राजीव आवास योजना

RAJIV AWAS YOJANA

FINAL REPORT, MARCH 2015

A RAY OF HOPE FOR URBAN POOR

SLUM FREE CITY PLAN OF ACTION FOR JORETHANG AND NAMCHI

UNDER RAJIV AWAS YOJANA (RAY)

FOR

URBAN DEVELOPEMNT AND HOUSING DEPARTMENT

GOVERNMENT OF SIKKIM






URBAN DEVELOPMENT & HOUSING DEPARTMENT
GOVERNMENT OF SIKKIM, GANGTOK

CERTIFICATE of APPROVAL from SLSMC

This is to certify that the document "Slum Free City Plan of Action for Namchi-Jorethang under Rajiv Awas Yojana is approved by the State Level Sanctioning & Monitoring Committee (SLSMC) for RAY in the state of Sikkim.

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PREFACE

The Government of India had announced a new scheme called Rajiv Awas Yojana (RAY) for the slum dwellers and the urban poor, under the Ministry of Housing and Urban Poverty Alleviation (MoHUPA). This scheme aims at providing Central support to States that are willing to assign property rights to slum dwellers. The Government's effort would be to create a Slum free India through the implementation of RAY.

Initially Ministry prepared a Concept Note, which was circulated to Planning Commission on 6th August, 2009. The Planning Commission gave its approval in principle to the concept note and after various consultations with Experts, Civil Society Representatives, Members of Technical Advisory Group, City Commissioners, State Secretaries, Central Ministries and Departments, Financial Institutions, representatives of the construction industries etc, the draft guidelines were prepared for being considered to implement the proposed Rajiv Awas Yojana (Slum free India Mission) scheme.

To facilitate the effective implementation of Rajiv Awas Yojana, a scheme for preparatory activities of RAY - 'Slum Free City Planning' has been approved with a budget of Rs.120 Crore and Rs. 60 Crore have been approved for the states in 2009-10 for undertaking preparatory activities.

The Ministry of Housing and Urban Poverty Alleviation has selected 30 cities across 16 states for initiating the 'National Slum Free City Campaign' and the ministry is working closely with the concerned state governments / ULBs to design and implement model pilot initiatives. The capital Gangtok city in the state of Sikkim is first city that was under the RAY scheme and then other four cities were selected for preparation of Slum Free City Plan of Action. The other cities are namely, Singtam, Rangpo, Namchi and Jorethang.

EXECUTIVE SUMMARY

The newfangled scheme of Government of India named Rajiv Awas Yojana, is an ambitious and farsighted scheme with a mission of **"SLUM FREE INDIA".** Rajiv Awas Yojana (RAY) under the Ministry of Housing and Urban Poverty Alleviation (MoHUPA) for the slum dwellers and the urban poor. This scheme aims at providing Central support to States that are willing to security of tenure to slum dwellers and shares the vision of making their State Slum Free. To facilitate the effective implementation of Rajiv Awas Yojana, a scheme for preparatory activities of RAY - 'Slum Free City Planning' has been approved with a budget of Rs.120 Crore and Rs. 30.29 Crore have been approved for the states in 2009-10 for undertaking preparatory activities. The Ministry of Housing and Urban Poverty Alleviation has selected 38 cities across 14 states for initiating the 'National Slum Free City Campaign' and the ministry is working closely with the concerned state governments / ULBs to design and implement model pilot initiatives.

'Slums' are the habitats of urban poor. The urban poor are generally equated with slum dwellers as slums exhibit most visible form of poverty in urban areas. Sikkim is no exception to this general phenomenon in the urbanization process. Due to large rural-urban differential in income and employment opportunities, rural poor are migrating from the hinterlands of the city and taking refuse either in slums or on squatters of the city as they cannot afford expensive formal housing. The inevitable result of continuous rural-urban migration is either re-densification of exiting slums or proliferation of new ones- (squatter settlements) primarily on vacant public land, like, river/canal banks, etc. proximity to their place of work.

With the rapid growth of business sector, the attraction of the cities for diverse and gainful employment of rural and suburban poor cannot keep pace with the mobilization of resources to provide land for affordable and serviced housing in appropriate locations for a significant section of the urban population especially for the urban poor. Hence those excluded from the delivery of formal housing find alternatives in non serviced lands sometimes also in marginal, untenable or environmental risk prone areas which are termed as slums.

In the pilot phase of the scheme implementation, Gangtok, the capital was identified among RAY Pilot cities in the country. But in the later phase, four more cities of Sikkim have been included under the RAY scheme and these are Singtam, Rangpo, Namchi and Jorethang. All these four cities being in a hilly region they have unique characteristics of a hill station with varying altitudes and remarkably undulating terrain, implementation of a scheme like RAY is faced with a daunting task filled with challenges. In taking cognizance of these facts, the State-level Nodal Agency i.e. UD&HD Dept., Govt. of Sikkim, Nagar Panchayats, State-level RAY Technical Cell (SLTC) and City level Technical Cell (CLTC) have taken adequate care in taking up the scheme so as to remain in the ambit of the RAY Guidelines and also fulfill the localized and specific demands of the city. Notably, the whole of Sikkim comes under the high-risk zone of seismic activity and stability of the region also varies from stable to highly unstable with past incidences of landslides. This has led to highlight the problem with focus and attention

needed by the implementing agency and technical cell in having the right and effective approach for implementation of the scheme.

This SFCPoA has been formulated taking into account all the crucial factors and the precise characteristics of slums in the cities. Meticulous attempts have been made to come up with innovative strategies and solutions to address the issues that emerged during the process of conducting the socio-economic survey, environment building, data ratification, beneficiary listing, community mobilisation workshops, frequent deliberations among stakeholders, viz., Beneficiaries, MoHUPA, SLNA, ULBs, SLTC, CLTC, Lead NGO and other concerned departments.

The SFCPoA report consists of Four chapters. The First Chapter comprise of six sections where the First section consist of Introduction to Rajiv Awas Yojana, Slum Scenario in India and Need of the plan, the Second section elaborates on the aim, objection and Guiding principles of Slum Free City Plan, the Third section details the Approach and Methodology adopted for preparation of Slum Free City Plan of Action, the Fourth section provides in detail the Regional setting of Jorethang and Namchi cities, Fifth section reviews the previous and ongoing various Central Government and State Government Policies, Programmes and Schemes for Urban Poor and Poverty and the sixth section outlines the initiation stages of SFCPoA preparation that comprise stakeholder consultations, establishment of RAY Technical Cell, GIS Mapping of slums, Socioeconomic surveys, and finalization of MIS database.

The Second and Third Chapters consist of Slum Free City Plan of Action for Jorethang and Namchi respectively. Both Second Chapter and Third Chapter have 9 sections which are narrated below in order of a better understanding of the various components of the report. The last Chapter i.e. Chapter Four has the conclusion on SFCPoA.

The various sections of Chapter 2 and Chapter 3 are elaborated below.

Section 1 is City Profile which provides the overview of the Study area, History and growth of the city, and its Regional setting (Location, Connectivity, Climate, Topography, Geology and Geomorphology). The City profile also includes Demographic Profile and Housing scenario of the city. The area of the Jorethang Nagar Panchayat is 78 hectares with five wards namely, Shantinagar Ward, Trikaleshwar ward, Daragaon Ward, Majhigaon East Ward and Majhigaon West Ward and the area of the Namchi Nagar Panchayat is 649.9 hectares with seven wards namely, Gangyap Ward, Dambudara ward, Upper Ghurpisey Ward, Lower Ghurpisey Ward, Upper Boomtar ward, Upper Singithang ward and Purano Namchi Ward. The Census of India, 2011 estimated its population to be 9009 which constitutes for 5.87% of the total urban population of Sikkim. Number of households living in the town is 2107, with an average household size of 4 persons. Jorethang has a high average population density of 116 ppH and is justified by the geographical limitations to growth of the town, its reputation as a trade capital attracting migrant population and absence of a Master Plan guiding densities spatially. The Namchi Municipal Council has total population of 12190 and 2733 households as per Census 2011.

The Household size is 4.5. The present gross population density of Namchi is 18.75 pph which is low because of sparse settlement pattern surrounding a central commercial zone.

Section 2 highlights and reviews on Slums Scenario of the study area and constitutes the Project area for SFCPOA under RAY. This section consists of definition of slum, location, area, demography profile and analysis of socio-economic profile of the slums. Analysis of the Housing condition of the slums from the based on the condition of structure, material used in houses and ownership status of the households based on the slum Household survey data. Access to basic services and amenities like water supply, sanitation, drainage, solid waste disposal, pucca roads and street lighting to the slums has also been detailed. Jorethang has 15 slums all of which are Notified while in Namchi the total number of slums are 9, of which 4 slums are Notified and 5 slums are Non-notified.

Section 3 elaborates Categorization of Slums based on the various parameters as suggested by RAY guidelines, such as, Tenability, Tenure status, Land ownership, Land value and Population density of the slums. A 3X3X3 matrix has been prepared to access the vulnerability of the slums with three parameters namely, Housing condition, Infrastructure condition and Socio-economic condition. The tenability analysis shows that all the 15 slums of Jorethang are tenable and for Namchi, 13 slums are tenable and 2 slums are untenable.

Section 4 describes the Prioritization and Phasing of slums for Implementation of SFCPoA based on Land ownership of slums, result of 3x3x3 vulnerability matrix analysis, Tenure status analysis, Availability of Trunk infrastructure facilities and willingness of the slum communities. The Proposed Phasing plan for Jorethang has 5 slums in 1st phase (2014-2015), 2 slums in 2nd phase (2015-2016), 3 slums in 3rd phase (2016-2017), 3 slums in the 4th phase (2017-2018) and 2 slums to be taken up in the final 5th phase (2018-2019) and in Namchi, 5 slums in 1st phase (2014-2015) and 4 slums in 2nd phase (2015-2016).

Section 5 comprises Development Strategies and Options for individual slums of the city based on their deficiency and vulnerability matrix analysis and outcomes of focus group consultation. This provides the Curative strategy for existing slums. In Jorethang, as per the vulnerability matrix analysis 12 slums are to be upgraded in-situ and 3 slums to be redeveloped in-situ and in Namchi, under in-situ upgradation are 4 slums out of which 3 are to be delisted after nominal improvement of infrastructure, under in-situ redevelopment are 3 slums and 2 slums are under relocation and resettlement. The Preventive strategy has been formulated estimating Housing Demand, Likely future housing Gaps and Supply and Demand Constraints" comprises Housing Supply Trends for the Urban Poor, The Urban Housing Delivery System in Jorethang and Namchi, Assessment of Existing and Future Housing Shortage, Supply and Demand Constraint, Estimate of Land availability for Future Housing, Ascertaining constraints in the Rental Housing Market, Constraints in Transaction Processes for Land and Building, and Evaluation of Housing Finance System for Urban poor.

