selection of these slums, following factors are taken into consideration:

- a) large population with diversified characteristics
- b) they should have been covered with socio-economic programmes.

It is found that large slums are mostly situated in the East and the West part of the city. It is found that large slums are mostly situated in the East and the West part of the city. So, samples are taken from the highest populated slums from Eastern and Western phase of the city as these four slums have greater opportunity to represent the slum community of Raipur as a whole. In the east Gandhinagar and Moulipara both are big slums in terms of population and size and have 5782 and 4830 population respectively. Both slums have 957 and 878 numbers of families in each. From west part Kushalpur and Kota Basti are highest populated slums which have 6021 and 1037 population respectively. The number of families are 1003

and 166 in each. The data have been collected from secondary and primary sources. The study was conducted in 2012.

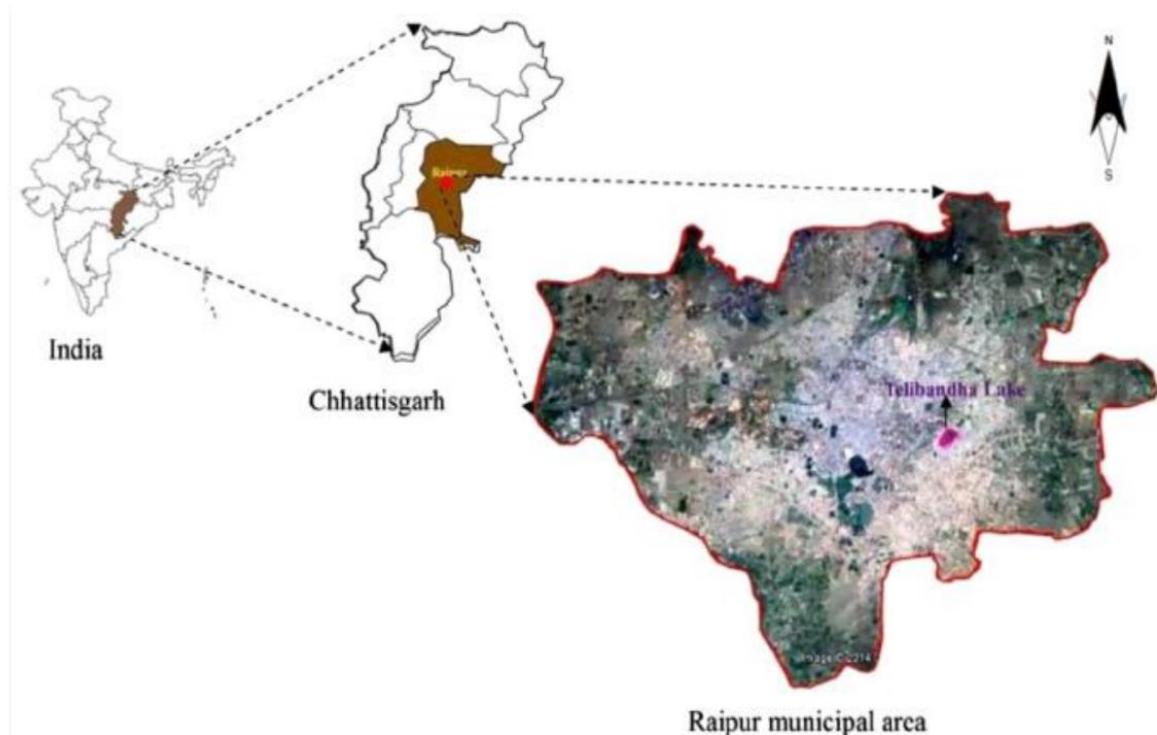


Figure 2.7 Study area of Case Study I

Municipal Solid Wastes

The “Municipal Solid Waste” includes commercial and residential wastes generated in municipal or notified areas in either solid or semi-solid form excluding industrial hazardous wastes but including treated bio-medical wastes.

- 1** Domestic Waste Daily waste comes from 1,14,819 (2001 Census) houses in Raipur city consisting of household waste, kitchen, house cleaning, old papers, packing, bottles, crockery wares, furnishing materials, garden trimmings, etc.
- 2** Trade & Commercial Waste in Raipur city daily it comes from 12,624 units of business premises, shops, offices, markets, departmental stores (paper, packing material, spoiled-/discarded goods), organic, inorganic, chemically reactive and hazardous waste.
- 3** Institutional Waste Schools, colleges, hospitals, large hotels and restaurants, markets selling vegetables, fruits, meat, fish, wastes from slaughterhouses, food packaging industries, cold storage units, community halls, religious places, etc. are the major source of industrial waste. The city is having 400 educational institutions (schools, colleges, etc.)

and 420 hotels (restaurants, lodge, and guest houses) and 500 hospitals (poly clinics, dispensaries, general hospitals, etc.).

- 4 **Street Sweeping** The city is having 970 km of road length. The main sources of this waste are unconcerned throwing, garbage by walker and vehicular traffic, stray animals, roadside tree leaves, waste from drain cleansing, debris, etc.
- 5 **Debris or Construction Rejects** Frequent digging of roads by various utilities comprising

Table 2.2 Basic Infrastructure in City Slums

earth, brickbats, stones, wooden logs etc., generates from contemn activities.

Services	Unit	Corporation	Areas
Roads	Km	826	352
Sewer line drains	Km	0	0
Storm water	Km	386	138
Community toilet	Seats	80	20
Streetlights	No	1520	355
Drinking water supply pipe line	Km	75	112
Drinking water supply public stand post	Km	110	50

6. **Health Conditions: Food and Nutrition Level in Slums** Health is a major economic issue for slum residents. The unhealthy physical environment leads to sickness, demanding for continuing medical treatment, which means reduction of workdays and economic loss. Economic loss leads to inability to invest in clean environment. The vicious cycle continues. Treatment at government hospitals is apparently cheaper but is inconvenient to the slum residents (because of time loss in waiting for the treatment and often, indifferent attitude of the medical staff) instead; they prefer more expensive private treatment.

a. **Several aspects of human development in slums**

For a very long time, economists have measured wellbeing of societies, economies, and people by the yardstick of income. Human Development Reports have asserted that human development is the process of enlargement of people's choices. They have highlighted that there are three essential elements of human development – to enable people to lead long and healthy lives, to access knowledge and education and to possess the resources needed for a reasonable standard of living. Consequently, three areas have

been identified as being of primary social concern – health, education, and material well-being. The dimensions of development have not been studied systematically for Chhattisgarh so far. The Human Development Report provides the basis for an assessment of its development. Equity (in income, in access to education, in health and gender equity), good governance and sustainable development are a few areas that require urgent attention in the State.

This study demonstrates that socio-economic development, emancipative cultural change and democratization constitute a coherent syndrome of social progress – a syndrome whose 19 common focus has not been properly specified by classical modernization theory. Here this syndrome is specified as ‘human development’, arguing that its three components have a common focus on broadening human choice. Socio-economic development gives people the objective means of choice by increasing individual resources; rising emancipative values strengthen people’s subjective orientation towards choice; and democratization provides legal guarantees of choice by institutionalizing freedom rights.

b. Social security for urban poor

Social Security refers to social programmes that provide set of benefits available from the government or civil society. These meet social needs of the individual against socially recognized conditions like infirmity, unemployment, old age, and poverty. These programmes may be contributory or non-contributory in nature. Government organizations have passed some acts on social security benefits like ‘Minimum Wages Act’, ‘Maternity Benefit Act’, ‘Equal Remuneration Act’, ‘Building and Other Construction Workers Act’, ‘Workmen's Compensation Act’, and ‘Contract Labor Act’, but they are partially implemented in totality because of ill-informed workers and lack of awareness. The government has passed the ‘Unorganized Workers Social Security Bill’ which ensures security of the informal sector too, wherein it covers ten social security schemes like pension, maternity insurance, general insurance, welfare scheme for artisans and weavers and health insurance.

In Raipur several urban poverty alleviation programmes are under implementation. Some Central Government sponsored Programmes are mentioned here.

Swarna Jayanti Sahari Rozgar Yojna

- National Slum Development Programme
- Balika Samrudhi Yojna
- Special Nutrition Programme
- Individual Latrines- Low-Cost Sanitation Programme
- VAMBAY
- Some State Government sponsored Programmes as follows:
- Rajiv Nagar Bata Programme
- Urban Programme for Advancement of Household Income
- Rajiv Yuva Sakthi
- Welfare Programme Sponsored by Women, SC, ST Minorities and Other Corporations

c. Amenities Stated for Urban Poor in 11th Five Year Plan (Government of India).

The Eleventh Plan recognizes slum dwellers, most of who are employed in the informal sector, as important contributors to cities' economy. Even though relocation of slums may sometimes be inevitable, appropriate measures need to be taken to ensure that the slum dwellers, especially women, do not lose access to livelihood opportunities and basic amenities. Today, almost 30–40% of India's urban population lives in slums. Over 62% of this population does not have access to sanitation services and 25% does not have access to water. Since it is generally women who fetch water, they spend much of their time and energy at water pumps, in water queues, or walking to other colonies. In the absence of toilets, poor women are forced to defecate in public places such as railway tracks, parks, open spaces, or even public pavements. Not only do they feel ashamed by this, but it is a serious health and security hazard as they can only use these public spaces in the dark. Thus, provision of clean drinking water, toilets, and sanitation in urban slums will be an important challenge for ensuring gender justice in the Eleventh Plan.

Conclusion

The rapid growth of urban population poses serious challenges in terms of provision of basic minimum services. Slums are an outcome of an imbalance in urban growth resulting from over concentration of economic resources in Raipur. The experience of Raipur, Integrated Slum Development Programme (ISD) offers in a way, a vision for slum areas, in which the slums may be considered an integral part of the city and planning. After bifurcation, Raipur's formation as capital has brought qualitative and quantitative changes among the slum dwellers. Environmental degradation is general phenomenon in slum. Therefore, a system must be evolved whereby the garbage from slums can be collected from each household and placed in the nearest big garbage collection depots or transaction stations, and after that it can be cleaned by municipal services. Improved hygienic conditions with increased awareness on preventive social medicine can reduce the health hazards in slum residents. It is noted that a bulk number of slum dwellers don't believe in casteism, untouchability, and pardah (superstitions) system

Raipur slum dwellers are still far from standard quality of life. With the growing urbanization and growth in the number of slums and slum population, there is a need for more and more community managed programmes than administration managed programme to improve slum areas. The study has clearly brought out the institutional gap at the community level as also lag in organization and leadership. If the objectives of the government are to make provision for basic human needs, there is need to emphasis and strengthen institutions at the community level in the form of neighborhood committees and to support nongovernmental efforts – either individual or institutional or else. In conclusion, while the problems of urban poverty in poor are enormous, it is perhaps relevant to note that some of the solutions are relatively clear. This is particularly the case in terms of the provision of physical infrastructure and in human capital. The task is to implement; the problem is to overcome the political and economic constraints.

CASE STUDY-2 Rehabilitation of Slum: A Case Study of West Zone Of Surat City

Introduction The word “slum” is often used to describe informal settlements within cities that have inadequate housing and nasty, miserable living conditions. They are often overcrowded, with many people crammed into very small living spaces. Slum constitutes the most important and persistent problem of urban life. They exist almost in all metropolitan cities of the world. Rapid urbanization, migration of the underprivileged from rural areas to urban centres and acute shortage of housing are the main attributes, in the formation of slums. They are observed in different patterns, forms as well as shapes, occupied in urban vacant land wherever available and possible to put up the shanty shelter. Squatting and pavement dwelling is another form and is common phenomenon in the metropolitan areas. Slums springs up and grow on both public and private land. The irresistible desire for a shelter makes the poor to encroach on any vacant land.

Surat, the second largest city in Gujarat state has a dominant role in the sphere of economic and industrial activities in South Gujarat region. Rapid urbanization has been observed in last three decades and many industrial set-ups have been surfaced in a big way in/and around city resulting in population growth increases in alarming way. The problem has been accentuated by continuous migration of the rural population in search of better working opportunities in the city. The slum pocket is increasing with the time. The poor affordability and even increasing cost of housing in the city have degraded the housing conditions as a result slum growth take place.

Aim & Objective

- To rehabilitate the slums of west zone of Surat city as well as to become a west zone slum free. The following objectives are framed for the study.
- To study the existing scenario and socio-economics of slums of west zone of city Surat.
- To recognize issues facing rehabilitation of slum in the study area.
- To evolve a suitable shelter strategy model for the rehabilitation of the slum dwellers of the Surat city in general and west zone as particular.
- To rehabilitate slums at appropriate place from municipal reserve land of west zone of Surat city and develop affordable housing proposal.

Study Area

The study consists with Surat City of Gujarat have population 44.62 Lacs (census 2011) and area 326.52 sq km. The map is shown in Fig. 1.1. The city is divided into seven zones and in

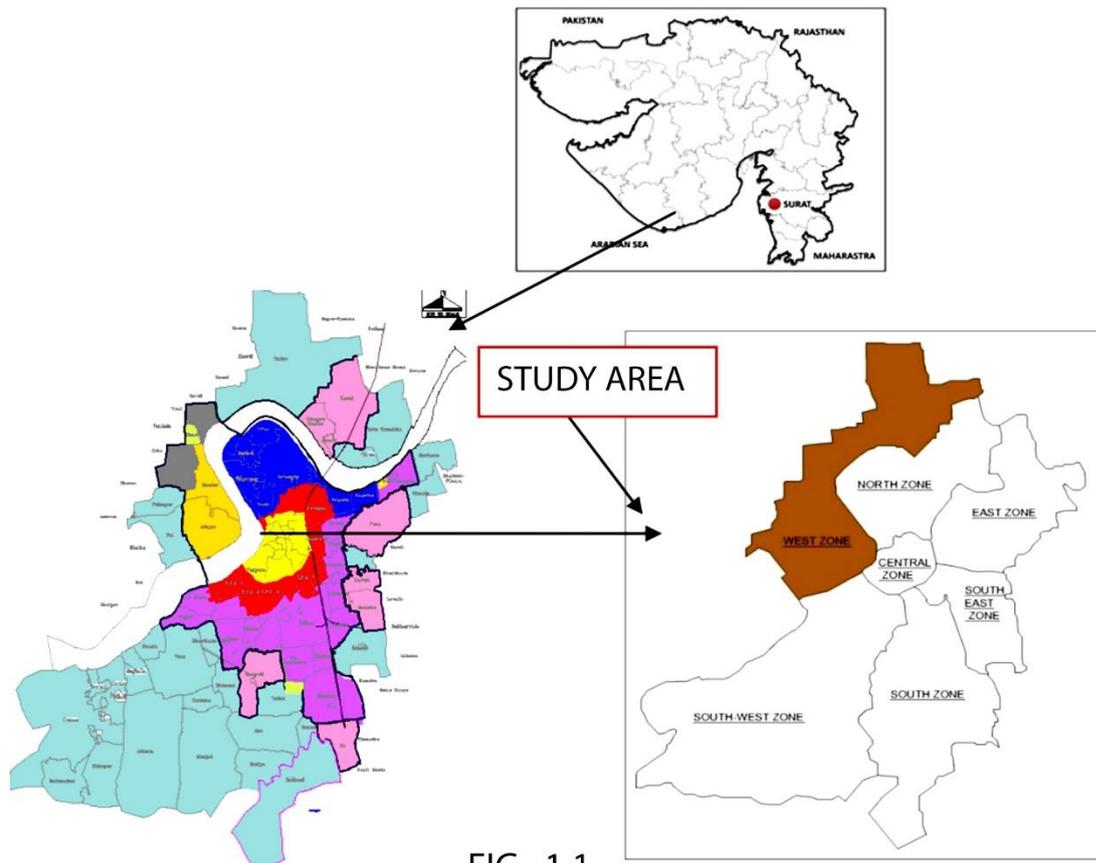


FIG . 1.1

Figure 2.8 Study area of Case Study II

114 wards of the Municipal Corporation.