Section 6 Future housing supply strategies for the Urban poor discusses the Supply Strategies to cater to future housing shortage along with the physical and social infrastructure requirements. Earth quake resistance, cost

effective technology & innovation in housing & infrastructure in the context of Jorethang and Namchi are also highlighted in this section. Policy reforms on land, finance, material & technology along with legislations and regulations necessary to facilitate future housing supply are also discussed. The need for a State Housing Policy as per the National Housing & Habitat Policy of Govt. of India with adequate provisions for Housing for Urban Poor and Migrant People is also highlighted. Suggestions include reforms on rent control act, formulation of Co-operative Housing Act, and formulation of Apartment Ownership Act.

Section 7 proposes the Financial and Investment Plan in a year wise phased manner based on the various types of Development Options proposed in the previous section and the detail investment phasing under various components. The total investment required for SFCPoA of Jorethang and Namchi are Rs 759.80 crores and Rs 821.62 crores respectively.

Section 8 Formulation of a Credit Plan for the Urban poor does a review of accessibility and affordability of housing finance for urban poor. The suggestions given for Credit support for affordable housing for the urban poor include tapping of Rajiv Rinn Yojana, Credit Risk Guarantee Fund, and setting up of Rajiv Awas Yojana Residents Housing Association of the slum dwellers. For the formulation of an effective credit plan the Nodal Agency shall provide linkages with formal banking/ housing finance institutions and set up a Community Credit Fund (CCF).

Section 9 Institutional Framework for implementation of development options discusses the indicative implementation modes, strategy for implementation, participatory planning for slum development, and role & responsibilities of institutions. The recommendations are:

It is recommended that UD & HD, Govt. of Sikkim will act as a facilitator as per National Housing Policy. It is also recommended for Devolution of Power & assigning prescribed Role & Responsibilities as per 74th Constitutional Amendment to the Nagar Panchayat and Municipal Council. State Urban Development Agency (SUDA) to be properly structured for taking up the responsibility of Slum Improvement & Relocation works through various implementing agencies. Along with this Sikkim Housing Development Board (SHDB) may be considered to be revived for undertaking formal layout based housing project. Land Assembly Cell should be established to address & co-ordinate the data bank for land & land assembly for development.

The final Stakeholder consultation on Draft SFCPoA was conducted on 22.11.14 at Namchi Municipal Council for Jorethang and Namchi cities by which the Draft SFCPoA has been approved.

ABBREVIATIONS AND ACRONYMS

APL	Above poverty line
BPL	Below Poverty Line
BSUP	Basic services to urban Poor
IHSDP	Integrated Housing and Slum Development Program
BUA	Built up Area
CBO	Community Based organization
CC	Concrete Cement
CCF	Community Credit Fund
CGG	Centre for Good Governance
CI	Cast iron
CPF	Community Participatory fund
CPHEEO	Central Public Health & Environment Engineering Organization
CPSB	Central Pollution control Board
CRGF	Credit Risk Guarantee Fund
CSP	City Sanitation Plan
CWD	Community waste Depot
DA	Development Authority
GPS	Global Positioning System
DHC	District Health Committee
DMP	Disaster Management Plan
DPR	Detailed Project Report
EWS	Economic weaker section
FGD	Focus Group Discussion
GCP	Ground Control Point

GIS	Geographical Information System
JNP	Jorethang Nagar Panchayat
NMC	Namchi Municipal Council
GOI	Government of India
HH	House Hold
ICDS	Integrated Child Development Services
IMD	Indian Metrological Department
JNNURM	Jawaharlal Nehru National Urban Renewal mission
OBC	Other Backward Classes
MIS	Management Information system
MoHUPA	Ministry of Housing and Urban Poverty Alleviation
NBO	National Building Organization
NGO	Non- Govt. Organization
NHCs	Neighborhood Committees
O&M	Operation and Maintenance
PHC	Primary Health Centre
PHED	Public Health and Engineering Department
PLA	Participatory Learning Appraisal
RAY	Rajiv Awas Yojana
RWH	Rain water Harvesting
SA	Social Audit
SC	Schedule Caste
SFCPoA	Slum free city plan of action
SHGs	Self Help Groups
SJSRY	Swarna Jayanti Sahari Rojgar Yojana
SoI	Survey of India

ST	Schedule Tribe
SUDA	State Urban Development Authority
SWM	Solid Waste Management
UD&HD	Urban Development and Housing Department
ULB	Urban Local Body
ToR	Term of Reference
ISRO	Indian Space Research Organization
NRSC	National Remote Sensing Centre
NIC	National Informatics Centre

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CHAPTER I: GENERAL INTRODUCTION & OVERVIEW

1. INTRODUCTION

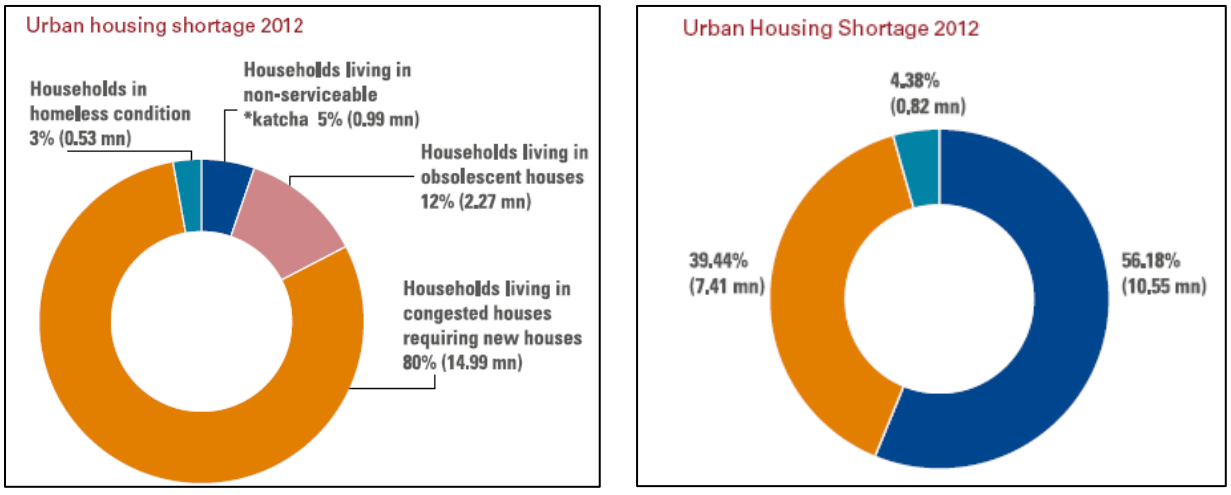
1.1. URBANIZATION & HOUSING SCENARIO IN INDIA- AN OVERVIEW

Urbanization is an index of transformation from traditional rural economies to modern industrial one. The graduation of number of urban centers from lower population size categories to class I cities has resulted top heavy structure of urban population in India. India's urbanization is often termed as over urbanization, pseudo-urbanization. The big cities attained inordinately large population size leading to virtual collapse in the urban services and followed by basic problems in the field of housing, slum, water, infrastructure, quality of life etc. Urbanization is a product of demographic explosion and poverty induced rural-urban migration. Urbanization is occurring not due to urban pull but due to rural push. The impacts of Urbanization have the following results:

- **Proliferation and densification of slums and growth of informal settlements**
- **Degradation of Housing stock which is characterized by congestion and obsolescence**
- **Increase of Social deprivation**
- **Deteriorating nutrition and health status of urban poor**

India's urban population registered a decadal growth of 32 percent rising from 285 million to 377 million between 2001 and 2013. Slum population has been estimated to be 93.06 million in 2011, which is 26% of the total urban population of India. The total housing shortage at the 12th plan period has officially been assessed as 18.78 million dwelling units for 78.86 million Households, where 98% of this shortage was in the Low Income and Economically Weaker Sections (EWS) segment. 95% of the shortage for housing has been estimated in EWS and LIG sectors.

FIGURE 1: URBAN HOUSING SCENARIO



1.2. SLUM SITUATION IN INDIA

'Slums' are the habitats of urban poor. The urban poor are generally equated with slum dwellers as slums exhibit most visible form of poverty in urban areas. Singtam, Rangpo, Namchi and Jorethang city is no exception to this general phenomenon in the urbanization process. Due to large rural-urban differential in income and employment opportunities, particularly due to employment opportunities in the Capital of the State, rural poor are migrating from the hinterlands of the city and taking refuse either in slums or on pavements of the city as they cannot afford expensive formal housing. The inevitable result of continuous rural-urban migration is either re-densification of exiting slums or proliferation of new ones- (squatter settlements) primarily on vacant public land, like, river/canal banks, etc. proximity to their place of work.

With the rapid growth of service sector, the attraction of the cities for diverse and gainful employment of rural and suburban poor cannot keep pace with the mobilization of resources to provide land for affordable and serviced housing in appropriate locations for a significant section of the urban population especially for the urban poor. Hence those excluded from the delivery of formal housing find alternatives in non-serviced lands sometimes also in marginal, untenable or environmental risk prone areas which are termed as slums.

Slum formation is an inevitable consequence of urbanization in India and other developing countries. According to 2001 census, 23.1 per cent of urban population in India lived in slums while the proportion is higher in large cities. For example, in Mumbai 55 per cent of the population live in slums and confront acute scarcity of basic amenities required for a healthy living. And out of 14 million population of Calcutta Metropolitan Area in 2001, about 4.75 million were found to be slum dwellers, i.e. more than one third of the total population.

About 377million persons or about 31 per cent of India's population of 1.21billion lived in urban area in 2011 spread over 5161 towns. The urban population is likely to grow to about 600 million by 2031. Population projection by the United Nation's indicated that by 2030, India's urban population will grow to 576 million and constitute 40 per cent of the total populations. In 2001 there were 35 cities with million plus population and 393 cities above 100000 populations. It is estimated that the number of million plus cities in India will grow to 75 by 2021. In addition there will be 500 large cities with population above 100000 by 2021.

1.3. NEED OF THE PLAN

About one-fourth of the above population of India is poor i.e. their expenditure on consumption goods is less than the poverty line benchmark. An analysis of population growth trends between 1991 and 2001 shows that while India grew at an average annual growth rate of 2 per cent, urban India grew at 3 per cent mega cities at 4 per cent and slum population rose by 5 per cent.

The rapid and unplanned urbanization and simultaneously growth of urban population in the limited living spaces has a visible impact on the quality of life of the urban population and the urban poor bear the brunt of

this burden. When infrastructure service are lacking slums and other vulnerable settlements are amongst the world's most live threatening environments. These call for immediate attention to improve living environment by providing basic amenities in slums and squatters settlements.