Slum Scenario of Surat city

The city of Surat in Gujarat is known for its textile trade and textile industries, diamond cutting, polishing industries, jari industries, mega fertilizer plant, petroleum, and chemical engineering industries and more importantly since 1994 for the outbreak of Plague and is today known for its strength to convert its adversity into advantage. The outbreak of pneumonic plague in Surat during September 1994 created worldwide panic and severely affected the city as well as the entire nation's economy. About 60% of the population fled the city and the industry suffered an estimated loss of Rs. 12 billion. Though the disease was

controlled within a week, it raised many serious issues of public health and the capacity of the local government to manage the city.

ZONE	NO. OF SLUMS	SLUMS POPULATION (2011)	% OF SLUM	SLUMS AREA IN HAC.	% OF AREA	SLUM DENSITY PPHA
WEST	55	86775	13.78	44.28	14.76	1276
CENTRAL	36	40415	9.02	54.44	18.15	781
NORTH	61	68100	15.28	15.12	5.04	2811
EAST	59	104920	14.78	36.05	1202	2545
SOUTH	98	120385	24.56	49.33	16.44	1899
SOUTH-EAST	60	202285	15.07	79.29	26.43	2490
SOUTH-WEST	30	45550	7.51	21.49	7.16	2089
TOTAL	399	668430	100.0	300 HAC.	100	1897

Table 2.3 Zone wise Slum Pocket

Slums survey and analysis

The survey of the slum dwellers was conducted by considering the following important variables, such as, income, occupation, size of family, place of origin, period of stay as slum dwellers, reason for migration, agree to move, saving, remittances, total monthly expenditure, etc.

Migration: The observation could be made from the survey is that the major reason for increasing slum population is migrated from the other states for better employment opportunities. Number of people migrated from the other states in urban area like Surat is increasing day by day. From the survey Maharashtra is having maximum percentage of migrant population around 36%. Uttar Pradesh and Orissa are also major states for creating slums in Surat city

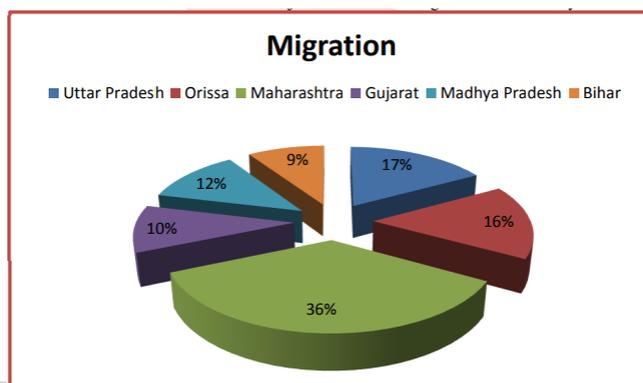


Figure 2.9 Migration of Surat City to Other State

Slum dwellers stay period: The population explosion is rampant, and economic growth is shrinking during the last 10 years, on the other. It leads to further aggravating the existing social economic evils in the system. Moreover, the people from the most backward states of India migrated mostly to Surat city (the study area). It clearly shows that socio-economic evils pushed the people from the rural system to go out and they land up in the urban system during the last 10 years. The persons who are staying in the area (study area) since many years just for better employment opportunity which are nearby their home so that they can easily go there without any problem.

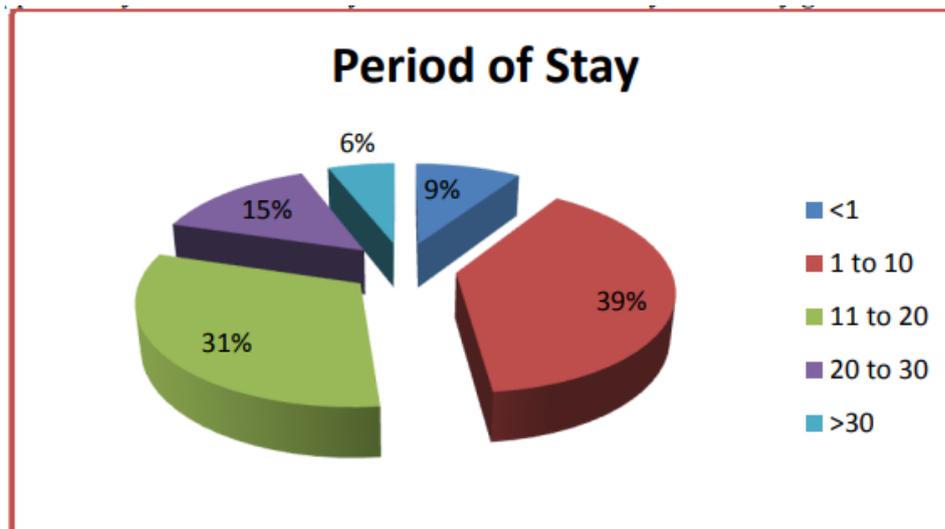


Figure 2.10 Slum Dwellers Residence Period

Development Of Physical Planning Shelter for The Slum Dwellers

Housing Strategies for slum Dwellers: Building cost-effective housing is a challenging move for developers: it is a new market on which little knowledge is available, there is almost no return on experience and the only certitude is that it requires to build drastically cheaper housing units. Traditional residential real estate strategies would not work for that segment and developers must redefine several financial and operational aspects of the industry. There are mainly 4 housing models in its study of low-income housing solutions in India:

1. Slum Rehabilitation: Incremental housing in existing slums or moved to another place for better infrastructure
2. In Situ Redevelopment: Slum dwellers in new housing units on existing land where slum already exist
3. New Housing: Building of housing units affordable to low-income households
4. Renting Model (emerging): building of housing units where a minimum of 40% will be reserved for low-income households.

Planning Proposal: A Housing for the Urban Poor Low Rise Apartment In this proposal, low rise (G+3) is provided on the S.M.C. reserve Plot for E.W.S. for different five slum pockets. Low rises are provided where the huge number of slum dwellers is living on slum pockets. Detail drawing and its specification are described which are shown in Fig.



Figure 2.11 Proposed Layout Low Rise Apartment

There is total 1344 households (slum dwellers) living on the different five slum pocket. In this proposal total 42 no's of low-rise buildings (G+3) are provided with public amenities, recreational area, and 9mt wide internal roads. In the public amenities, 2 number of Anganwadis, one shopping complex and one police station is provided. In low rise building there are total 8 units on each floor so 32 units are in one building.

Table 2.4 Proposed Land Use

Particular	Area (Hac.)	Percentage
Residential	1.79	48.97
Recreational	0.47	13.10
Public amenities	0.62	17.10
Roads	0.76	20.83
Total	3.66	100

The following infrastructure facilities are divided into two parts one is Physical infrastructure and another one is social infrastructure. In this proposal following physical infrastructure facilities are proposed.

- Drainage: Underground R.C.C. pipe drain of 250mm diameter. Location of manholes at 30 mt distance. The connection will be made in existing SMC trunk line.
- Water Supply: Underground pipeline of minimum 150 mm will be laid & connected with SMC main trunk line.
- Streetlight: 6.0 mt. G.I. pipe poles at 20 mt. distance will be laid with tube light fittings.
- Roads: All internal roads of 9 mt. width will be constructed with residential street type design.
- Pavement: All surrounding areas will be made Pacca by paver block.
- Solid waste collection: In this door-to-door collection of garbage will be provided for the slum dwellers.

Comparison The comparison between this proposal to the proposal given by SMC is shown in Table.

Table 2.5 Comparison of SMC Proposal to This Proposal

Sr. no.	Particulars	SMC	Proposals
1	Total cost per unit	2.51 lakhs	2.39 lakhs
2	Unit area	25 Sq. mt.	23.96 Sq. mt.
3	Road width	7.5 mt.	9 mt.
4	Building structure	G+3	G+3
5	Number of rooms per unit	2	1
6	Number of units in one building	16	32

Above table shows the total cost of one unit is 2.39 lakhs, whereas in SMC proposal of providing EWS housing the cost of one unit is 2.51 lakhs which is slightly higher. So, this proposal is an affordable compared to SMC proposal. Another point is in SMC proposal, 2 rooms are provided in each unit whereas in this proposal, only 1 room is provided because it is sufficient for slum dwellers.

Conclusion

West zone is having 55 slum pockets because it is a developed area of the city. Approximately 36% people migrated from Maharashtra state and 18% people migrated from Uttar Pradesh. Remaining from other states. West zone is highly crowded with small cape industries. The main objective of this work is to study the existing scenario of slum dwellers and based on that provide suitable housing strategies for the slum dwellers. In this study rehabilitation of the existing slum pocket is considered as an future scope at that place and S.M.C. will get their reserve plots as well. This study is mainly focus on the choice of slum dwellers as follow:

- House will be nearby their workplace
- They will be provided transportation facilities
- EMI will be less as possible as govt can do

CASE STUDY-3 State of the Environment in Slum Area: A Case Study on Khora Slum, Khulna

Introduction

About 30 percent (9 million) of them are living under poverty level and about 17 percent (5 million) are living in slum areas (World Bank Memorandum 1985, p: 35). According to the definition of urban poor by World Bank there are 12.45 million urban poor and 6.97 million urban hard-core poor in Bangladesh, who lived in slum and squatter settlements (Islam, 1998, p: 2) or in informal settlements. Khulna is the largest city in the south region and the third largest Metropolitan city of Bangladesh. It is an industrial city. There are many laborers in the city area. Mainly, they are living in the informal settlements. This is one of the reasons which are responsible for the growth of the informal settlements. Slum settlements which is directly treated as the informal settlements are about 202 in the Khulna City Corporation. There are several interacting factors contribute to the process of marginalization or impoverishment of the urban poor, those are: Anti-poor national policies; High fertility; Environmental deterioration; Natural disasters; Cultural and ethnic factors; Exploitative intermediation and international processes. Population growth exerting tremendous pressure on productive natural resources, over exerting of natural resources also get impact on the sustainable environment protection and lessen their income scale.

Most of the area of Khulna city is unplanned and unauthorized, which are full of various problems like proper accessibility, lack of adequate services facilities, orientation, and zoning problems. A vast majority of the population of Khulna is living below poverty level and most of them are occupied either in various informal sector jobs or small, medium, and large sized industries as workers. As a result, they are compelled to live in slums and squatter areas without having least access to basic urban services and facilities. Urban poor are those who live in urban areas and unable to meet their basic needs with their own income. Maximum calorie intakes per day of them are 2122 cal. The World Bank identified two major groups: The 'Poor' that is those who earn less than Tk. 2600 per month for the average family group of six persons; and the 'hardcore Poor' who earn less Tk. 1724 per month (BCAS 1991).

The people whose income is below Tk. 3500 monthly and generally who are living in semi-pucca, and kutchra houses are denoted as the urban poor housing. On an average per year population is increasing at a rate of 4.13% (Firoz, 2004) in Khulna city. The major causes are natural growth and migration and generally migrated people take shelter in low-income housing. For cause of low level of income people cannot afford better housing and this enhance the formation of low-income housing. Slums are scattered almost everywhere of the city. Living in sub-standard condition and about 18% of people live in slums. Generally, the low-income people of different occupation (like rickshaw pullers, pull cost pullers, scooter drivers, petty shopkeepers, laborer) live in the slum houses. Abedin, "Our Cities and Towns", 1968, The author shows that the economic ones emphasize a house as a 28 good investment, as an incentive to save, as a way of improving credit standing in the community, and as

freedom from landlord. The social reasons, which encourage home ownership family, pride in owning, family security a brief in the virtue of private property ownership and a sense of better

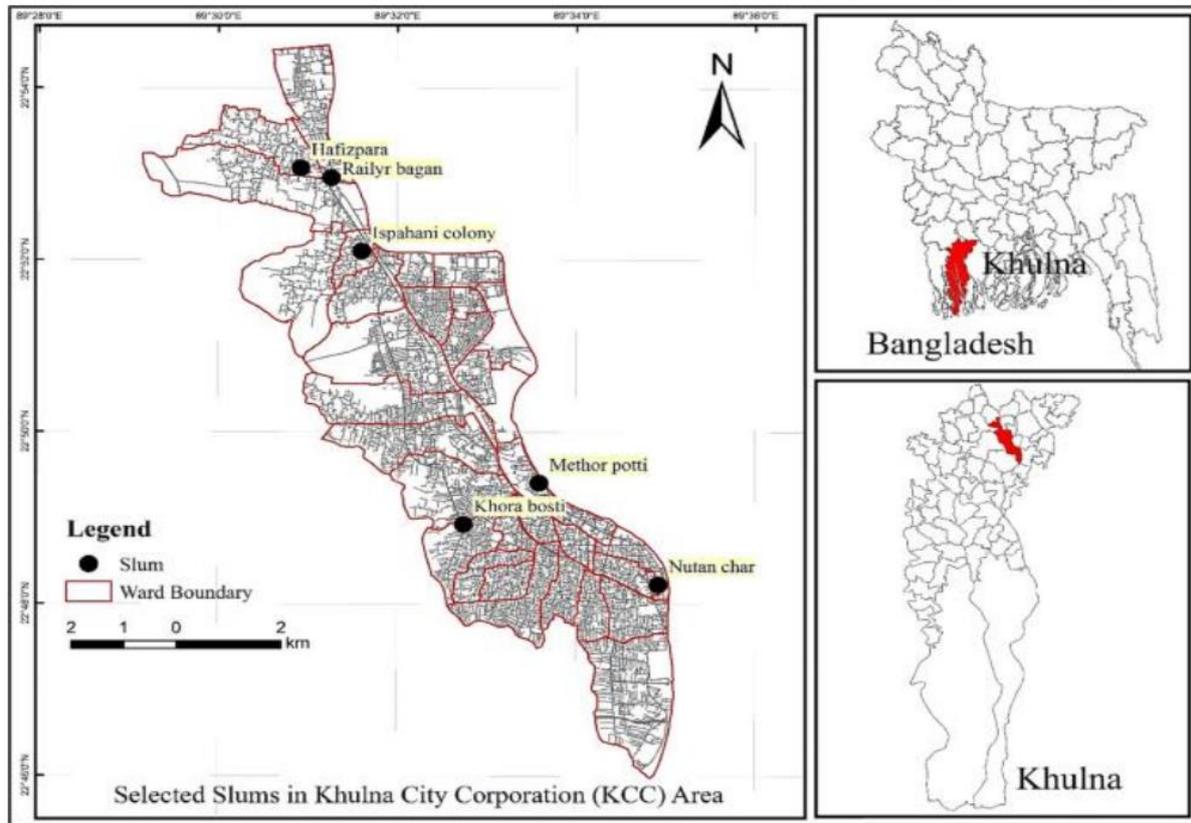


Figure 2.12 Study Area of Case Study III

citizenship. “Slum appears to be plan less or even antiplan”. They have argued that in an industrial city the working-men’s houses are situated near the industrial belt of the city; it may also be situated near the CBD area. They have shown a theory relating the urban growth as well as the slum. They have also identified the characteristics and living environment of the slum.