The model of slum improvement worldwide and also in India has experienced a sea change in approach with more and more people staying in slums especially in large and metropolitan cities. The exclusionary slum clearance approach followed in India during early 50s had been replaced by inclusive slum improvement model since 70s. Although slum demolition went on in large cities to accommodate market driven uses, slum improvement and up-gradation has been accepted as the basic principle in various policy documents published by Govt. of India and subsequent housing policies and national programmes adopted thereof.

The present scheme of Rajiv Awas Yojana is a Sanitization model of slum development with a distinctive feature of assigning property right to the slum dwellers. The scheme envisages both curative and preventive measures of slum improvement. The living environment in existing slums will be improved by providing all basic amenities in one hand and to adopt measures to check further proliferation of slums/ squatters settlements.

1.4. AIM

The aim is to formulate a Slum Free City Plan of Action for the cities of Namchi and Jorethangby adopting an 'inclusive' and 'whole city' approach so that an integrated and holistic plan is prepared for the up-gradation of all existing slums, notified or non-notified, in the cities along with a preventive strategy to arrest further formation of slums in future.

1.5. OBJECTIVES

The Slum Free City Plan of Action for the cities of Namchi and Jorethang under the prerogative of Rajiv Awas Yojana (RAY) for the slum dwellers and the urban poor envisages a 'Slum-free cities of Sikkim namely, Namchi and Jorethang through a multi-pronged approach focusing on:

1. Bringing existing slums within the formal system and enabling them to avail of the same level of basic amenities as the rest of the town;

2. Redressing the failures of the formal system that lie behind the creation of slums; and

3. Tackling the shortages of urban land and housing that keep shelter out of reach of the urban poor and force them to resort to extra-legal solutions in a bid to retain their sources of livelihood and employment.

1.6. SCOPE AND LIMITATIONS

The scope of the study is limited to formulation of a Slum Free City Plan of Action for all the slums identified in Namchi and Jorethang cities and identification of priority slums through deficiency matrix analysis of all the

slums. After identification of the priority slums the best suited option/mode of slum redevelopment and up-gradation will be proposed which will facilitate the formulation of Detail Project Report (DPR) for individual slums at a later stage. The formulation of Slum DPRs is not within the scope of this work.

The following are the broad tasks included in the scope of work:

Task 1–*Reconnaince and Data Collection:* This phase would form the base for the detailed plan of action to be prepared for making the city slum free. For the purpose, following information / data would be collected and/or validated and analyzed:

- Physical characteristics of the city
- Demographic and social profile
- Economic profile
- Housing and slum situation
- Land supply mechanisms
- Infrastructure capacities-existing & proposed
- Existing Legal & Institutional framework for slum intervention
- Review of existing policies, programs and projects for slums
- Identification of different stakeholders for making slum free city plan of action

Task 2- *Study of City Profiles:* Based on the secondary data collection the City Profiles in terms of Regional Setting, Demography, Socio-economic, Housing Characteristic, City Infrastructure status, Existing Institutional and Legal Framework.

Task 3- *Identification and categorization of slums based on their tenability in each ward/zone:* Based on the conditions of the slums as collected above, slums to be categorized into tenable, untenable and semi-Tenable (initially untenable) slums. Suitable criteria / matrices / decision making tools will be developed and adopted for carrying out this exercise.

- Identification of slum pockets located on environmentally hazardous sites, as per listed criteria, will be referred as “untenable slums”.
- Identification of slum pockets (on the city base map) which are earmarked for non-residential uses as per Master Plan -will be referred as “Semi-tenable” slums and may be a review of the land use with the following possibilities:

➢ Change of present use to residential use by swapping of land uses for the same area of land in the same zone of the city.

➢ The issue of whether a slum settlement's which exist on areas reserved for public purposes reviewed and may be decided by the competent authority, after giving full opportunity to the resident community to express their views, in a public hearing.

- The remaining slums will be identified as tenable slums

Task 4–*Preliminary Analysis of Tenable slums:* Preliminary analysis of tenable slums was done by obtaining the data on tenure, housing condition & infrastructure deficiency for all slum settlements. The collated data on slums was analyzed to classify slums according to their deficiency and potential. Some of the parameters to be used for the purpose are:

- Housing conditions
- Infrastructure deficits
- Security of Tenure
- Land ownership
- Density of slum
- Land value

Task 5– *Deficiency Matrix Analysis:* Slums will be graded based on Infrastructure status, Land Ownership Status, Security of Tenure, Housing Condition and Socio-Economic status. Suitable criteria / matrices / decision making tools are to be developed / adopted for carrying out this exercise.

Task 6- *Formulation of Ward/Zone /Slum Redevelopment Options:* Slums suitable for in-situ development are proposed for housing in the 1st phase. Slum specific development model will be decided based on factors like the location, tenure status, land / property ownership status, infrastructure and housing status, choice of stake holders, whether it is in-situ redevelopment or needing relocation, environmental conditions etc.Following are the models for Slum Redevelopment / Rehabilitation:

Slums – In-situ Development:

- For high value land – PPP model for housing & infrastructure
- Medium and low value land – slums dwellers' cooperatives and public agencies
- Infrastructure provision only – beneficiary initiated housing

Slums – Relocation:

- High premium area – PPP model for housing and infrastructure on public land
- Medium premium area – PPP with a Viability Gap Funding model on public land
- Relocation on public land – Conventional model through public agencies

Task 7- *Formulation of Slum Free City Plan of Action and Prioritisation of slums:* The Slum-free City Plan of Action envisages a Perspective Plan of Action for all the slums in the city based on prioritization and phasing. The SFC POA will comprise of:

Part 1: Redevelopment of Existing Slums:

This comprises a comprehensive, prioritized phased action plan covering all slums (notified and non-notified) over a period of 5 years for provision of housing, physical and social infrastructure along with funding pattern and fund mobilization efforts identified from various sources like PPP etc.

The redevelopment plan includes the existing physical infrastructure within and in the vicinity of slums and proposed relocation areas including connectivity infrastructure such as road network (within and in the vicinity of slums), other transport network (in the vicinity of existing slum pockets and proposed relocation pockets), water supply, sewerage, drainage, electricity and communication networks and solid waste management facilities.

Social infrastructure facilities like community toilets/baths, informal sector markets, livelihood Centre, pre-schools, child care center, schools, health centers, banking, community halls etc. are also incorporated in the plan proposal as per the requirement of the slums.

Part 2: Prevention of Formation of New Slums in Future

This comprise of strategies for prevention of creation of future slums considering the rate of population growth of the city with a 20 years' perspective and hence earmarking of land in private and public housing projects based on the estimation of housing and other requirements which may come up in the next 20 years.

Task 8- ***Investment and Financing Plan for SFCPOA:*** The detailed costing for developing the existing slums and for supply of Affordable housing supply will be provided along with the Financing options and Credit options available for the Urban Poor.

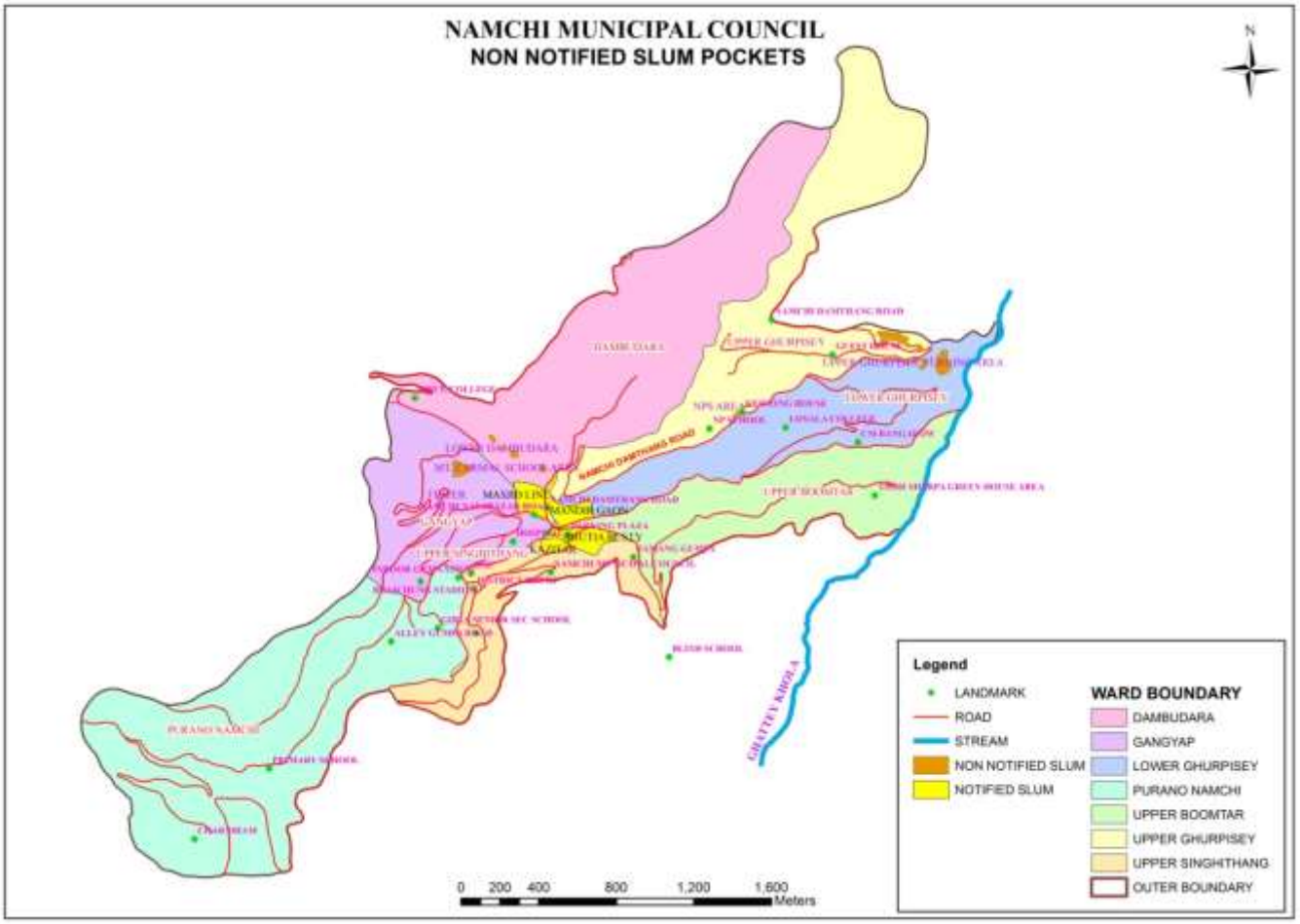
1.7. INTRODUCTION TO STUDY AREA

The extent of the Slum Free City Plan for the cities namely, For Namchi it is the Namchi Municipal Council and for Jorethang it comprises of the Planning area boundary consisting of the Nagar Panchayat and few adjoining villages. The Extent of the study area is described below.

1.7.1. NAMCHI

The area of the Namchi Nagar Panchayat is 649.9 hectares with seven wards namely, Gangyap Ward, Dambudara ward, Upper Ghurpisey Ward, Lower Ghurpisey Ward, Upper Boomtar ward, Upper Singithang ward and Purano Namchi Ward.

MAP 1 MAP OF NAMCHI MUNICIPAL COUNCIL SHOWING WARD BOUNDARIES

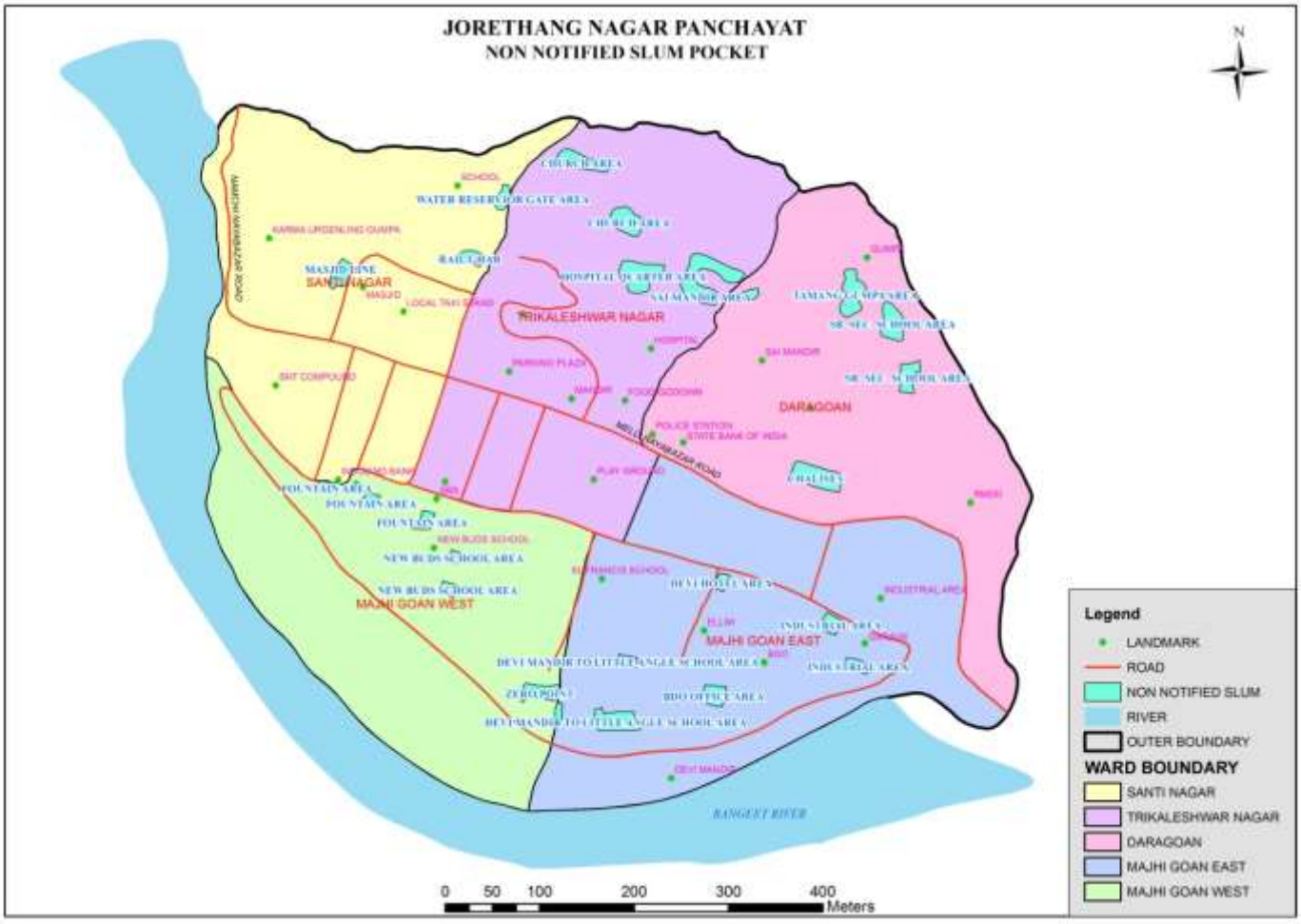


Source: CLTC RAY, Namchi-Jorethang

1.7.2. JORETHANG

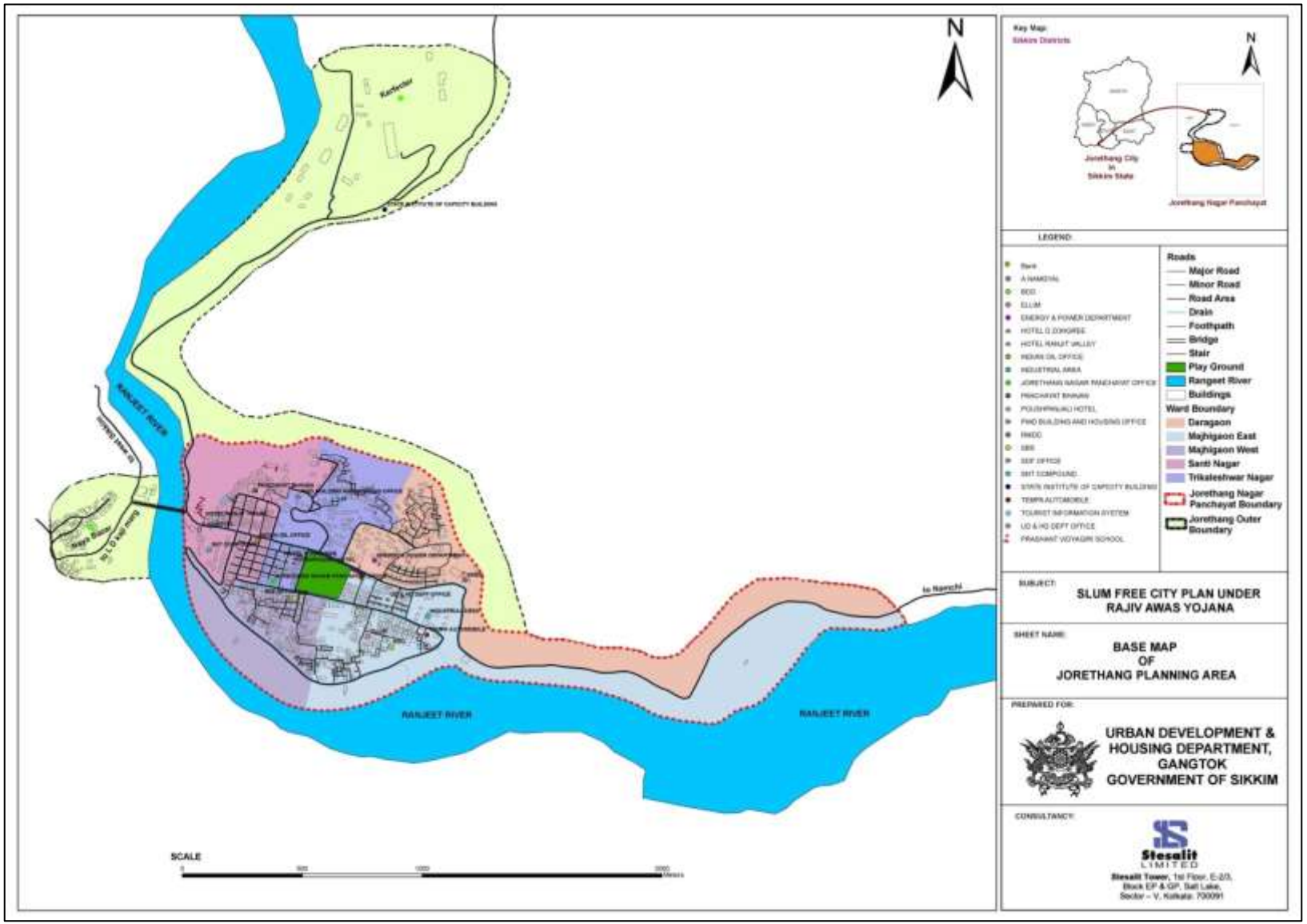
The area of the Jorethang Nagar Panchayat is 78 hectares with five wards namely, Shantinagar Ward, Trikaleshwar ward, Daragaon Ward, Majhigoan East Ward and Majhigoan West Ward.

FIGURE 2: MAP OF JORETHANG NAGAR PANCHAYAT SHOWING WARD BOUNDARIES



Source: CLTC RAY, Namchi-Jorethang

MAP 2: JORETHANG NAGAR PANCHAYAT AREA AND FRINGE AREA



Source: CLTC-Namchi & Jorethang, RAY

2. OVERVIEW OF RAJIV AWAS YOJANA

2.1. AIM

Rajiv Awas Yojana (RAY) for the Slum Dwellers and the Urban Poor envisages a 'Slum-free India' through encouraging States/ Union Territories to tackle the problem of slums in a definitive manner. The scheme is aimed at providing support to states that are willing to provide property rights to slum dwellers.

2.2. OBJECTIVE

It calls for a multi-pronged approach focusing on:

- Bringing existing slums within the formal system and enabling them to avail of the same level of basic amenities as the rest of the town;
- Redressing the failures of the formal system that lie behind the creation of slums; and
- Tackling the shortages of urban land and housing that keep shelter out of reach of the urban poor and force them to resort to extra-legal solutions in a bid to retain their sources of livelihood and employment.

2.3. GUIDING PRINCIPLES

Rajiv Awas Yojana (RAY) is the most recent model being initiated by Govt. of India as a process oriented, multipronged strategy and adaptive management towards achieving a vision of slum free India in foreseeable future. The goal of the initiative is to formulate a Slum Free City Plan to improve the quality of life of existing slums and prevention of growth of future slums in the course of urban development.

RAY envisages that the problems of slums be addressed with a holistic and integrated manner focusing on bringing existing slums into formal system of housing, addressing the failure of formal system that lie behind the creation of slums and tacking the shortage of urban land, housing including basic services.