Materials & Method

After setting the objectives of the study to reach the terminate point, a mental model was made that was the setting of thinking for achieving the goal of the study sequentially. The survey was conducted with the people of Khora Slum area. Quantitative data were collected from laboratory analysis & the relevant organizations Local Government Engineering Department (LGED), KCC, BBS, Non-Govt. NGOs, Satellite image; digital map and different software (MS Word, MS Excel etc.) were utilized. All the collected data and information were compiled, analyzed, and interpreted using different statistical formulae. In this study, the spatial analysis of the informal settlements, this is directly related to the informal settlements growth and is conducted with the locational viewpoint of the informal

settlement's location within the city, the reasons that the informal settlers live in a specific informal settlement.

Results

Educational Status of the Slum Dwellers: Educational status of the slum dwellers is not so high. Most of the people are illiterate. The percentage of illiterate people is 42.19% and the people who can sign only are 20.66%. Some of them have primary level and a few have secondary level education. The percentages are 33.34 and 3.81 respectively. For high rate of illiterate, they are not aware enough about the necessity of education.

Occupational Status of the Slum Dwellers: Most of the people in the Khora's slum are illiterate. Male literacy rate is higher than the female. Most of the female are illiterate. Most of the literate people are in the primary level. Most of the people in slum area are basically engaged with physical labor (83%) rather than the mental labor. As their educational level is poor, so they can't get any job based on their educational qualification. For this reason, they can never change their life, moreover they have no willingness to improve their live standard sometime. But some of them have willingness to improve their life standard and they have done well, some of them are savings money from their income and invest them for earning more.

Income Distribution of the Slum Dwellers: As their educational level is poor, so they can't get any job based on the. For this reason, they can never change their life, moreover they have no willingness to improve their live standard sometime. But some of them have willingness to improve their life standard and they have done well, some of them are savings money from their income and invest them for earning more. Here most of the people are concentrated in 2000-3000Tk and 3000-4000Tk. Most of the people in the slum area have to hard work to live. They work for all day long and after the day they have no time for the secondary occupation.

Condition of Housing and its Services & Facilities: Khora slum is a small slum. There were one hundred and ninety-three households in the slum 2 years ago. But now it is about 400-430 households. The maximum number of houses is thatched and tin-shed. Most of peoples are living here below the poverty line. So, they have to effort low-cost housing.

About 60 percent houses are thatched here. The main part of housing materials is floor materials, wall materials and roof materials.

Discussion

Most of the third world countries especially the Bangladesh are facing the problem of housing. Housing problem is associated with various problems such as road network, water supply, drainage system etc. which are found in the study area are as follows: Absence of adequate road network: Road is the basic service for housing development and also important to provide other services and facilities.

Due to lack of organization and coordination most of the households are deprived of direct access to a motor able road. Nearly all the roads of this study area are pucca. Only 33% of the household have an easy access to Jeep able roads and 67.5% of the households do not easy access to Jeep able 31 roads from their residence. As a result, road network in the study area remains to be a critical problem for residence.

Conclusion

This study is an effort to define low-income housing and low-income group of the study area. Location choice is defined based on mobility pattern and the adjustment with housing condition in terms of services and facilities and occupational point of view. In the Sonadanga bus stand of KCC there are both lower and middle & high-income group people.

The services and facilities for urban low income (slum) people housing development are mosquito spray in khora slum for last 10 years. Again, there exists only 5 shallow tube wells, of which 3 are presently in use and the water quality was analysed in our lab. One of the three

tube wells shows a high salinity (10 ppt) and the other two are moderate in salinity level. As the slum is situated near to the city bus station normally this place is noisy (79dB).

KCC is the local authority for the delivering of municipal services to its dwellers. KCC provide services to all the people of their jurisdiction. The slum dwellers do not get pure and sufficient drinking water. Narrow and open drains with the poor water supply and dispose of wastes here and there cause different infection diseases in the slum children. A substandard housing area with poor water and sewerage facilities, or lack of access to income earning opportunities, can contribute to low family income, poor health, and higher crime rate. Earning opportunities in the society can be improved by locating low-income housing areas near employment concentrations. In some ward of KCC there are predominantly lower and middle people.

In this area there is no monetary or dissimilar incentive to revitalize urban low-income people housing development. Government policy and their convenient application can solve all these problems. Private sector involvement is also encouraged to abate housing problem KCC

2.8 Base Paper: Vulnerability of Slums to Livelihood Security: A Case Study of 3 JJ Clusters, Delhi

1. Introduction

Livelihood is a means of making a living. It incorporates people's abilities, assets, income, and actions required to secure the requirements of life. A livelihood is sustainable when it enables people to cope with and recover from shocks and stresses (such as natural disasters and economic or social disturbances) and improve their well-being and that of upcoming generations without undermining the natural environment or resource base. Livelihood becomes vulnerable when it fails to cope with or recover from such stresses and shocks.

Vulnerability of a slum can be assessed on countless scales like location of the slums and status of housing, availability and accessibility of basic services like water supply, drainage and toilets, nature of occupation/employment, access with social, physical and economic accessibility to health services, status of gender, education, social capital and existence of development organizations and activities.

2. Research questions and Methodology

To assess the level of vulnerability to livelihood security for different slum locations certain research questions need to be answered:

1. What are the parameters used to assess the vulnerability to livelihood security for slums?
2. Does the location of slums have any effect on livelihood security of slums?
3. Which location of slums is highly vulnerable to livelihood security?
4. What parameter of livelihood security is most important that affects vulnerability the most?

3. Study Area

Delhi The case area taken for this research is the capital city of India i.e. New Delhi. Haryana borders it on three sides and by Uttar Pradesh to the east. The case area for this research is JJ Cluster in New Delhi. Delhi, capital of India, is home to about 2 million persons living in slums and it is assessed that 45% of its population lives in unofficial colonies, JhuggiJhompri (JJ) and urban villages.

As per Census 2011, Delhi state had approximately 4.2 lakhs Jhuggi Households with a population of approximately 21.5 lakh. As per Municipal Corporation of Delhi (MCD) records there were in all 860 JJ clusters in Delhi during 2011 census. Considering location as a parameter to select the JJ Clusters in the study area, 27.64% of slums area near railway track, 27.73 percent

of slums are near green area and 26.19% of slums are location near Naalah/drain. The remaining JJ clusters exist in other locations that comprise 18.44%. The location of slums i.e., near railway track, near green area and near nallah together contributes a total of 81.56% of the total notified JJ clusters in Delhi. Hence the JJ clusters

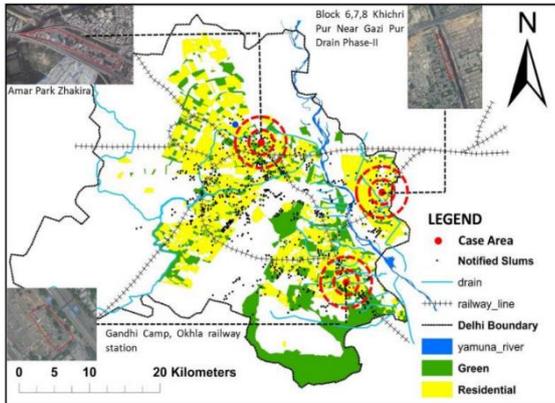


Figure 2.16 Locations of JJ Clusters in New

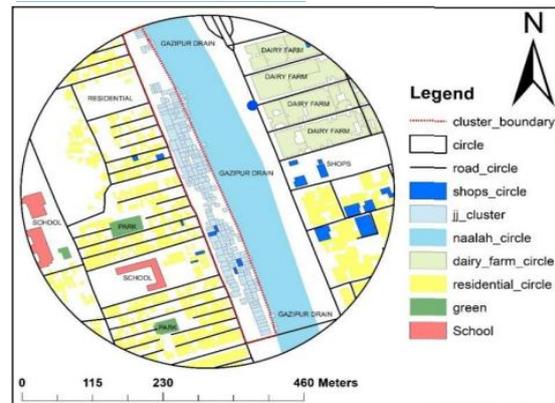


Figure 2.17 Land use of Ghazipur slum near nallah

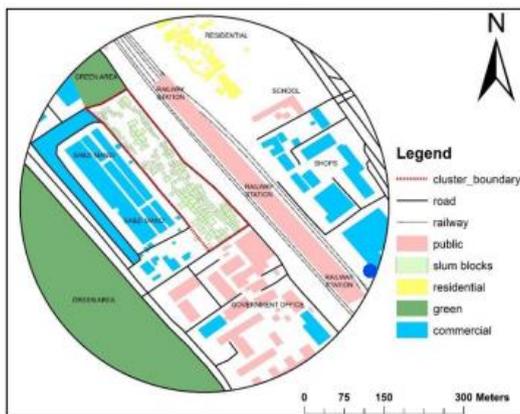


Figure 2.18 Land use of Okhla slum near railway track

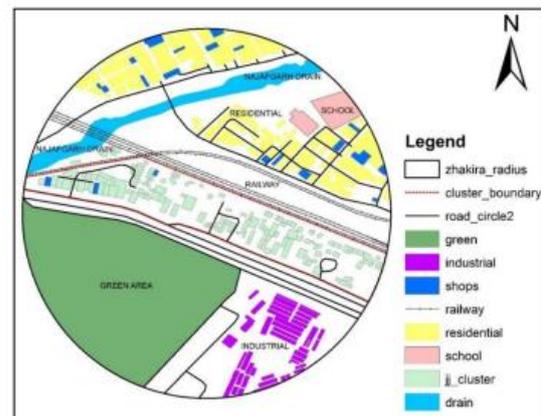


Figure 2.19 Land use of Zakhira slum

Data

Primary data was collected through household questionnaire survey key informant survey and through observation survey. The main themes included in the questionnaire are the different components of livelihood security that are economic security, health security, education security, food security and social security. The data was collected at 2 levels. The data for health, education, economic, food and social scenario of the slum dwellers was collected at household level and data for the age, sex, education, occupation, income, education level, mode of transport and transportation cost was collected at individual level. The secondary data was collected from various government departments such as Delhi slum map that shows

location of different slums clusters, list of notified slums and household size of JJ cluster i.e., with location and Slum Free City Plan of Action (SFCPoA) draft report from Delhi Urban Shelter Improvement Board (DUSIB).

Households were selected randomly from the 3 slums. The size was determined using the Cochran formula:
$$X = t^2 * P(1 - P) / ME^2$$

Where, X = No. of Samples t = Percentage of Confidence (90% @1.64) ME = Marginal Error (0.1) P = Percentage of Population in the slum to the total slum population

Analysis

The vulnerability index includes 5 components namely economic security, health security, education security, food security and social security. Each component is comprised of several indicators or subcomponents. These were being developed based on a review of the literature on each major components and discussion with experts. The measurement of subcomponent is based on the quantitative and qualitative parameters i.e., based on literature. So, because each of the sub-components is being measured on a different scale i.e., quantitative as well as qualitative, it is important to standardize each of the subcomponents as an index. The method used for standardizing the sub-component is ranking of the sub-components that may be quantitative or qualitative based on existing literature and general understanding about the subject. The values of the sub-components have been assigned rank from 1 to 3 i.e., 1 being the least vulnerable, 2 being moderately vulnerable and 3 being highly vulnerable.

Conclusion

As a result of this research, it was identified that health security affects livelihood security the most, followed by social and economic security. The study along 3 different slums locations help us identify the slum cluster located along environmentally sensitive zone i.e. along Naalah/drain is highly vulnerable to livelihood security when compared with other slum location. Gazipur slum i.e., the case area located along drain was highly vulnerable to livelihood security in the 3 slum locations. It is necessary to propose facilities in terms of infrastructure, social, economic etc. for the slum dwellers to make their livelihood secure. Education and food security were found to be least vulnerable in comparison to health, social and economic vulnerability. All the three slums need intervention in terms of provision of infrastructure. Since Gazipur is located near environmentally sensitive zone and is also observed to be highly vulnerable so it needs to be relocated. Considering Zhakira where housing structure has been observed to be pucca, slum infrastructure upgradation can be an option. Similarly in case of Okhla, housing up-gradation which includes upgradation of kutcha/semi-pucca structures into pucca and thereby provision of basic infrastructure components including toilet, water supply, drainage etc. can be thought of as one of the solutions to lessen the overall vulnerability of the slum. Also, social assistance programs need to be initiated for elder population, widows along with provision of food at low cost

2.10 Research Paper Reviews

1. Sejal Patel and Ritika Mandhyan “Impoverishment assessment of slum dwellers after off-site and on-site resettlement: a case of Indore”, Commonwealth Journal of local governance issue 15: June 2014.

In this paper, Assessment for impact of off-site and on-site resettlement project in Indore is done by Ms. Sejal Patel and Ritika Mandhyan with the help of Impoverishment Risks and Reconstruction (IRR) model formulated by Cernea. The recent policies for slum relocation and rehabilitation provide house with basic facilities to slum dwellers. Slum policies are inefficient to displaced slum dwellers to decrease poverty risk.

The assessment of impoverishment risk caused because of displacement and resettlement under the Basic Services for the Urban Poor (BSUP) programme of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) launched by Government of India in 2007. JNNURM provides public fund to local governments for transport and infrastructure. In this mission, the Ministry of Urban Development, Housing, and poverty alleviation (MoUDH&PA) focuses on infrastructure investment in ULB through urban infrastructure and governance programme (UIGP) and provide shelter and basic services through the BSUP programme. BSUP mainly gives the relocation of new houses in urban periphery instead of in situ upgradation of basic facilities. The study of assessment improvement risk because of displacement and resettlement of urban poor under BSUP project in Indore is done.

The study was based on qualitative and quantitative data. 12 sites were studied in which 10 were off- site resettlement and 2 were on-site resettlement. Primary data collection was based on the questionnaire survey, interview, and observation from around 25% household from total household at site by random sampling. Secondary data were collected from Indore Municipal Corporation, Indore Development Authority, JnNUMR project office, reports from consultants and intervention from the community leader. The questionnaires were related to problems after resettlement of slum dwellers like household details, income and expenses, health and hygiene, education, social networks, food security, loss due to relocation, productivity, access to services based on social and economic impoverishment of respondents. The parameters that were analyzed are landlessness, homelessness, marginalization, health risk and social disarticulation. In landlessness, around 405% expense is increased in travel expense to work, and 50% work trip shifted to public and motorized mode of transport. 216.6% increase in distance to school, 325% increase in distance to health

and 504% increase in distance to market Center from the relocation to the departure slum site. In joblessness, after relocation around 8.7% of the total workers lost their job and workers who continue with old one, had to travel average 8 km to their workplace. People who were excluded from the scheme of resettlement and rehabilitation are homelessness people. These people had to construct their new houses with their expenses and some compensation from Municipal Corporation. Most of the people had unsafe and unhygienic houses, while 46% people have a permanent house at departure site.