The broad principles that are outlined in RAY program are as follows:

- No eviction in case there is a viable alternative
- On site up gradation shall be a preferred alternative compared to off-site relocation
- No or minimum demolition of incremental housing
- Tenure regularization to facilitate resident initiated incremental housing and infrastructure development
- Beneficiary identification should be done following a participatory and transparent mechanism
- Community participation is to be ensured at every stage viz. pre-survey activities, mapping, survey, preparation of slum development models, implementation and monitoring

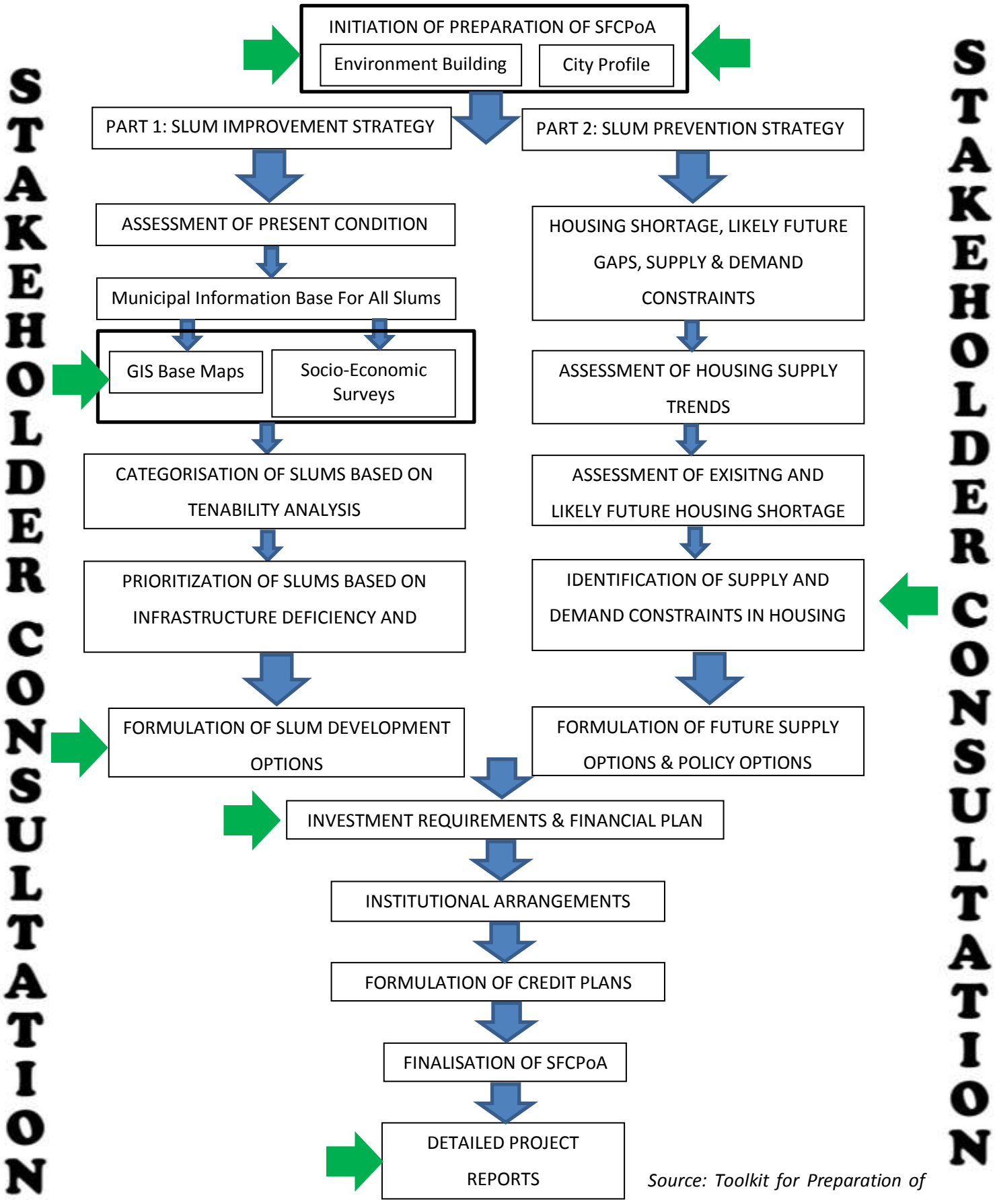
- The planning process to aim at improving living conditions, ensuring security of tenure, provision of basic services like water supply and sanitation irrespective of security of land tenure
- Convergence with other poverty alleviation programmes for the urban poor, City Development Plans, City Sanitation Plans and Master Plans
- Retaining the livelihood linkages in slum redevelopment, up gradation and improvement
- Rental housing should be treated as a significant component for prevention of future slums.

2.4. CONCEPTUAL METHODOLOGY FOR PREPARATION OF SFCPOA-RAY

Slum-free City Cell in Urban Local Body headed by the Municipal Commissioner who is primarily responsible for the preparation of Slum-free City Plan based on guidelines provided by the State Government and support extended by the Nodal Agency for Rajiv Awas Yojana at the State level. The preparation of Slum-free City Plan broadly involves Slum Redevelopment/Rehabilitation Plans based on:

a) Survey of all slums – notified and non-notified;
b) Mapping of slums using the state-of-art technology;
c) Integration of geo-spatial and socio-economic data;
d) Identification of development model proposed for each slum; and
e) Implementation strategy