These resulted that people would more economically weaker, and there was also a lack of basic facilities. There was also a problem of marginalization, in which the beneficiaries would be replaced by outsiders and newcomers which break the community of that people. 36 In this scheme the people who haven't any legal document would also get the dwelling unit. So, it would lead to conflict between people who had legal document and people who had not. After relocation, health risk was increased because of open solid waste disposal and unsafe drinking water. The expenditure on health also increases around 3%. The cases of alcoholism were also increased because of stress related to relocation. Because of these, safety of women and children were also decreased. There was also a lack of accessibility to community facilities like schools, hospitals, ration shops, markets, etc. because of relocation of slums. The facilities near the site are very expensive which cannot afford by slum dwellers. The distance of school facility was increased by 217% and for the health care it was around 325%.

There was also a problem of community deterioration because of resettlement of the slum. This problem did not exist in slum up gradation. From the study there was one finding that, the off-site relocation of the slum should be near the 3 km from the original site. From the study, the conclusions were, there should be proper community participation. The site should be upgraded or relocated within the same ward from the original site. There should be provision of opportunities for employment of displaced on the site or provision of self – employment. There should be provision of skill development programme within the scheme. There should be a framework of reviewing and monitoring of project implementation and social audit. The issues around maintenance of common property resources and utilities can be resolved.

2. Amey Z. Sheth, Nagendra R. Velega and Andrew D. F. Price, “Slum rehabilitation in the context of urban sustainability a case study of Mumbai, India”, Loughborough’s Institutional Repository, 2010.

In this paper, the effect of rehabilitation of slum on urban sustainability is discussed in reference to Mumbai. In Mumbai, every year millions of rupees are being spent to make Mumbai sustainable by resettlement and rehabilitation of slums. Many organizations tried to develop a sustainable environment of Mumbai but failed because of not working on a united front. The aim of this research is to examine slum areas and their effects on sustainable urban development by series of face-to-face interviews. For this, Mumbai Metropolitan Region was examined in which project was funded by the World Bank. In a survey descriptive analysis was done for various aspects like social, educational of urban sustainability of slum and rehabilitated areas. Various organizations are working on upgrading of slums in MMR to improve urban environment quality. In Mumbai, 60% population is living in slum that covers 6% of the land as per CBC, 2006. For the rehabilitation of slum, middle-class people must pay more taxes to the government. Individual’s criteria related to families have a major role for the success of rehabilitation and resettlement. The positive feedback related to resettlement area is increase in privacy, significant amount of light, ventilation, basic facilities like toilets, water, parking, school, public transport, roads etc. then increase in monthly income, up gradation in living standards. The negative feedback is increase in monthly expenses, not ready to shift in high-rise building from the low-rise slums and commercial units were not happy because drop in their business. Private builders and developers are not taking interest in slum redevelopment because schemes are not financially attractive to them. It is difficult to achieve urban sustainability if the slums and employment opportunities are not considered in Mumbai. So, to achieve sustainability in the urban environment, government and NGOs should come together to work in the same line and not individually. To achieve urban sustainability, along with low-cost mass housing, there should be a consideration of other aspects like employment, education, and general awareness.

3. Vijay Kapse, Arun Pofale and Mayank Mathur, “Paradigm of relocation of urban poor habitats (slums): a case study of Nagpur city”, World Academy of Science, Engineering and Technology Vol:6, 2012.

To improve the quality of life of slum dwellers, in-situ up-gradation is successful with compared to relocation. Factors for failure of relocation are discussed in this paper. These factors are found out from the examples of Western and Indian cities. There are three approaches for slum development programs, (a) In-situ upgradation, (b) Extension to minimum basic civic amenities and (c) Relocation. Based on Mumbai in-situ slum upgradation project, there are positive impacts like per capita, average household income and number of earning members increased, 40% full-time employment increased, daily wage employment dropped. As a result, household spent more money on education. There is better household condition with all basic amenities. The rate of school children drops out decreases

to 6%. Under this scheme, poverty is moving closer to zero (0.0644). In an 38 extension to minimum basic civic amenities scheme, the component is the construction of pay and use Jan suvidha complexes containing toilet, baths, and mobile toilet vans. This scheme is implemented at very rare places. In the relocation of slums, slum dwellers are shifted to another site with dwelling unit, basic civic and social infrastructure facilities. In the relocation of slum, there is a low degree of satisfaction in improved living conditions and quality of life of urban poor. Most of the urban poor created new slum by returning to their original place of settled nearby workplace. In Dhaka, slum dwellers shifted from one slum to another. In cities where large areas are cover with slum, slum relocation is not affordable. In Kenya, around 40 million people live in slum In Delhi, Government authorities relocated 27000 families of Yamuna slum to 35 km far from their original slum which destroyed the livelihood. Netaji Nagar slum, Sanjay camp and Nehru camp Slum did not get alternative site after demolition of those slums. Government also gave the plots of slum dwellers that were mentioned in the master plan of Delhi to private contractors for high-rise buildings and entertainment plaza. In Mumbai, the relocation process was phase wise and very slow for slum dwellers lived on site of Kurla apartments. Slum dwellers mistrust on authority because of phase wise shifting and non-completion of infrastructure. The slum of Santa Cruz area was shifted on the reclaimed saltpan land on the outskirts of the city. The alternative site was in central Mumbai, but it has been given to private builders for the construction of shopping malls. Around 100000 families stay on airport land of 300 acres in Mumbai. Slum dwellers do not agree to move from there. They demand compensation money of flat in that area. These types of issues also occur in Kolkata, Chennai, and Hyderabad. In Ahmadabad, relocation of 10000 household is done through 11 town planning schemes which are 40-70 km far from original sites. The relocation of slum from riverfront development area affected around 4000 school kids. In “National Urban Housing and Habitat Policy - 2007”, focus is to give affordable housing to urban poor at their present location or near their workplace. In “National Rehabilitation & Resettlement Policy 2007”, all slum dwellers are involuntary displacement compulsory. In habitat, president of the National Slum Dwellers Federation takes review of relocated slum dwellers for the facilities of housing, water and sanitation. In Nagpur, there are total 439 slums in which 279 notified and 142 non-notified and 18 newly identified slums. The main reason of creation of slum in Nagpur is migration from Vidarbha and Chhattisgarh for job opportunities in cotton industries. Factors that are responsible for the worse situation of slum dwellers are loss of livelihood, security of tenure and government inefficiency. Policy guidelines are also suggested for making relocation successful scheme.

4. SoniNeelam, OnkarPreeti and Dhote Krishna Kumar, “Conceptual framework of land suitability analysis for slum redevelopment initiatives”, International research journal of social sciences vol. 2(3), 40-45, march,2013.

Land is very important and limited natural resource. Sustainable use of land is very important in urban planning. In this paper, the factors that are affected to physical redevelopment and socio-cultural, environmental, and economic aspects are discussed. In India, there is no provision of policies, control or regulation for overcrowding and migrating population. The growth of slums on government land and development of slum 39 irrespective of land used

cannot be checked. There are no financial facilities available for informal sector because their income is not taken into consideration while assessing the economic health of the cities. So, they get financial support informally and due to lack of funds the land cannot be purchased on the desired location because of high land value. In leasehold system, land can transfer illegally, so government system fails to track the loss from the transfer. In housing problem, government focus on technical, financial and administrative aspects only and not on land issues. Slum dwellers are used to living in ethnic groups that have the same nature of work and face the problem of recession during the off season. Slums are an integral part of cities in India. Slums can be in the inner core or on the periphery of the city. In slum rehabilitation policies, affordable houses are provided to economically weaker section and government land is relieved which is taken by slums. Slum redevelopment plan is prepared on the base of priority like basis of natural features, ownership, and vulnerability to hazard or danger owing to the location. The decision of slum up-gradation or slum rehabilitation is taken based on housing condition, level of services and status of tenure ship. If the value of land is less than relocation is carried out otherwise in-situ upgradation is done. Land suitable analysis is GIS based popular technique for physical planning. It will help to find a suitable location in case of relocation or redevelopment of slum. In this paper, research is done to identify the factors of slum redevelopment with respect to land. The different parameters of land for slum redevelopment are given. The conceptual framework is done for land suitability analysis for slum redevelopment strategies.

5. R.P. Patel, “Housing the urban poor: rehabilitation approach in Surat”, Urban Housing: issues and development strategies, volume-ii, page no – 6-79, 2004.

Surat is an industrial town which included diamond and textile industries. The people who migrate from the rural area for the job opportunities in these industries, if do not get proper job they have to stay in slum where there is lack of drinking water, roads, lights, and sanitation. SMC started built affordable for these people from 1998-99. In 2002-03, VAMBAY housing scheme was introduced. For economic activities, people would migrate from within Gujarat, Maharashtra, Uttar Pradesh, Bihar, Orissa, Andhra Pradesh, Tamil Nadu, Kerela, etc. As per year 2004, SMC, in Surat there were 21.08% populations were stay in slum out of 27 lakhs. And 305 slum pockets were there along with major transportation corridors, along with riverbanks, creeds, and industrial estates. In 2003, Occupation pattern in Surat is 31% of households are earning from textile industries 24% households is self-employed. SMC has carried out rehabilitation of slum settlement. There were two schemes ‘by site and service scheme’ and ‘built house approach’ used by SMC. In Built house approach, two types of slum dwellers categories were there.

- EWS housing
- BPL housing.

SMC rehabilitated 11,000 slum households under site and service scheme, 3000 more slum households under EWS housing. Under VAMBAY housing scheme, 2257 houses 40

construction would be completed by May 2005 and provided to BPL people. SMC has a vision of “Zero slum” by 2021

6. VichaiViratkapan and Ranjith Perera, “Slum relocation projects in Bangkok: what has contributed to their success or failure?”, 2004.

In this paper, the impacts of resettlement on slum dwellers and process of slum relocation after implemented of slum relocation projects in Bangkok are discussed. The resettlement of slum creates a negative effect on community and economy of the slum dwellers. On the other hand, the land that was occupied by slum dwellers can be utilized for economically more productive purposes. Since 1990, numbers of settlements are increased both in central city areas and the outer city areas. During 1990-93, slum settlements have been increased 84% in the outer zone of Bangkok, which indicates that push of low-income group from core urban area to the suburban fringe. So, to check the successfulness of the relocated projects in Bangkok were studied which are located at the periphery of the city to assess the effect of the distance on the development performance. For that survey of slum dwellers, housing professionals and community development experts is done. To check the performance of the relocation project five indicators are chosen. Indicators are original land ownership, plot occupation, completion of house construction, condition of infrastructure and participation of community members. The assessment of the project is done using ‘conjoint analysis’ technique which categorizes the projects into positive and negative values. From six settlements, 215 randomly selected respondents were interviewed using standardized survey questionnaire. Five major factors which are contributing to effectiveness of overall development performance are (1) resettlement policy, (2) legislation, (3) pre - planning, (4) public participation and (5) adequate compensation. The major elements of the process contributing to successful relocation initiatives are (1) participation of members, (2) physical development of resettlement area, (3) award of compensation, (4) social development and (5) consolidation of livelihood. The factors which influence relocation and resettlement are (1) policy, legal and institutional framework, (2) public participation in the relocation process, (3) good location of the new site, (4) good physical environment and (5) effective socio-economic development in form of employment opportunities. The new location should be close to the original location as far as possible, so minimum negative impact would be there to the livelihoods and socioeconomic linkages of people. Proper compensation is also important for the successful of the slum relocation. For successful of a slum relocation, unity of the community and strong leadership are required. But from the field survey and analysis of Chi-square, the unity of community and relations of leaders with community were weaker with compared to the initial stage of the relocation. Participation of community members is also very important all various stages like activities against eviction, activities in pre-location, activities in post location and for community development activities at the consolidation stage. After relocation, the younger generation is more educated than the older generations and entered to formal sector for employment. A project should not end when beneficiary families are firmly relocated in a new place with secured tenure, but it should be continued with a new set of objectives related to social welfare and community development.

CHAPTER 3: INTRODUCTION OF STUDY AREA

3.1 Introduction of Lucknow city

Lucknow is the capital city of Uttar Pradesh state and one of the most prominent cities in India in terms of commerce, education, historical, architecture, culture, Urdu literature etc. The city is the 11th largest metropolitan city in the country and after Delhi, it is the 2nd largest city in Northern part of India.

3.1.1 Location

The city of Lucknow is situated on the banks of river Gomti a tribute of Ganges River, which passes through the middle of the city. The city lies on the geographical coordinates of 26°30' and 27°10' North Latitude and 80°30' and 81°13' East Longitude.

3.1.2 Topography

Lucknow city is situated in the middle of Gangetic plains and fairly on compact tract of gently undulating land. The Alluvium soils forms the major geological formation. The region is under Composite Tropical climate. The city stands at an elevation of 123.45 meters above the sea level. The city is drained by the Gomti River and its tributaries. The city falls under Seismic Zone-III 1 termed as moderate damage risk zone.

3.1.3 Regional Setting & Connectivity

The Lucknow district is surrounded on the eastern side by District Barabanki, on the western side by district Unnao, on the southern side by Raebareli and on the northern side by Sitapur and Hardoi districts. Lucknow is well connected to the other parts of state and country through air, rail, and road. Four National Highways pass through the city, the National Highway (NH) 24 linking Lucknow to Delhi, NH 25 to Shivpuri, Jhansi (Madhya Pradesh Border), NH 56 linking to Varanasi and NH 28 to Mokama (Bihar) connecting different regions within and outside the state are passing through the city. In terms of rail connectivity, Lucknow Railway station is a major junction having two railway terminals where one belongs to Northern Railway division, and another belongs to Northeastern Railway division connecting all the major cities of the state and the country.

3.1.4 History

The history of Lucknow can be traced back to the ancient times of the Suryavanshi Dynasty. It is said that Lakshmana, who was the brother of Lord Rama, laid the foundation of the ancient city. This was near the Gomti River on an elevated piece of land. It was then called Lakshmanpur. Lucknow is in Awadh region, which was known as the granary of India and was important strategically for the control of the Doab, the fertile plain between the Ganga and the Yamuna rivers. It was during the year 1720 when the great Mughal emperors began to appoint Nawabs to ensure smooth administration in the province. In the year 1732, Mohammad Amir Saadat Khan was appointed as the vice royal of Awadh, in which Lucknow was a major province. It was then that the powerful dynasty of the Nawabs, which changed the history of this place. Under the rule of the Nawabs, Lucknow flourished like never before. After 1755, Lucknow grew by leaps and bounds under the rule of the fourth Nawab Asaf-ud-Daula. Lucknow flourished in each and every aspect, 42 which includes poetry, dance, music

and the other finer aspects of the lifestyle of Lucknow. Regarding this, the city is also referred as ‘City of Nawabs’

3.2 Introduction of slum in Lucknow city

As per census 2001, the Lucknow city is having a total of 609 slums in its municipal jurisdiction area. Out of which 502 are notified slums and 107 are non-notified slums. The National Building Organization (NBO) Annexure primary survey is carried out in January 2011 for all 609 slums in the city. The total slum population in the city is 772807 which constitute about 27% of city population. The total number of slum households in the city is 1,48,117 which constitute about 31% of total city households.