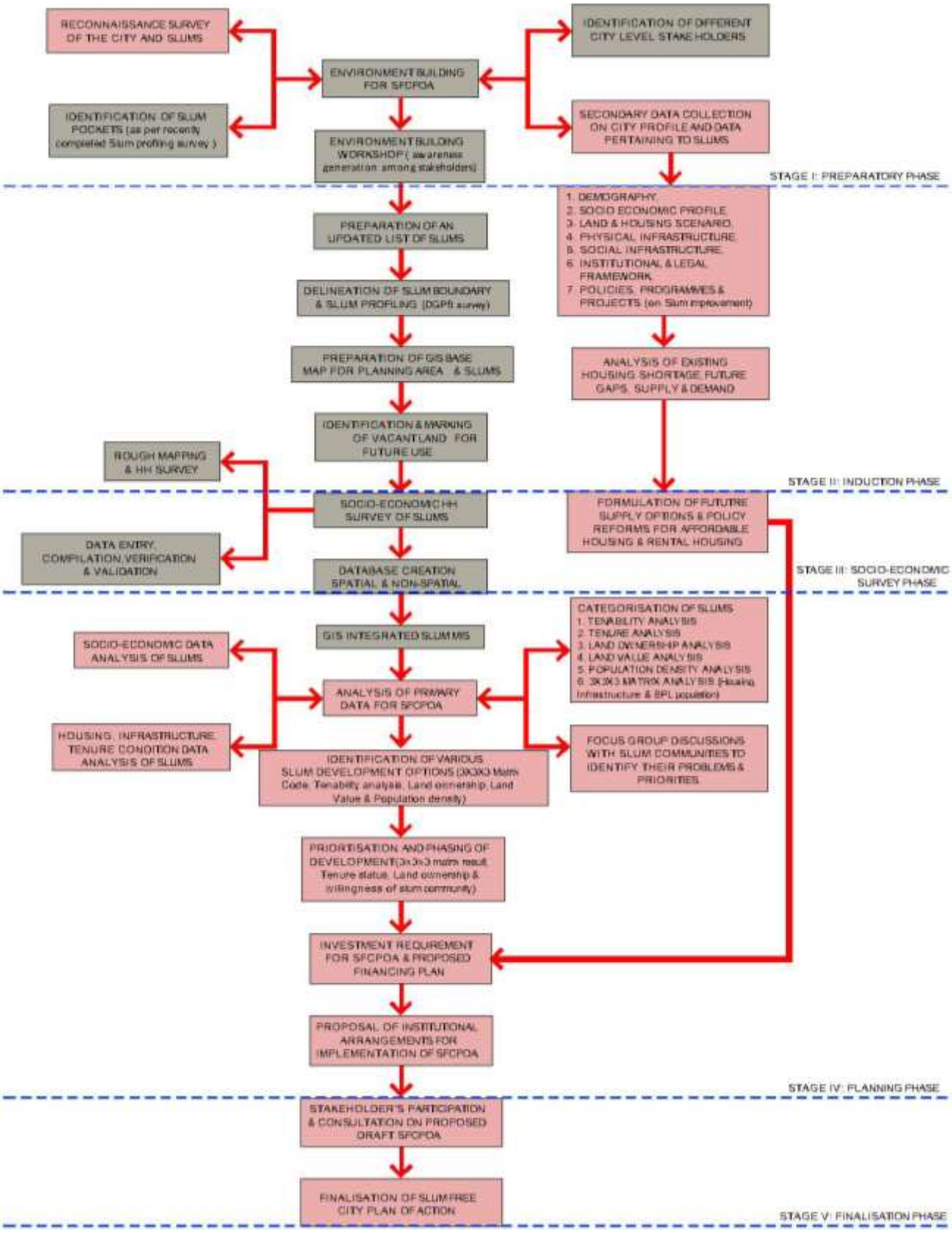
FIGURE 3: CONCEPTUAL METHODOLOGY FOR SLUM FREE CITY PLANNING-RAY



Source: Toolkit for Preparation of SFCPoA, MoHUPA, 2012

3. APPROACH & METHODOLOGY ADOPTED

FIGURE4: METHODOLOGY ADOPTED FOR SLUM FREE CITY PLANNING OF NAMCHI AND JORETHANG

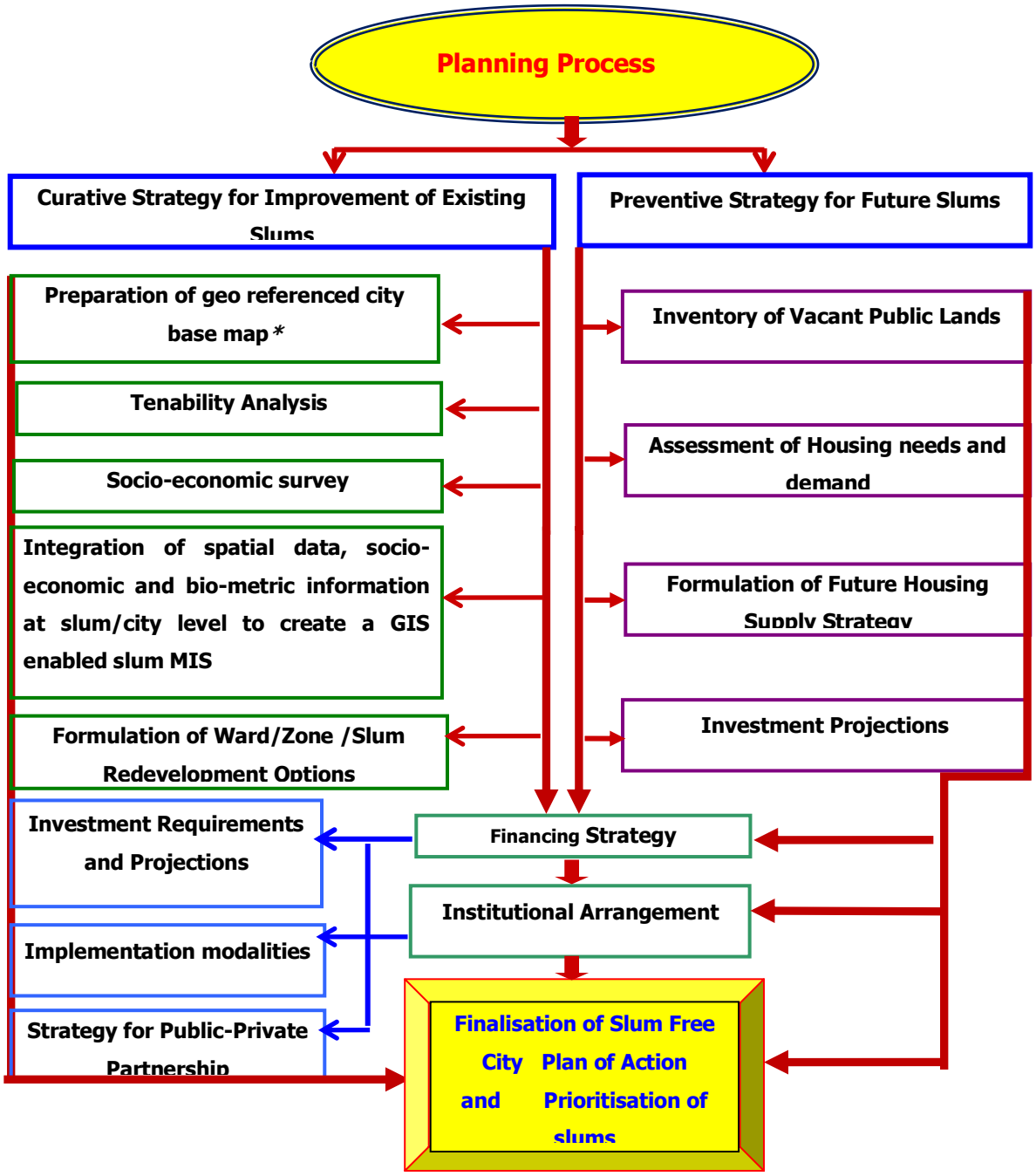


3.1. METHODOLOGY FOR PLANNING PROCESS IN SFCPOA FOR NAMCHI AND JORETHANG

The Slum Free City Plan of Action would include two strategies –

- Improvement of existing slums (curative strategy) by proposing suitable development options for them after complete socio economic and livelihood survey and tenability and deficiency analysis.
- Prevention of formation of new slums (preventive strategy) by organizing supply of affordable housing for the urban poor which will cater to the future housing demand.

FIGURE5: METHODOLOGY FOR PLANNING PROCESS



4. REGIONAL SETTING: NAMCHI & JORETHANG

Sikkim underwent many changes in its economy and demography after it joined the National mainstream. There was a considerable increase in development activities which caused growth in urbanization. Sikkim's urbanization, as is the trend in the rest of India could be reckoned in two ways:

- Economic urbanization in response to an economic growth momentum;
- Rural poverty induced urbanization.

In migration of the rural poor in response to better income earning opportunities to the urban areas is a major reason of growth of secondary towns in Sikkim like Singtam, Rangpo, **Namchi** and **Jorethang**.

Urbanization in Sikkim has mainly been driven by the growth of administrative and commercial activities. A total of 1,51,726 people out of Sikkim's total population of 6,07,688 live in nine towns of the Himalayan state. This is 24.97 per cent of the state's total population. We can infer from this that the urbanization is dense, the reason being that large stretches of land are steep, unstable, comprise of glaciers, and under forest cover thereby making them practically uninhabitable. The general land profile and terrain which is essentially steep and hilly has attributed to this form of dense growth in the nine urban centers of the State.

TABLE 1: URBAN CENTERS IN SIKKIM IN 2011

DISTRICTS	No. OF TOWNS	NAME OF TOWN/S
North	1	Mangan
East	4	Gangtok, Rhenock (CT), Singtam, Rangpo
South	2	**Namchi, Jorethang**
West	2	Gyalshing , Nayabazar

Source: Census of India, 2011

The North District although having the largest area is the least inhabited. The gross density of population in the State ranges from 29 to 76 persons per square kilometer. However, contradicting this pattern is the East District (wherein Gangtok is situated) which amongst the four districts has the highest population density of about 257 persons per square kilometer. Including Gangtok, East District has a share of 88% of the total urban population. Since connectivity and accessibility is the bottom line for growth to take place, urban development in Sikkim has taken place along the main roads. All the urban centers exhibit ribbon development, i.e. linear growth pattern.

The Indian army has control of a large territory, as the state is a sensitive border area. Many areas are restricted and permits are needed to visit them. There are a total of eight towns and nine subdivisions in Sikkim. The four districts are:

TABLE 2: ADMINISTRATIVE DIVISIONS OF SIKKIM

SL NO	CODE	DISTRICT	HEADQUARTERS	POPULATION (2011)	AREA (Km2)	DENSITY (/Km2)	MAP
1	ES	East Sikkim	Gangtok	281293	954	257	
2	NS	North Sikkim	Mangan	43354	4226	10	
3	SS	South Sikkim	Namchi	146742	750	175	
4	WS	West Sikkim	Gayzing	136299	1166	106	

Source: http://en.wikipedia.org

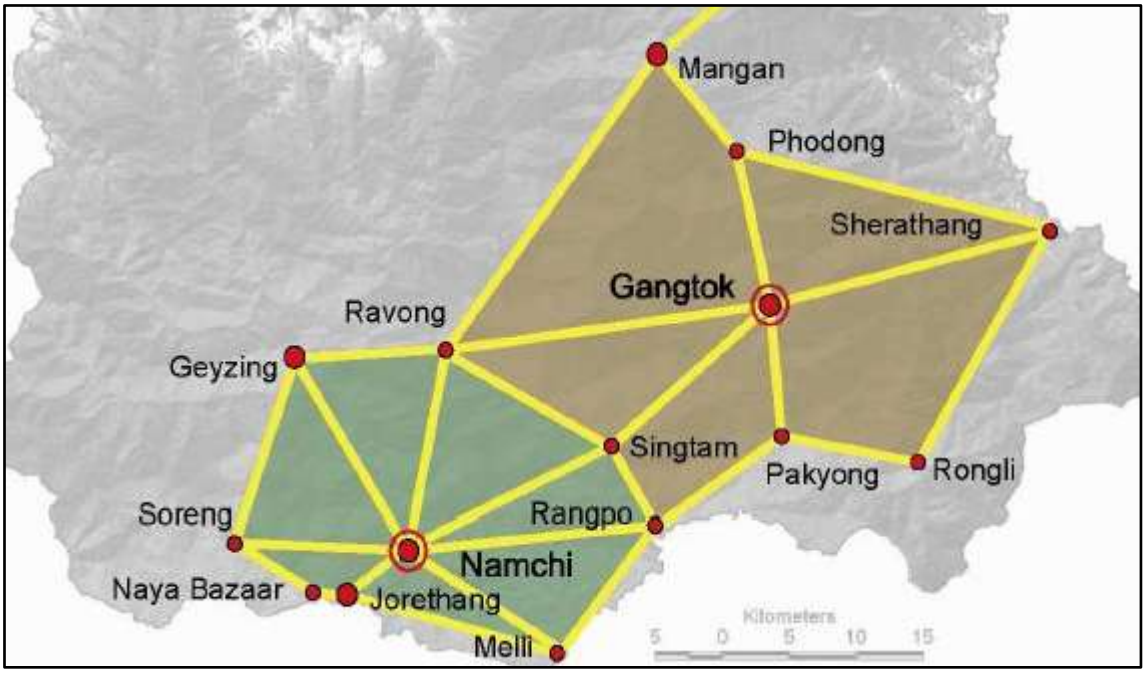
Thus **South Sikkim** is one of the four administrative districts of the Indian state of Sikkim. South Sikkim lies at an altitude of 400 to 2000 meters and hence enjoys a temperate climate for most of the year. Major urban centers include Namchi, Ravangla, Jorethang Bazaar and Melli.

It is the most industrialized district in the state, owing to the availability of flat land. Since the geology is stable the roads are in a good condition as compared to other parts of the state which suffer from landslides. The district is also famous for its Sikkim Tea, which is grown near Namchi.

According to the 2011 census South Sikkim district has a population of 146,742. This gives it a ranking of 600th in India (out of a total of 640. The district has a population density of 196 inhabitants per square kilometer (510 /sq mi). Its population growth rate over the decade 2001-2011 was 11.57%. South Sikkim has a sex ratio of 914 females for every 1000 males, and a literacy rate of 82.06%.

The people are mainly of Nepali descent. Other ethnic groups include the Lepcha and Bhutia communities. Nepali is the most widely spoken language in the district. It also is one of the lowest populated regions of the state.

FIGURE6: REGIONAL CATCHMENT DIAGRAM OFNAMCHI & JORETHANG



Source: Namchi Structure Plan, 2009

Although Sikkim is still primarily an agrarian state, its pace of urbanization in recent years has been rapid, mainly because of growing rural-urban migration. Migration essentially stems from differential opportunities between the rural areas and urban centers, both in terms of employment and access to quality social sector services, such as education and health. Declining productivity in land based activities accompanied by expanding administrative and commercial activity in towns have shrunk employment prospects in the rural areas. Urbanization is likely to continue in the medium term, as the scale of development continues to differ between the urban and rural areas.

The number of urban centers has increased from only one (Gangtok) in 1961 to **eight notified urban towns** today, these are namely, Gangtok, Rangpo, Singtam, Mangan, **Jorethang, Namchi**, Gyalshing and Nayabazar.

Most recent census figures show that over 25.15% of the population now lives in urban areas with Gangtok Municipal Corporation accounting for 16.2% of the total urban population. There are also 55 villages that display peri-urban characteristics, which have been designated as Rural Marketing Centers (RMCs).

The number of urban centers in 2001 was also 9, however Rhenock Census Town is a new entry in the list and Upper Tadong, listed as a Census Town in 2001, has become part of Gangtok Municipal Area in2011.