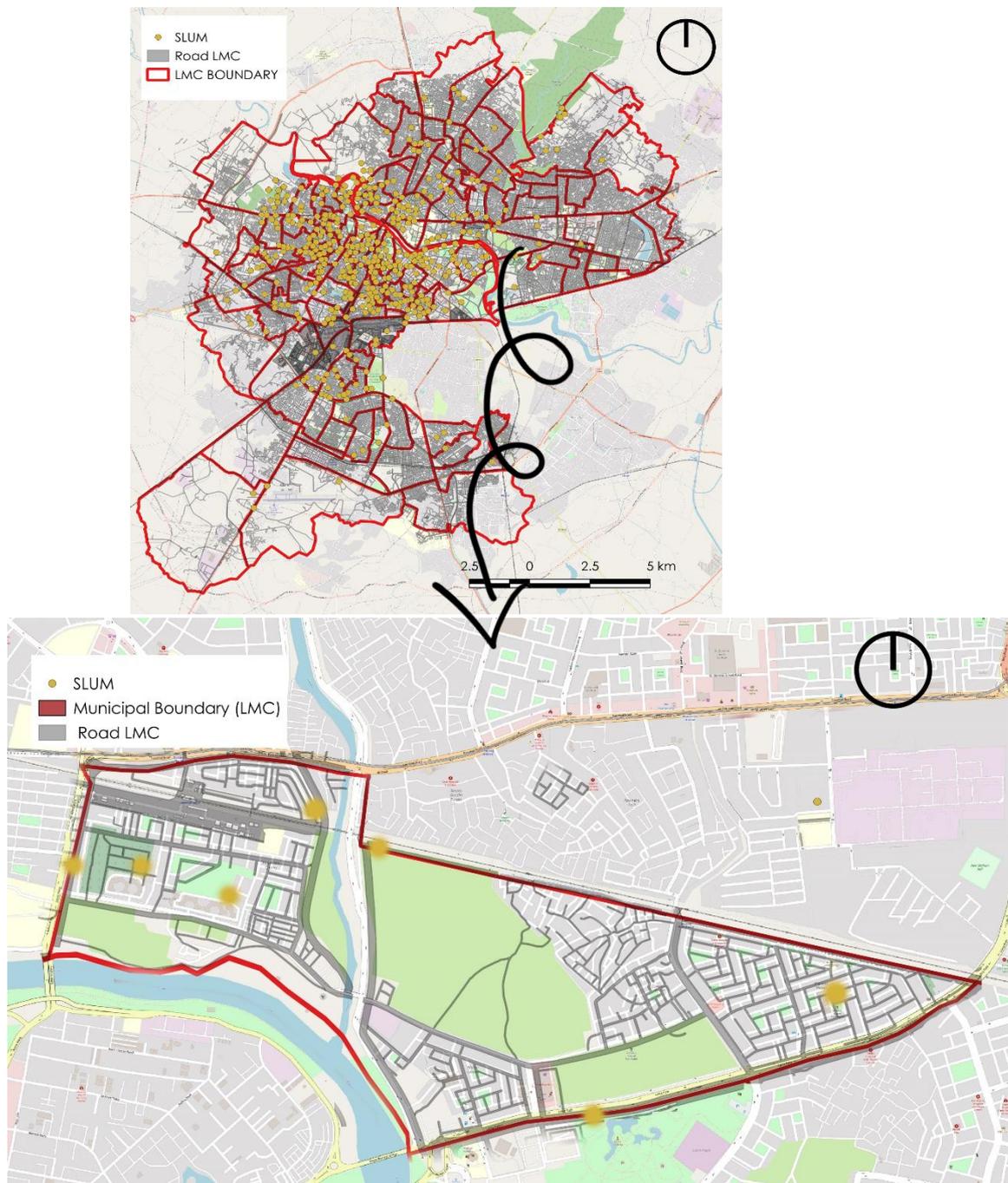


Figure 3.1 Study Area

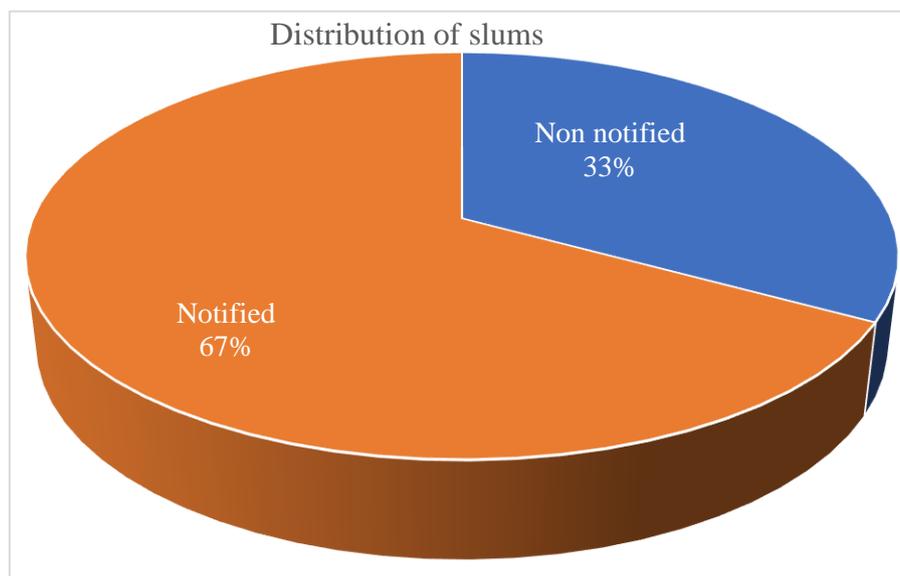


Figure 3.2 Distribution of Notified and Non-Notified Slums

Table 3.1 Physical & Demography Characteristics Of Lucknow City

PRAMETER	UNIT	LMC	PAPER MILL WARD
AREA (LUCKNOW NAGAR NIGAM)	HA.	35053	140
ZONES	NO.	6	4
MUNICIPAL WARDS	NO.	110	45
POPULATION (2011 CENSUS)	NO.	28,15,601	29,036
HOUSEHOLDS	NO.	4,77,860	5007
AVERAGE HOUSEHOLDSIZE	NO.	5.8	-
LITERACY RATE (2011 CENSUS)	%	84.72	-
SEX RATIO (2011 CENSUS)	NO.	915	-
SLUM SETTLEMENTS	NO.	609	5
SLUM AREA	HA	501.64	23
PERCENTAGE OF SLUM AREA TO TOTAL AREA	%	1.5	16.45%
SLUM POPULATION	NO.	7,72,807	7,700
PERCENTAGE OF SLUM POPULATION TO TOTAL POPULATON	%	27	26.52%
SLUM HOUSEHOLDS	NO.	1,48,117	1510

3.3 Demographic profile

The population of Lucknow city (Nagar Nigam) as per 2011 census is 28,15,601 out of which male and female are 14,70,133 and 13,45,468. Projected population 2021 is 36,36,066.

3.3.1 Slum population

As per census 2011, the Lucknow city is having a total of 609 slums in its municipal jurisdiction area. Out of which 502 are notified slums and 107 are non-notified slums. The National Building Organization (NBO) Annexure primary survey is carried out in January 2011 for all 609 slums in the city. The total slum population in the city is 772807 which constitute about 27% of city population. The total number of slum households in the city is 1,48,117 which constitute about 31% of total city households.

3.3.2 Sex Ratio & Literacy

As per census 2011 the sex ratio in Lucknow stood at 915 females per every 1000 male. In the year 2001 it was 888, in 1991 and 1981 the sex ratio was 871 and 832 respectively. The average literacy rate of Lucknow in 2011 is 84.72% with male and female literacy rate being 87.81% and 81.36% respectively. The average literacy rate at years 1981, 1991 and 2001 was 57.54%, 60.27% and 67.60% respectively. The increase in the rate of sex ratio and literacy were considered as the positive indicators of human development and quality of life. The above city statistics disclose the significant progress made by the city in its development process.

In slums, the average literacy rate is 72%, whereas it is 61% in 2001. There is an increase in literacy rate among slum dwellers compared to last decade.

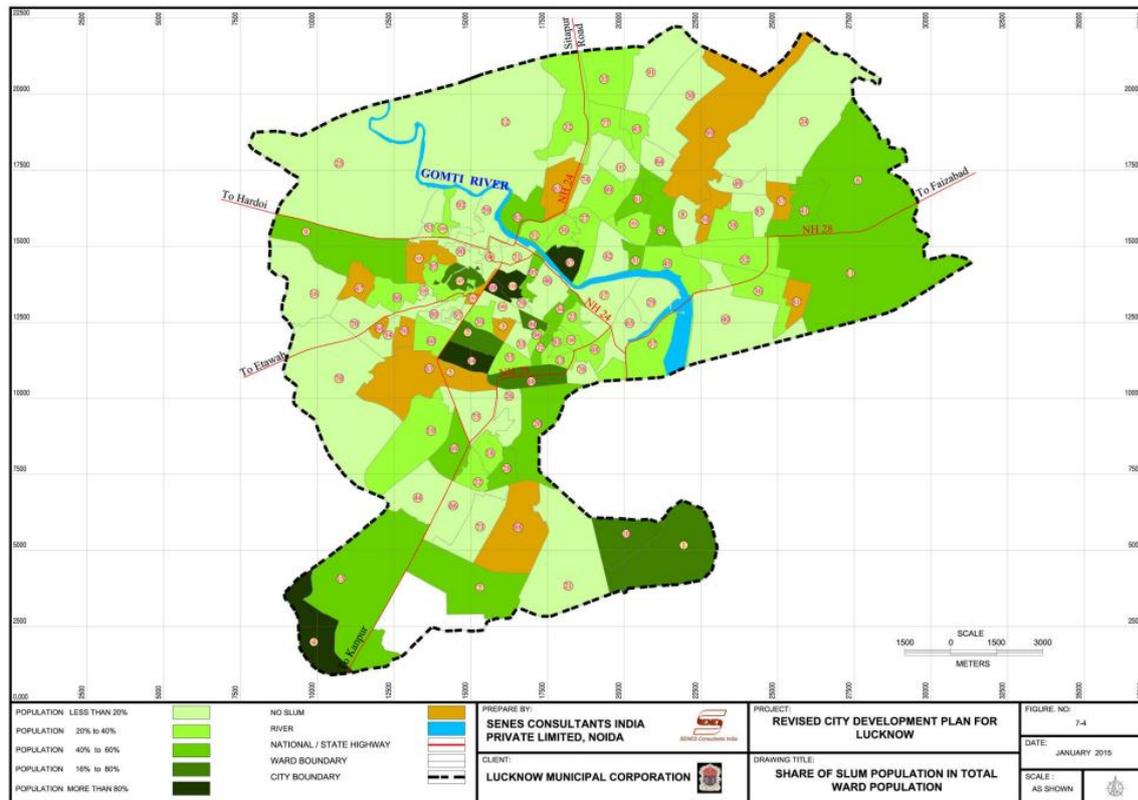
3.3.3 Population Projection

In view of the population growth rate of last three decades, the population projections were drawn for the next 15 years using geometric mean method. It is projected that by the year 2016 the population of the city would be 32,33,288 by the year 2021 it would be 37,12,938

Table 3.2 Population Projection
and 2026 the projected population of the city is 42,63,743.

YEAR	LMC SLUM POPULATION	PAPER MILL WARD
1991	16,19,116	-
2001	21,85,927	-
2011	28,17,105	7,700
2021	36,36,066	9,939
2031	45,89,826	12,545
2041	57,65,983	15,760

In the year 2001 the population density of the city is 67 persons per Hectare, and it increased to 83 persons per hectare in year 2011.



Source – Revised CDP, Lucknow,

Figure 3.3 Ward wise share of Non-Slum Population and Slum Population

3.4 Economic profile

City Economic Base The economic status of any city depends on the capacity of production of various activities and the surrounding areas. Any change with respect to increase or decrease in the economic activities leads to the change in development of the city.

Being the capital city for one of the largest states in the country, the headquarters of the division, district and one of the major cities in the country, Lucknow derive its major economic base from service sector, business, and trade.

As per census 1981 about 27.71 percent of the city population is working population which reduced to 26.51 in 1991. The major reason behind this is the expansion of city area limits, where the surrounding villages were merged into the city.

As per census 2001, the working population of the city is 27.51 percent. In accordance with the Projection made in Lucknow Master Plan 2021, the Lucknow city would have 28.50 percent working population in 2011 and in 2021 it would be 30 percent.

3.4.1 Working profile

About 1.5 lakh people in the city are depending up on Informal sector for their livelihood. The Informal markets can be majorly seen at old city area, major commercial streets etc. The major industries in Lucknow Urban Agglomeration include aeronautics, machine tools, distillery chemicals, and furniture and chikan embroidery.

Lucknow has traditionally been associated with chikan embroidery work on readymade garments, sarees, etc. with most units being small-scale and household based and located in the old city area

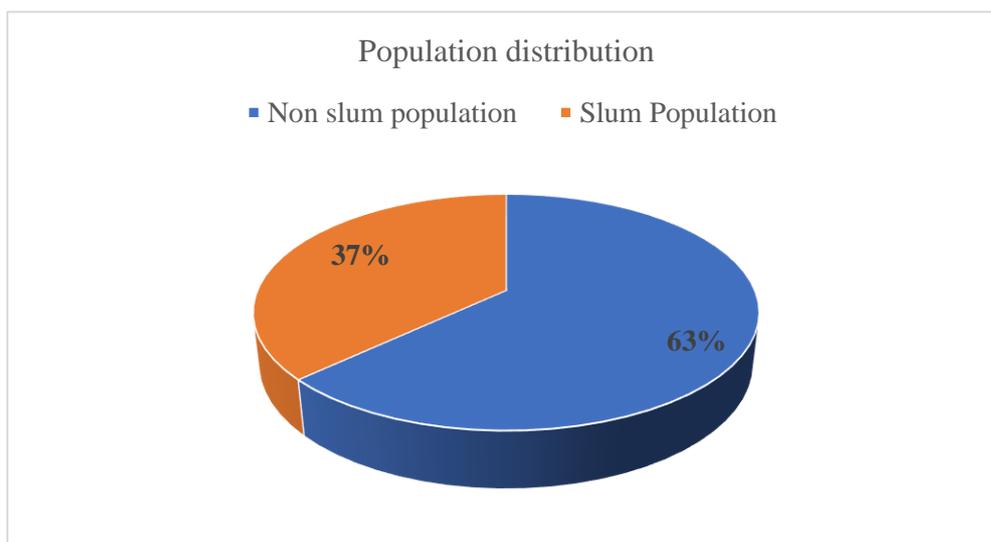


Figure 3.4 Distribution of Slum and Non-Slum Population

Table 3.3 Working Profile of Slum

Types of occupation	Paper mill ward(%)
Rag pickers	12
Domestic servant	5
Garage workers	0.3
Hotel workers	0.2
Rickshaw puller	6
Domestication	18
Labors	47
Station workers	0.5
Works at shop	7
Stitching	0.5
Recycling	3.5

Above table shows number of people working as rag pickers are high in Mankameshwar mandir while in Nishat Ganj labours are high in occupation and in paper mill colony labours and domestications are high as compared to other given occupation.