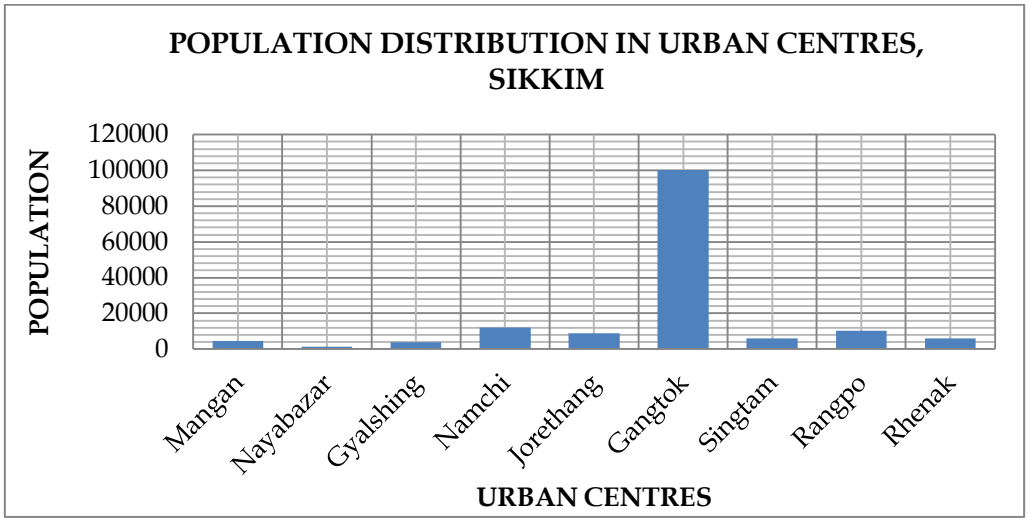
TABLE 3: POPULATION DISTRIBUTION IN URBAN CENTRES, SIKKIM, 2011

SL NO	URBAN CENTRES	POPULATION 2011	% OF TOTAL	RANK
1	Mangan Nagar Panchayat	4644	3.02	7
2	Nayabazar(Notified Bazar Area)	1235	0.8	9
3	Gyalshing (Nagar Panchayat)	4013	2.62	8
4	Namchi (Municipal council)	12190	7.94	2
5	Jorethang Nagar Panchayat	9009	5.87	4
6	Gangtok Municipal Corporation	100286	65.3	1
7	Singtam Nagar Panchayat	5868	3.82	6
8	Rangpo Nagar Panchayat	10450	6.8	3
9	Rhenock Census Town	5883	3.83	5
Total		**153578**	**100**	

Source: Census of India 2011

The main reason for the influx into **Jorethang** and the other three district headquarters like Namchi of South district is because of the expansion of administrative activities. In the last few decades, the increase in the size of the government has meant a steady stream of people moving into the major administrative towns in search of secure jobs in the government. These towns especially Gangtok and **Namchi** are also attractive for job-seekers because they are hubs of tourist related activities.

FIGURE 7: POPULATION DISTRIBUTION IN URBAN CENTRES, SIKKIM, 2011



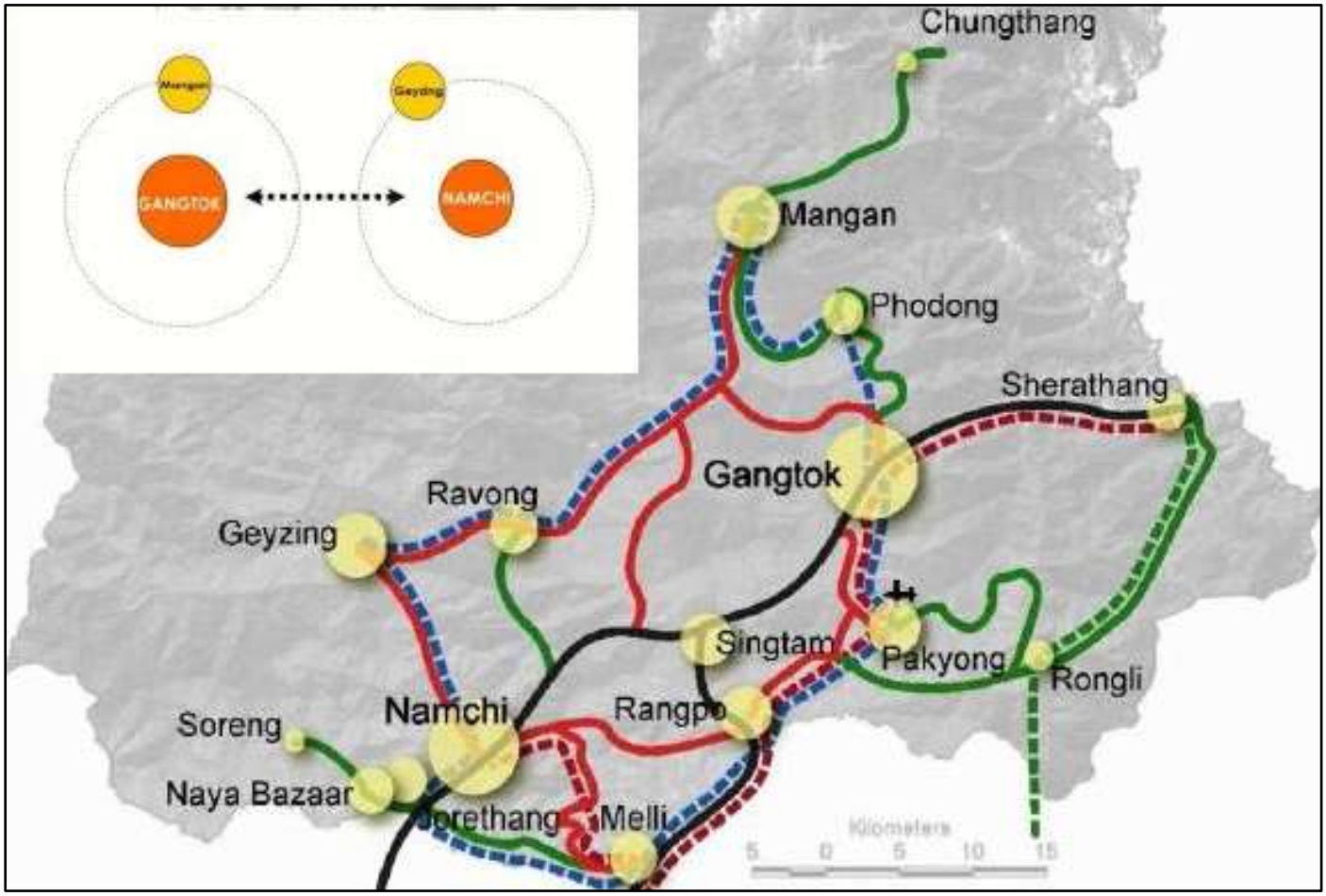
Source: Census of India 2011

The rapid expansion of urban areas has not been matched by appropriate planning and management, investment in expansion of systems or maintenance of existing ones, or improvements in service delivery. There are no Landuse maps and Master Plans for the towns. Most importantly, the haphazard and unmanaged growth of most towns has placed unsustainable pressure on urban environments through spiraling pollution and congestion, unauthorized high rise construction, informal housing with increased risk of landslides, and inadequate urban services networks that can no longer keep pace with the population growth.

The State Strategic Urban Plan has re-defined the hierarchy of the 16 urban centers within the State of Sikkim. The long-term urban growth of Sikkim is to be guided by the adopted "Moderated Multiple Nuclei Structure" (as in the diagram below). It positions the township of Namchi as the First Tier Urban Center parallel to the existing State Capital – the township of Gangtok.

The decentralization of urban growth away from Gangtok to Namchi is seen a practical answer to the highly congested township of Gangtok and will also enable a balanced urban development across the State when rural-urban migration intensifies as a result of inevitable and increasing rate of urbanization. The NPA is expected to expand to an eventual size of 33.7 sqkm in the long-term.

FIGURE8: STRATEGIC PLANNING CONCEPT FOR SIKKIM



Source: Namchi Structure Plan, 2009

The various potential for growth in the regional scale impacting development of Namchi and Jorethang towns are given below:

- Sikkim has identified Cottage industry, agro-based industries, horticulture and floriculture, minor forest-based industries, animal husbandry and dairy products, tourism-related industries, IT including knowledge-based industries, precision oriented high value low volume products, hydro-power, tea, education and hospitality as thrust sectors.
- Tourists mainly flock to Namchi because of its historical importance and religious significance. Easy accessibility to many of the regional tourist attractions and pilgrimage centers such as Samdruptse Hill, Solopok Dham and other monasteries, etc., generates high volume of visitors who become a development catalyst for Namchi. The place is a paradise for Buddhists, with its many monasteries and stupas. The town is also growing in stature as a major tourist destination in the state, evolving from its position as a religious stronghold.
- Jorethang lies on the way to Pelling from Darjeeling, Siliguri and Kalimpong. As a result it has become a transit town providing infrastructure facilities to the tourists, businessmen and for commercial activities. Multiple physical connections by roads are already established between Namchi, Jorethang and other towns of Geyzing / Pelling, Gangtok, Rangpo and Melli within Sikkim.
- Currently, the towns are also connected to Siliguri and Kalimpong in the neighboring State of West Bengal. An upgraded future connection to Darjeeling is likely to create huge domestic tourism opportunities for the South and West Districts.
- The existing institutional facilities are highly concentrated in the East District. With more urban population to be distributed in the South District, Namchi holds a potential to become an Institutional Hub for the South and the West Districts.

5. REVIEW OF EXISTING POLICIES & PROGRAMMES & PROJECTS ON URBAN POOR

5.1. EXISTING LEGAL POLICIES

5.1.1. DEFINITION OF SLUM

"A slum is a cluster of compact settlements of 5 or more households which generally grow very unsystematically and haphazardly in an unhealthy condition and atmosphere on government and private vacant land. Slums also exist in the owner based household premises." Considering its unique conditions of hilly terrain, the Govt. of Sikkim has notified exact definition of slum by the government vides Gazette notification no 02/ HOME/ 2003 dated 27/01/2003. (Refer annexure). Taking into consideration the local conditions and environment as is prevalent in the state and for the purpose of implementation of the National Slum Development Policy and

Other allied programmers, the Government of Sikkim under the Notification No. 394/GOS/UD&HD/5(8)97-98 Part II Dated 17-06-2003, declared " Urban Slum Area" in Sikkim.

5.1.2. IMPORTANT LAND RELATED ORDERS

Revenue Order No.1 dated 17 May 1917 restricts the transfer land by way of sale, mortgage or sub-letting of lands belonging to Bhutia and Lepcha to any other person other than a Bhutia or Lepcha without the express sanction of the Durbar. All other land transactions within Sikkim are strictly between the Sikkimese of various ethnic origins possessing Sikkim Subject Certificate or the Certificate of Identification. In case of land transactions where a residential certificate holder is involved, relaxation in the old core area is permitted by the express sanction of the Government. In case of projects of public importance, lease of all land for a maximum period of 33 years subjected to revision for a maximum period of 99 years is permitted by the approval of the Government. Further, the sub-lease of the land has been banned.

Government has the right to enact the Land Acquisition and Rehabilitation and Resettlement Act 2013 for land acquisition as well as rehabilitation and resettlement. The process for land acquisition involves a Social Impact Assessment survey, preliminary notification stating the intent for acquisition, a declaration of acquisition, and compensation to be given by a certain time. All acquisitions require rehabilitation and resettlement to be provided to the people affected by the acquisition.

Compensation for the owners of the acquired land shall be four times the market value in case of rural areas and twice in case of urban areas.

In case of acquisition of land for use by private companies or public private partnerships, consent of 80 per cent of the displaced people will be required. Purchase of large pieces of land by private companies will require provision of rehabilitation and resettlement.