3.5 Housing profile

3.5.1 Physical location of slums

Slum in Lucknow are scattered throughout the city and found mostly in the riverbed of Gomti, both side of Haider Canal, in the vicinity of railway track and specifically on fringe area of Lucknow. Data shows 37% of the slums in Lucknow are prone to water logging and floods due to lack of drainage lines and overflowing of river in rainy season.

Table 3.4 Physical location of slum

Components	Paper mill ward
Along major water drains	44%
Along other drains	24%
Along railway line	6%
Along major transport alignment	2%
Along river	0%
On river	0%
Along other hazardous sites	0%
Along non-hazardous sites	24%

3.5.2 Land tenure status in slums

As seen in the above charts major part of slum is in possessions certified land. Old areas of some slum households are on patta. Rented households basic amenities depends on landlords such as water supply, electricity etc.

Table 3.5 Land tenure status in Slum

Components	Paper mill ward
Patta	14%
Possession certificate	35%
Encroached public land	20%
Encroached private land	7%
On rent	21%
Others	3%

3.5.3 Slums under various authorities

As seen in the above charts major part of slum is on private land this land belongs to real estate builders these lands also include vacant plots. State land are basically near river or canal side which causes huge problem during rainy season. The third one belongs to urban local bodies like municipality.

Table 3.6 Slums under various authorities

Components	Paper mill ward
ULBs	30%
State	7%
Central	0%
Private	63%
Railways	0%
Défense	0%

3.5.4 Housing condition in slums

- 42% of the total HHs are registered; however, remaining 58% are not registered.
- Under the ownership of the ULB 20% of the slum HHs are there (14% registered and 6% un-registered).
- Overall, under the state and central government owned lands 8% belong to registered and 11% un-registered. Private ownership is termed to be highest with 57% of the HHs under it.

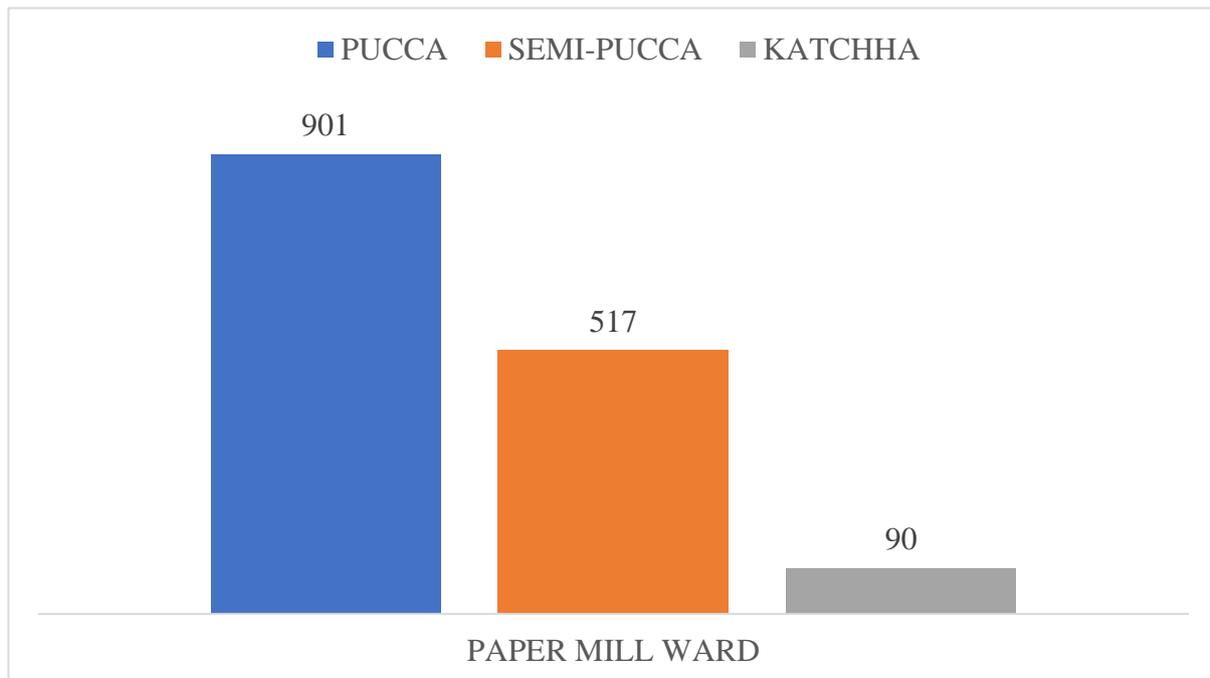


Figure 3.5 Housing condition of Slum

3.6 Physical infrastructure

3.6.1 Water supply

Around 27% of the HHs have individual water connections; whereas 73% of the HHs do not have direct access to drinking water and are dependent on public taps, tube wells, bore wells, river etc. it has been observed that one public tap is available for 10 number of HHs. Water supply duration in slums is once in a day or once in two days. 73% of the slum households does not have own water supply connection.

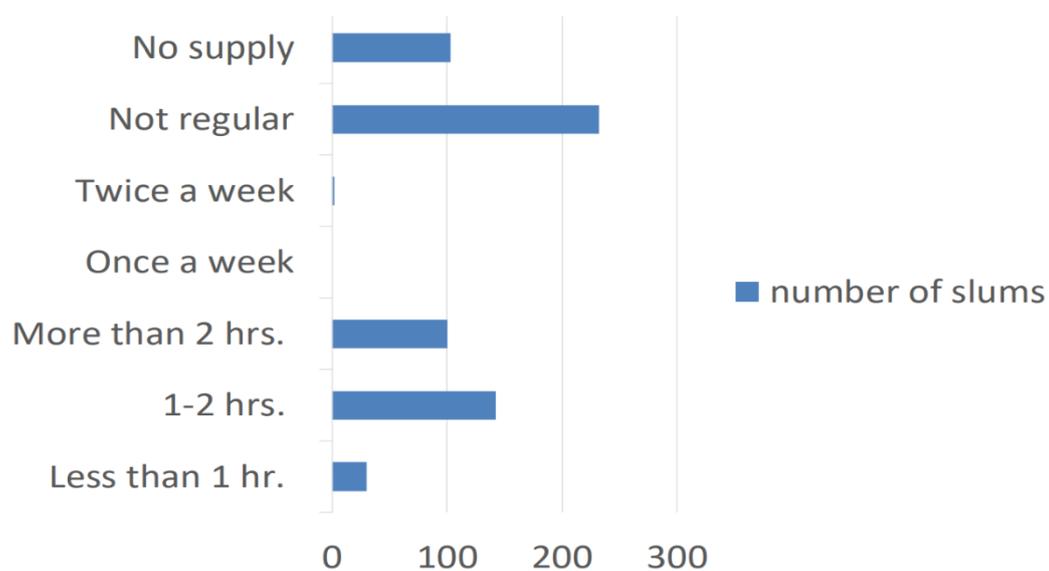


Figure 3.6 Water Supply Timing

Table 3.7 Health Structure

DISTANCE	WITHIN THE SLUM AREA	<0.5 KM	0.5 TO 1.0 KM	1.0 - 2.0KM	MORE THAN 2.0 KM
URBAN HEALTH POST					
NO. OF SLUMS	11	17	126	201	254
PRIMARY HEALTH CENTRE					
NO. OF SLUMS	27	68	216	156	142
GOVERNMENT HOSPITAL					
NO. OF SLUMS	4	92	234	150	129
MATERNITY CENTRE					
NO. OF SLUMS	47	137	232	125	68
PRIVATE CLINIC					
NO. OF SLUMS	96	140	241	99	33
REGISTERED MEDICAL PRATIONER					
NO. OF SLUMS	25	156	271	146	11
AYURVEDIC DOCTOR/VAIDHYA					
NO. OF SLUMS	6	130	281	164	28

6% of the slums do not have access to any kind of health facilities.

3.7 Social infrastructure

Lucknow is also a major centre for research and development (R&D) and an education centre. The city is one of the leading cities in India in terms of number of institutions including 7 universities, 1 technical university and a large number of polytechnics, engineering institutes and industrial training institutes.

Sanjay Gandhi Post Graduate Institute of Medical Sciences, King George Medical College, Indian Institute of Management, Dr. Ram Manohar Lohiya National Law University, Lucknow University are some of the reputed educational institutions.

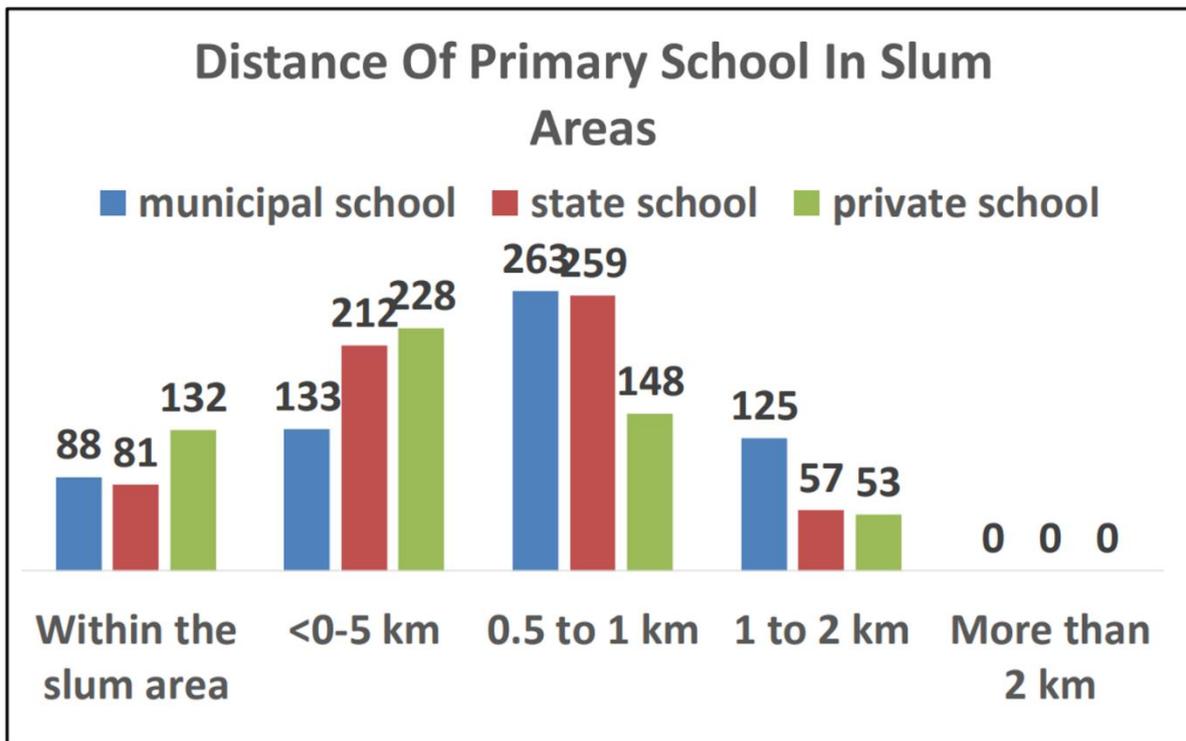


Figure 3.7 Distance of Primary School In Slum

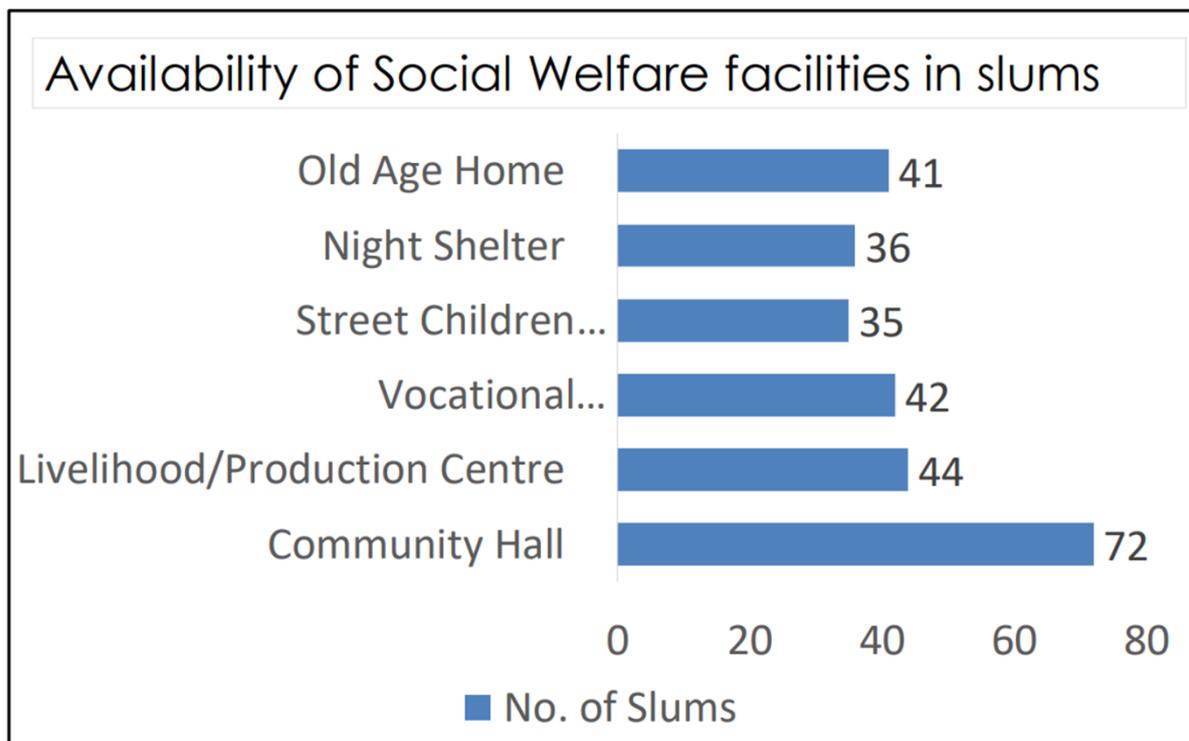


Figure 3.8 Availability of Social Welfare Facilities in Slums

3.8 Drainage

Connectivity of slums with city wide storm water system, about 17% of the slums are fully connected and 20% of slums are partially linked to the system.

The rest 63% of the slums does not have connectivity to the city-wide system. only 28% of the slums are fully connected to city wide sewerage system while 17% slums are partially connected. There is shortage of the system where 55% slums are not connected.

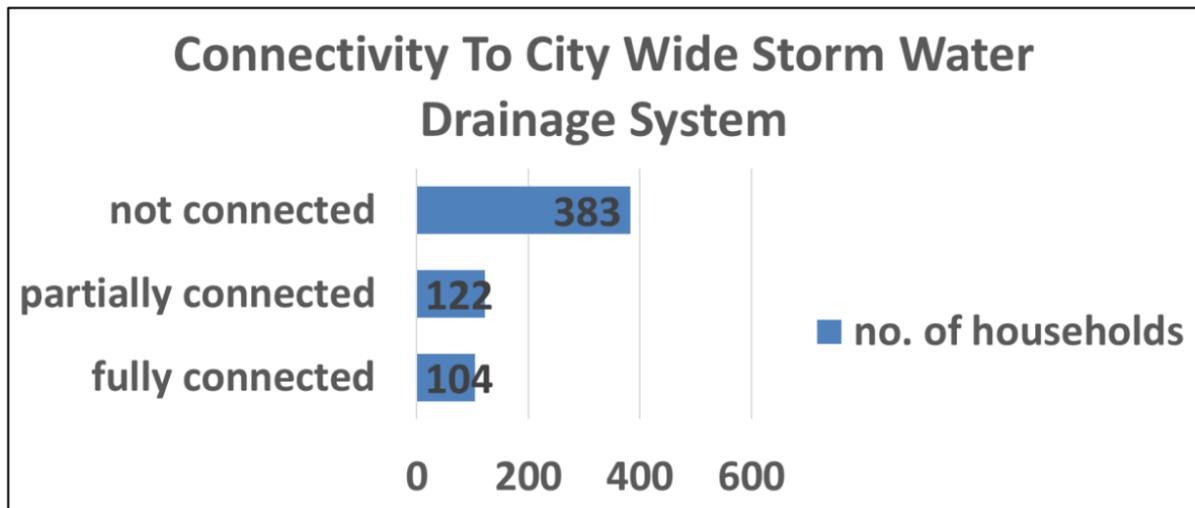


Figure 3.10 Connectivity to City Wide Storm Water Drainage System

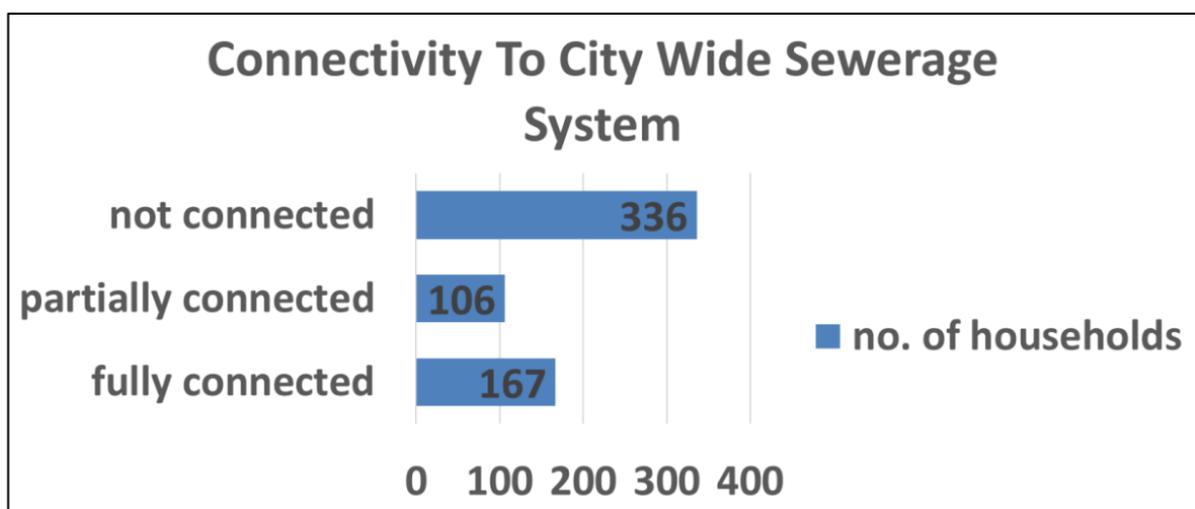


Figure 3.11 Connectivity to City Wide Sewerage System

clearance of open drains, 22% of the slums have daily clearance of open drain; in 14% of slums the clearance takes place once in a week. In about 13% of the slums the clearance takes place once is every 15 days. In about 40% of the slums the collection of waste is totally absent.

3.9 Transportation

Majority of the slums in the city are in core city and they are well connected to the motorable pucca approach roads within 0.5 kms. By and large, 77% of slums in the city are provided/connected with Motorable Pucca roads and 16% relate to approach roads being Motorable Kutchha in nature. The remaining 7% of the slums are with non-motorable pucca and non-Motorable Katcha roads which are not fully accessible

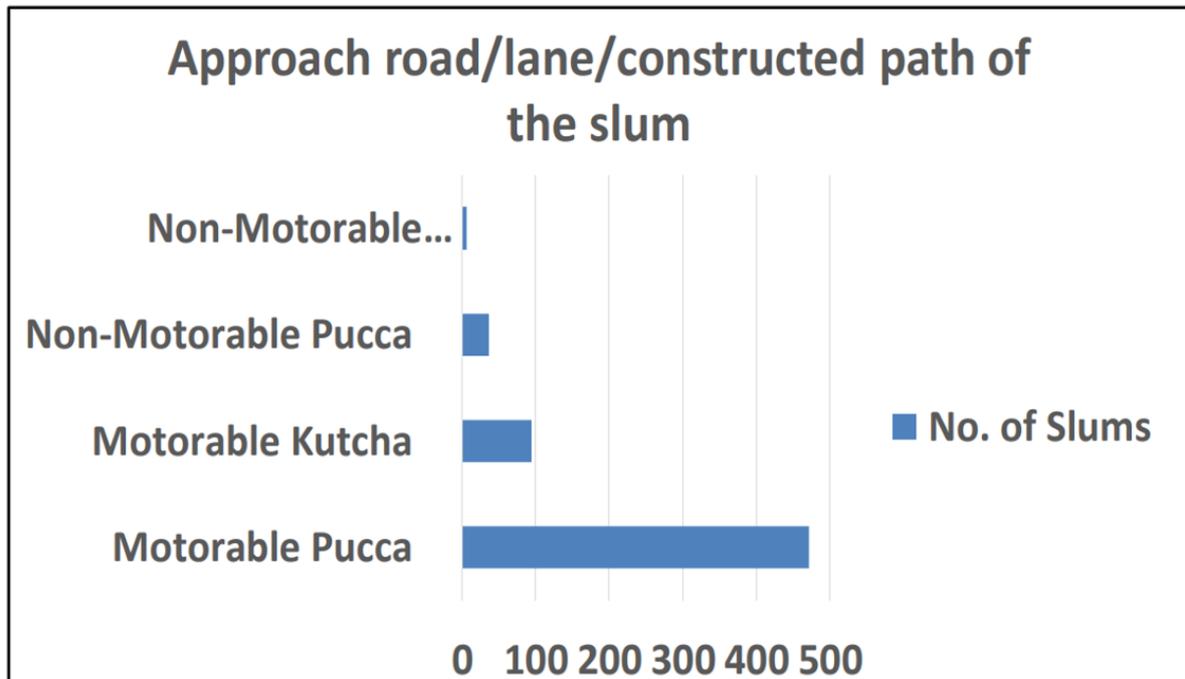


Figure 3.12 Approach road/Lane/constructed path in slum

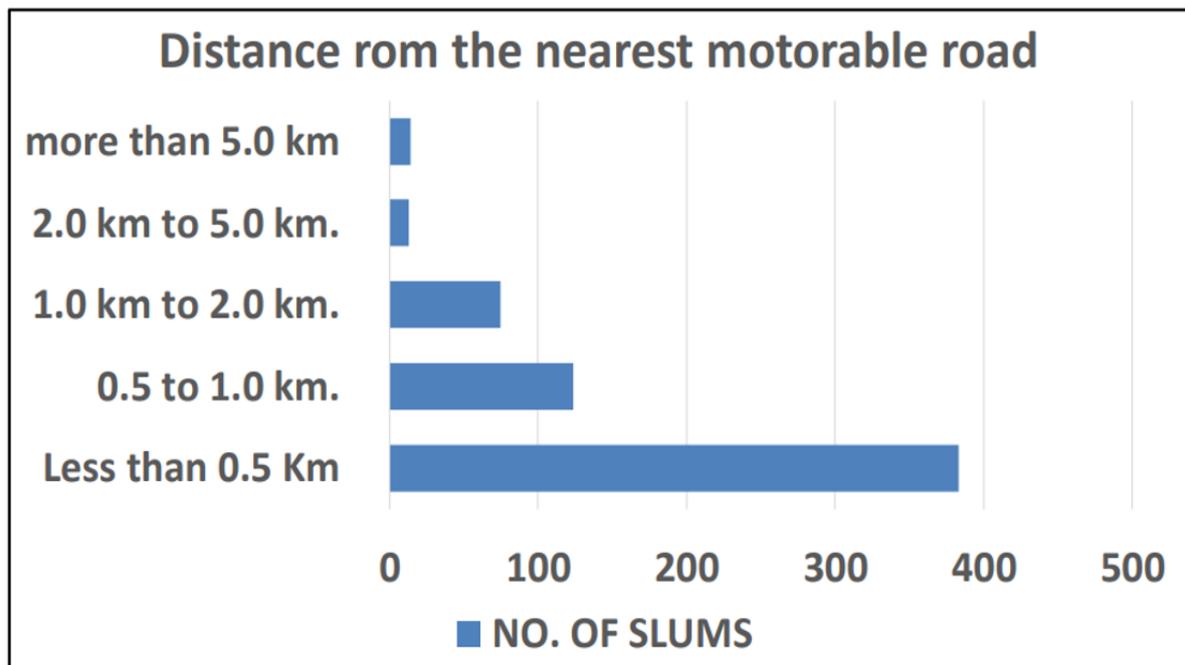


Figure 3.12 Distance from nearest motorable road

CHAPTER 4: DATA COLLECTION AND PROBLEM IDENTIFICATION

4.1 Data Collection

- **Primary data** was collected through household questionnaire survey key informant survey and through observation survey.
- The main themes included in the questionnaire are the different components of livelihood security that are economic security, health security, education security, and social security.
- The data was collected at 2 levels. The data for health, education, economic, and social scenario of the slum dwellers was collected at household level and data for the age, sex, education, occupation, income, education level, mode of transport and transportation cost was collected at individual level.
- The secondary data was collected from various government departments slum such as Lucknow map that shows location of different slums clusters, list of notified slums and household size slums i.e., with location and Slum Free City Plan of Action (SFPCoA) draft report from Lucknow as per RAY (Rajiv Awas Yojna) Lucknow guidelines.
- Households were selected randomly from the 3 slums.
- **The size was determined using the Cochran formula: -**

$$X = \frac{t^2 \times P(1-P)}{ME^2}$$

Where, X = No. of Samples

t = Percentage of Confidence (90% @1.64)

ME = Marginal Error (0.1)

P = Percentage of Population in the slum to the total slum population.

Table 4.1 Number of focus group discussions in which each issue was raised

Issue	Number of FGDs
Demographic composition	17
Regularity and level of income	21
Labour profile	19
Health	11
Education	16
Saving and debt	9
Housing and services	17
Social support	5

4.2 Problem Identification

The Data is from the household survey on the main source of income for the respondent households and mean per capita household earnings levels by household main occupation.

The data illustrate statistically significant differences in earnings by work type at the household level, with artisan-dependent households and those in 'other' occupations (agriculture and domestic service) earning the least.

Households with their primary income source from salaried work or self-employment (vending or service provision) earned the most.

Very few households (6%) were less vulnerable due to their access to social security benefits, namely a pension.

Sixty percent of these households had salaried workers as main earners, meaning they were more likely than others to have such access.

Other problems

- In some parts of Paper mill area roads are very poor or not available which causes trouble in rainy season.
- Same issue with drainage system some drains are not made properly (Kachhi nali) are made by locals which causes water logging in many areas.
- Due to lack of awareness children from slum areas bath in Kukrail river which is under construction can cause chronic diseases among them.
- People sleep in waste collection spot which is harmful for them that can cause several harmful diseases.
- People use public toilet as stitching center.

4.3 Parameters For Vulnerability of Slum

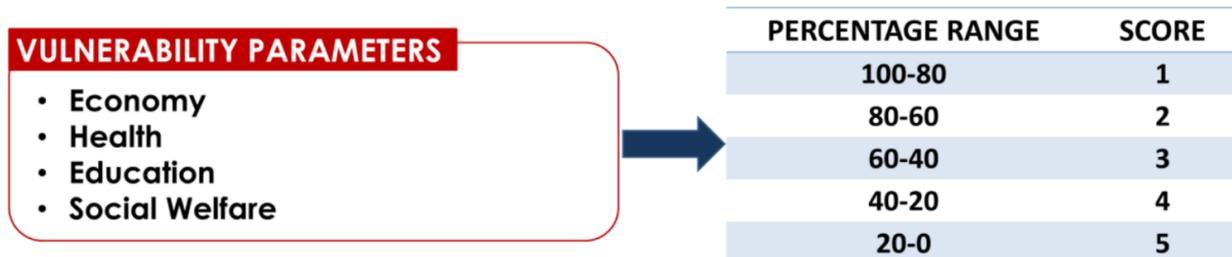
This section discourse and compares the livelihood impacts experienced by slum dwellers.

1. Vulnerability based on Securities: -
 - Economic security
 - Health security
 - Education security
 - social security
2. Vulnerability based on Location
3. Composite Vulnerability Index based on securities.

CHAPTER 5: DATA ANALYSIS

The vulnerability includes 4 components namely economic security, health security, education security, and social security.

The scoring is provided to all the slums by comparing the infrastructure deficiency and vulnerability parameters against the same criteria. The average scores for vulnerability and infrastructure are determined separately and clustered into different ranges representing the worst, average and best slum settlements. For that 5 percentage ranges from 100 to 0 with an interval of 20 is considered and the scores were provided accordingly and represented in the matrix.



5.1 Vulnerability Based on Securities

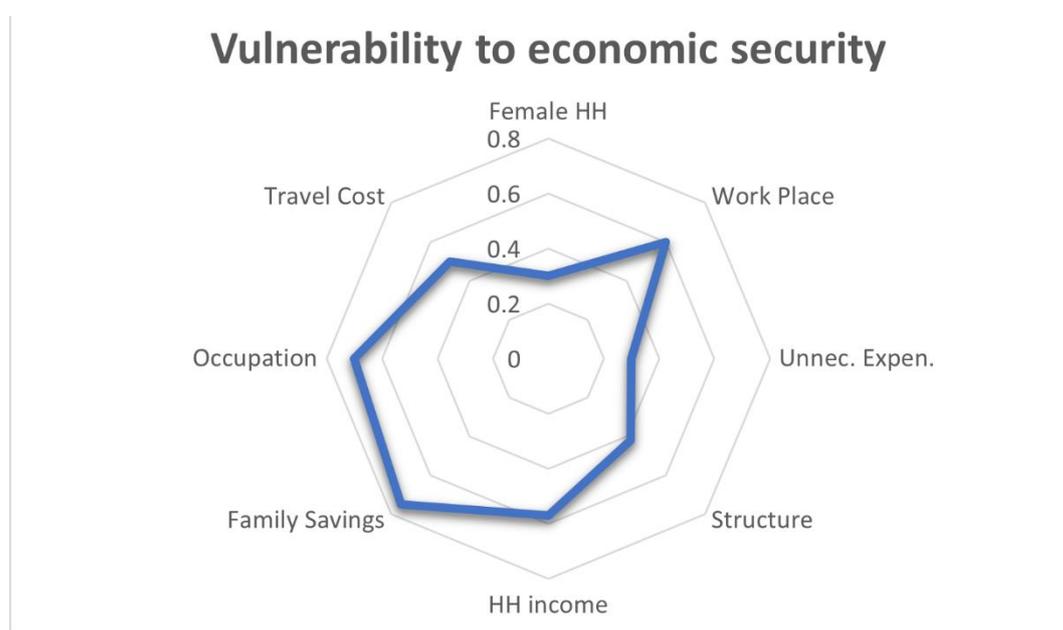


Figure 5.1 Vulnerability based on Economic Securities

Inferences: - The major issue is that 25% of the total population does not perform any activity for source of occupation. That majorly includes old-aged people, housewife, and a few young members. there is no family savings in the households. Even the family who do have some savings, it is less than Rs. 2000 per month.

Vulnerability to Health Security

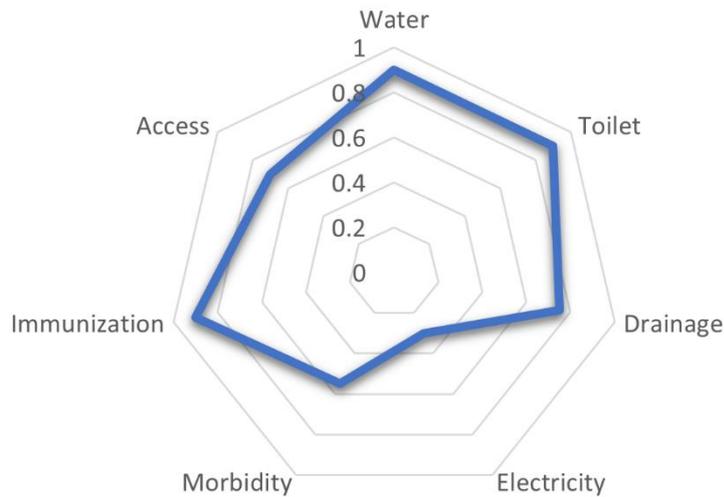


Figure 5.1 Vulnerability based on Health Securities

Inferences: - No proper immunization service, Lack of proper water supply, dependency on open ground for toilets. Open/No drain in the study areas is one of the reasons that leads to a high level of illness among the slum households which leads to an increase in level of vulnerability in terms of health security.

Vulnerability to Educatoin Security

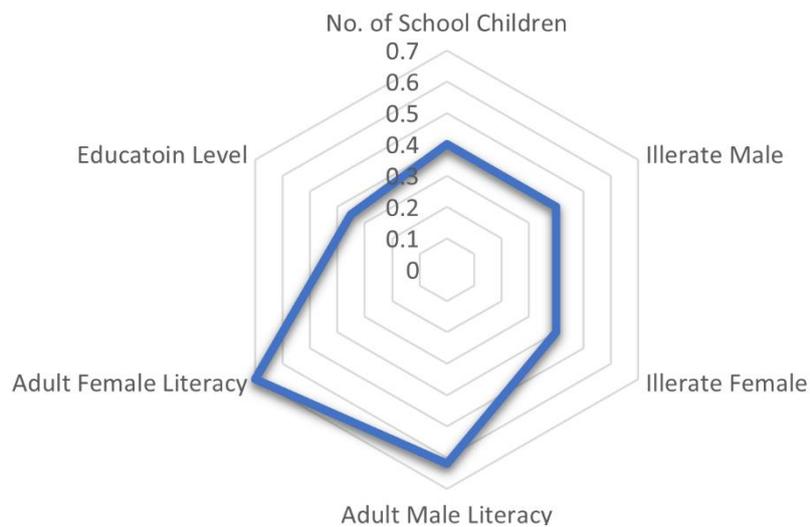


Figure 5.2 Vulnerability based on Education Securities

Inferences: - There is proper provision of education facility with a low level of vulnerability in terms of access to education facilities. The major issue is illiteracy among adults. The children in the study area are found to be less vulnerable as compared to adults when education security is being considered.

Inferences: - No NGO/CBO participation is there for the betterment of slums. Further social assistance is an issue, slum dwellers must depend on third party loan providers i.e., at an interest rate of 5-10% that increases the rate of vulnerability of slum households in terms of social security.

Vulnerability to Social Security

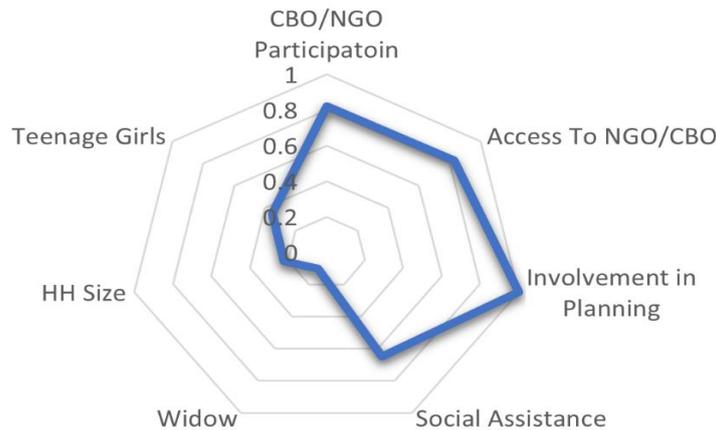


Figure 5.2 Vulnerability based on Social Securities

5.2 Discussion on Data Analysis

Infrastructure	Economy	Education	Social
In case of vulnerability to health security, Akbar Nagar Dakshini is maximum affected because of its location along the drain. It is also faced a high rate of illness among slum dwellers which thereby increase in the level of vulnerability security. Lack or proper water supply i.e., in terms of quality and quantity and dependency on open ground for toilets	Taking location as a parameter to assess the level of vulnerability, Bhikampur is having the highest level of vulnerability in term of economic security. Dependency ratio is more as there is elderly and children in almost every household.	In the case of education paper mill colony is highly vulnerable as there is significantly more illiterates as compare to other locations in Lucknow. The major issue is the low level of literacy rate of adults in both male and female.	Considering social security as a parameter to assess the level of vulnerability in the 5 different slums location, Akbar Nagar Dakshini is highly vulnerable and Chakkar Purwa is least vulnerable because of its connectivity to Kukrail Flyover. The reason for increase in level of vulnerability in terms of social security is because of the third party loan provider, lack of NGOs participation and lack of involvement in planning process

CHAPTER 6: ISSUES AND CONCLUSION

The level of vulnerability in terms of social security is highest in paper mill colony. The reason for this is more dependency on third party loan providers for social assistance to the slum dwellers.

Akbar Nagar Dakshini is the location that is highly vulnerable in terms of livelihood security, which is because of its location. The major issues identified with respect to health security are lack of availability of water supply i.e., in terms of quality and quantity, lack of availability of toilets, dependency on open land for toilet, no provision of drain network for the slum dwellers i.e., open/no drain and no immunization service in the areas which are vulnerable to health security. In terms of education security, the major issue is the low level of literacy rate of adults, both males and females. Lack of CBO/NGO participation, no involvement of slum dwellers planning process and dependency of slum dwellers on money lenders for social assistance are some of the factors deepening the vulnerability towards social security of slum dwellers. Economic security is vulnerable due to nil family savings or little family savings accounting for less than Rs. 2000 per month and the informal employment of slum dwellers as street vendors or construction workers.

As a result, it was identified that health security affects livelihood security the most, followed by social and economic security. The study along 3 different slums locations help us identify the slum cluster located along environmentally sensitive zone i.e., along Naalah/drain is highly vulnerable to livelihood security when compared with other slum location. Papermill Ward slum i.e., the case area located along and on river was highly vulnerable to livelihood security in the 3 slum locations.

It is necessary to propose facilities in terms of infrastructure, social, economic etc. for the slum dwellers to make their livelihood secure. Education was found to be least vulnerable in comparison to health, social and economic vulnerability. All the three slums need intervention in terms of provision of infrastructure. Since paper mill colony slum and Mankameshwar mandir slum are located near environmentally sensitive zone and is also observed to be highly vulnerable so it needs to be relocated. Considering Nishat Ganj where housing structure has been observed to be pucca, slum infrastructure upgradation can be an option. Similarly in case of paper mill colony, housing up-gradation which includes upgradation of kutcha/semi-pucca structures into pucca and thereby provision of basic infrastructure components including toilet, water supply, drainage etc. can be thought of as one of the solutions to lessen the overall vulnerability of the slum. Also, social assistance programs need to be initiated for elder population, widows along with provision of food at low cost. Increasing land values and construction cost is making housing unaffordable leading to increasing slums in the city. At many places shelter homes are being used for other purposes like functions, public gathering etc.

SWOT ANALYSIS

Strength	Weakness
<ul style="list-style-type: none"> • The slum dwellers in Lucknow have better access to physical and social facilities compared to other cities in Uttar Pradesh. • Details report for all the slums has been prepared under RAY which can support in making improvement plans and schemes for slum areas. • Mapping for slums in Lucknow has been done. • There are many NGOs who are actively working on slum improvement plans. • The concerned authorities are aggressively working, or the slum improvement plans. • LMC earmark certain percentage of amount for urban poor and slum improvement plans in Municipal Budget 	<ul style="list-style-type: none"> • 26% of the Lucknow's population stay in slum areas. • 42% of the slums are located on private and government encroached land. • As discussed with the NGOs, still there are 100 slums which are not identified under RAY report. • Some of the slums are located along the major drains and railway lines which need immediate attention.
Opportunity	Threats
<ul style="list-style-type: none"> • Opportunity to get secure land tenure for slum dwellers. • Access to secure land tenure, improved shelters, access to basic infrastructure and employment generation through slum resettlement and redevelopment schemes 	<ul style="list-style-type: none"> • Increasing land values and construction cost is making housing unaffordable leading to increasing slums in the city

CHAPTER 7: PROPOSALS AND STRATEGIES

7.1 Location of Slums

Issue: Almost 50% of the slums are located along key drain and water bodies in Lucknow which are posing threat to water bodies and creating water pollution. **Proposals/Strategies:** There should be proper check and control by the government over vacant lands and at the same time, people squatting on such lands should be provided affordable housing options. Slums located in the most environmentally sensitive and disaster-prone areas should be given priority in the provision of housing. Slums which will be resettled should be placed within 1.5km preferably; so that the slum dwellers do not lose their livelihood.

7.2 Infrastructure/Services in Slums

Issues: Sewerage and sanitation conditions in slums are at very poor stage in all 3 slums. 5-10% of the slum population defecates in open area and most of the slums do not have sewerage connection which leads to water and soil pollution in and around the area. Unhygienic conditions in slums are also responsible for spreading the viral diseases during rainy season. Houses provided under various schemes for slum dwellers lack in all the type of infrastructure like water, toilet, electricity, road etc. **Proposals/Strategies:** New housing schemes for slum dwellers should have all the basic infrastructure and services. Community toilets for slums should be constructed as per the requirement. Schemes for slums should be prioritized, water and sanitation should be kept at priority while implementation.

7.3 Declaration of Slums

Issues: Still, many of the slums are not registered in the list prepared under RAY report hence, improvement of those slum areas redevelopment cannot be undertaken under various schemes. Many of the slums upgraded under various schemes have not been removed from the list of slums. **Proposals/Strategies:** All the slums should be officially declared as slums by the authorities so that the left-over slums can also get the benefits of the schemes of the government. The slum boundaries should be updated timely so that there is no duplication of slums. Slums which have been upgraded or resettled or redeveloped should be deleted from the list of slums.

7.4 Implementation Issues

Issues: Inadequate housing supply by Government Agencies. Lack of coordination between organizations and various schemes, poor monitoring of schemes. Increasing land values and construction cost is making housing unaffordable leading to increasing slums in the city. Schemes are more politically motivated hence leads to only physical development & not wholesome socioeconomic & physical development. There have been many cases of

the slum dwellers shifting again to slum area even after being provide the new house. Vacant land reclaimed after the relocation of slum again encroached by the slum dwellers.

Proposals/Strategies: Single window concept should be adopted for better management. Upcoming Housing schemes should have mandatory provision for the housing of the lowincome groups which may be kept as public property and rented out to the population who does not have the purchasing power for housing. New schemes should be prepared considering the socio-economic profile of the slum dwellers. Gap between plan preparation and implementation should reduce. There should be strict monitoring on the houses provided to slum dwellers to stop them for selling of their house and again shifting to slum areas. Land reclaimed after the relocation of slum should immediately be used for new project or beautification of the area.

7.5 Shelter Homes

Issues: Total homeless population in Lucknow is 19,000. There are only 23 shelter homes with total capacity of 1500. There is shortage of shelter homes in Lucknow. The existing shelter homes are overcrowded. At many places shelter homes are being used for other purposes like functions, public gathering etc. Absence of proper maintenance resulting in poor condition of shelter homes.

Proposals/Strategies: As per the Supreme Court norms there should one shelter home for one lakh of population. There should be 8 more shelter homes in Lucknow city. Existing shelter homes should be monitored regularly by ULB staff. There should be proper check on the funds provided for shelter home maintenance. Separate shelter homes for women should be provided by LMC.

7.6 Informal Markets

Issues: No proper spaces or facilities are provided by the ULB for informal shops. Growing number of informal shops on the roads leading to encroachments on road and traffic jams. Presence of informal shops under the flyovers and bridges is a common phenomenon in Lucknow. **Proposals/Strategies:** In all the commercial area there should be proper provision for informal shops. Apart from commercial areas new developed colonies should have provision of space for informal shops. The spaces available under the bridges and flyovers can be designated as space for informal shops and monthly charge can be taken from shop keepers.



Figure 7.1 Available vacant land to relocate the slum dweller near the Slum

The area which is marked as red are slums and the area marked as green is vacant land available adjacent to the site. The area of land marked as Phase 1 is 95,582 sq. ft. (8880 sq. m.) and Phase 2 is 81,054 sq. ft. (7530 sq. m.).

Slum development is a crucial undertaking aimed at improving the living conditions of underprivileged communities. In a **two-phase approach**, the focus is on developing two distinct parcels of land, known as **Land 1 and Land 2**, to accommodate slum dwellers and provide them with better living environments.

During the first phase, the authorities concentrate on the development of **Land 1**.

This involves various essential aspects, including infrastructure improvements, such as constructing sturdy housing units, establishing sanitation facilities, and providing access to clean water sources. Additionally, efforts are made to create community spaces, educational facilities, and healthcare centers, fostering a holistic approach to development.

As the development of Land 1 progresses, measures are taken to ensure a smooth transition for slum dwellers. Adequate planning and coordination are critical to facilitate the relocation process. Authorities work closely with the community, conducting surveys to assess individual needs and preferences, and providing support to assist with the move. The objective is to minimize disruption and ensure that slum dwellers can seamlessly shift to the improved facilities on Land 1.

Once the relocation process is successfully completed, the second phase of the slum development project commences, focusing on Land 2. This phase involves a similar approach to that of the first phase, incorporating the construction of suitable housing, infrastructure enhancements, and the provision of essential services. The goal remains consistent: to create sustainable and inclusive communities that uplift the living standards of the slum dwellers.

By implementing a phased approach to slum development, authorities can ensure that adequate attention is given to each parcel of land. This method allows for better planning, efficient resource allocation, and a greater level of community involvement. It also enables the gradual transformation of slums into vibrant neighborhoods, providing residents with safer and healthier living environments while fostering a sense of dignity and hope for the future.

CHAPTER 8: REFERENCES

▪ Papers

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