Details of various relevant orders/ laws/ bye-laws are given below:

a. Transfer of land - Revenue Order No. 1 dated. 17.05.1917

The order above says "notified to all Kazis, Thikadars and Mandals in Sikkim that no Bhutia and Lepcha are to be allowed to sell, mortgage or sub-let any of their land to any person other than a Bhutia or a Lepcha without the express sanction of the Durbar or officers empowered by Durbar in their behalf, whose order will be obtained by the landlord concerned. If anyone disobeys he will be severely punished."

b. Allotment Rules: Sikkim State Site Allotment Rules, 2012

Mode of Allotment

1. Site allotment shall be made primarily for the purpose of allotment. Constructing a residential building in the designated residential areas only as under, namely:-

- in Commercial Areas: by auction/tender;
- in Institutional Areas: by auction/tender;
- in Industrial Areas: by auction/tender;
- in Residential Areas: by lottery system as per specific reservation category;
- in Residential cum Commercial Areas: by lottery system as per specific reservation category;

2. All the eligible applicants shall be considered for allotment through a draw based on random number technique. The draw shall be held in the presence of panel of observers.

Eligibility

- The applicant must possess Sikkim Subject or Certificate of Identification.
- He /She should have attained the age of majority. For this an applicant should have completed 18 (eighteen) years of age on the date of filing of the application for allotment of site.
- The applicant must not own any residential flat or in part or on lease hold or free hold basis in the urban area of Sikkim in his/her wife/husband or in the name of his/her minor or dependent children within the notified urban area/ municipal area.
- One person can submit one application only.
- A person who has already been allotted a plot by the Government or any other land owning department shall not be eligible to apply for another Government site.

Reservations

The details of reservations under this rule shall be as under namely:-

- Thirty three percent (33%) of the site area will be reserved for Economically Weaker Section (EWS) of the society, physically handicapped persons, victims of natural calamities and people with exemplary records in the area of Art, Science and Sports.
- Sixty seven percent (67%) of sites for all other possessing Certificate of Identification or Sikkim Subject Certification.
- In case of number of sites in respect of reserved category comes to fraction i.e., less than 0.5 it would rounded off to zero and if it is0.5 or more it would be rounded off to one.

Status of Allottee

- All allotments shall be made on lease hold basis.
- In order to ensure that the concessional provisions meant for the persons with disability and Economically Weaker Sections do not lead to misuse or speculation, the letter of allotment of such sites would specifically state that the transfer of the site prior to ten years from the date of execution of the lease deed would result in automatic cancellation of the site. However the Lease deed can be transferred to the names of the family members if the Allottee has expired.

Regularization of unauthorized construction

The Government may make only one time regularization of unauthorized construction based on the merit of the case. Any other unauthorized construction shall not be regularized and will be liable for demolition.

Regularization of occupied sites

1. The Government may consider regularization of occupied site on the following grounds on payment of regularization fees as specified from time to time:-
2. The site should be in the occupancy of the applicant for twenty years or above;
3. The applicant should fall under Economically Weaker Section category;
4. The applicant must be a Sikkim Subject or Certificate of Identification holder;
5. The applicant must not own any residential flat or plot in full or in part on lease hold or free hold basis in the notified urban or municipal area of Sikkim in his/ her own name or in the name of his/her wife/husband or in the name of his/her minor or dependent children;

Restriction on allotment of site /additional site

1. No sites shall be allotted in the notified Green Belt Area.
2. No sites shall be allotted on land having a gradient of 70 degree and above.
3. No sites shall be allotted in land slide prone areas and sinking areas.
4. A minimum setback of 10'0" shall be maintained from the edge of the Jhora while allotting sites.
5. A minimum setback of 50'0" shall be maintained from the edge of the river bank while allotting sites.
6. No sites shall be allotted below and / or near the high transmission lines and towers. Setbacks as per the norms of Energy and Power Department are to be followed.
7. No sites shall be allotted over public footpath, public drains, parking spaces and Jhoras etc.

Change of building use and land use

Change of building use and land use shall be in accordance to the master plan/local area plan and conversion charges specified by the Government from time to time.

a. The Sikkim Building Construction Regulations, 1991

(Notification No. 29(202) UD&HD/90/295 dated: 19th March 1991) *(As amended by the Sikkim Building Construction (Amendment) Regulations,2008)*

Maximum height of building:

i) The maximum height of the buildings constructed in allotted sites or private holdings within a notified area shall be in accordance with the suitability and profile of the location based on the stability map of the area as prepared by the Mines and Geology Department from time to time which shall be as follows:-

Stability Zone Admissible No. of floors.

1. 5 ½ storeys
2. 4 ½ storeys
3. 3 ½ storeys
4. 2 ½ storeys
5. 1 ½ storeys
6. No construction is allowed.

ii) The maximum height of the building in other bazaars shall be accordingly restricted as per stability of the area as identified by the Mines and Geology Department and the land profile provided that the structural design and specifications of the foundation and the super structure given in the approved Blue Print Plans are strictly followed during the execution of construction.

iii) Notwithstanding the provision contained in sub-regulation (i) above, a building proposed to be constructed on the valley side of a road shall have a maximum of one storey only above the road level
Depending upon the stability of the location and structural foundation of the building but the total number of floors of the building shall not exceed 4 (four) storeys or 40 feet.

However it is proposed that the State Govt. may incorporate necessary special provisions for Low Income Group Housing in line with National Building Code (NBC) to facilitate housing for poor particularly for redevelopment& improvement of slums.

b. Criteria for Usage of Forest Land for other Purposes by Govt. Department with Approval Procedure

Details of rules for use of forest land for various purposes are given in boxes below:

Classification of different types of forest land

As per the Champion and Seth Classification the Forest of East Division is broadly classified into 6 broad forest types

1. Lower hill- Tropical-Semi Ever Green Forest-3C/C1 (300m-900m)
2. Middle hill- Sub-tropical Mixed broad leaved Hill Forest 3B/C1 (900m-1800m)
3. Upper hill- Himalayan Wet Temperate Forest- 11B/C1 (1800m-2400m)
4. Sub Alpine Forest- (2400m-3000m)
5. Moist Alpine Forest- (2700m-3700m)
6. Dry Alpine Forest- (3700m-4500m).

The forest in and around Jorethang and Namchi areas fall within the Lower hill- Tropical-Semi Ever Green Forest-3C/C1 (300m-900m) and Middle hill- Sub-tropical Mixed broad leaved Hill Forest 3B/C1 (900m-1800m). As per the Sikkim Forest Water Courses Road Reserve (Preservation & Protection) Act, 1988, the Forest land has been classified and defined as under:

1. Reserved Forest
2. Khasmal & Gorucharan Forest
3. River Banks, Slip Reserve, Road Reserve etc
4. Private Forest

Types of construction allowed in different types of forest land:

Reserve Forest/Khasmal Gorucharan Land: No construction of Non Forestry purpose is allowed in the Reserve Forest/Khasmal Gorucharan land unless and until Forest Clearance is obtained under Section-2 of the Forest (Conservation) Act, 1980. As per the Forest (Conservation) Act, 1980 the user agency has to submit proposals involving diversion of Forest land for the Non-Forestry Purpose in the prescribed annexure/Performa duly filled in with all complete details, supporting documents/information duly signed by DFO, Territorial and user agency. A copy showing the requisite documents is enclosed. The complete proposal for the diversion of Forest land will be sent through the office of the PCCF-cum Principal Secretary, Department of Forest Environment & Wildlife Management, Government of Sikkim to the Regional Office of the Ministry of Environment of Forest, Government of India.

However, General Approval under Section-2 of Forest (Conservation) Act, 1980 upto the diversion of 1 Ha of forest land can be accorded by the State Government for the following activities.

1. School
2. Dispensaries/Hospital
3. Electrical & Telecommunication Lines
4. Drinking water
5. Water/Rain Water Harvesting Structures
6. Minor Irrigation Canal
7. Non-Conventional sources of Energy
8. Skill Upgradation/Vocational Training Centre
9. Power sub station
10. Rural Roads
11. Communication Posts
12. Police Establishment like Police Station/Outpost/Border Outpost/Watch Tower in sensitive area (identified by Ministry of Home Affairs), and
13. Underground lying of optical fiber cables, telephone lines and drinking water supply lines

c. Strategy of the Forest Department on the action to be taken against settlements encroaching on Forest Land

1. Anyone who is in unauthorized occupation of forest land may without prejudice to any other action that may be taken against him under any other provisions of the Act or other law for the time being in force, be summarily evicted by the Forest Officer not below the rank of Deputy Conservator of Forest having Jurisdiction over the said 'Forest land and any building or other construction erected thereon shall, if not removed by such person within such time as the Deputy Conservator of Forest, may fix, be liable to forfeiture.

   Provided that before evicting a person under this sub-section he shall be given reasonable opportunity of being heard.
2. Any property forfeited under sub-section (1) shall be disposed of in such manner as the Deputy Conservator of Forests may direct and the cost of removal of any crop, building or other work and all works necessary to restore the land to its original condition shall be recoverable from the persons evicted in the manner as if it were an arrear of land revenue.
3. Any person aggrieved by an order of the Deputy Conservator of Forests under sub-sections (1) and (2) may, within a period of one month and in such manner, as may be prescribed, appeal against such order to the Conservator of Forests.

5.1.3. STATE INITIATIVES FOR URBAN POVERTY REDUCTION

UD&HD is the nodal agency for monitoring and implementation of Central and State government schemes on Poverty Alleviation for the state of Sikkim. The various schemes availed by the State on Urban Poor are as following:

BASIC SERVICES FOR URBAN POOR (BSUP)

BSUP is focused on slum upgrading and poverty reduction through creating access and networking slums to urban infrastructure improvements. BSUP also has a 7-Point Charter that envisages integration of urban slum upgrading activities with social development programmes/missions such as for health, education, social welfare, etc. to ensure comprehensive development.

INTEGRATED HOUSING AND SLUM DEVELOPMENT PROGRAMME (IHSDP)

The Integrated Housing and Slum Development Programme targets the poor living conditions of slums and clusters in cities and towns and attempts to improve the housing stock and basic infrastructure and coverage service delivery to the poor. The programme runs on a project mode.

The financing pattern is in the ratio of 80:20 by Central and State Governments. Beneficiary share (12% for General and 10% for SC/ST) is stipulated for beneficiaries of housing projects. Out of 20% State share the balance

fund after deducting beneficiary share will be borne equally by the ULB and State (Maximum state share is 10% of the total Project Cost).

NATIONAL SLUM DEVELOPMENT PROGRAMME (NSDP)

A Centrally assisted Slum Development Programme NSDP is mainly for improvement in the environment in the slums as a broader objective through provision of infrastructure facilities and shelter for improving living conditions in the slums.

SWARNA JAYANTI SHAHRI ROZGAR YOJANA (SJSRY)

Under this schemes opportunity of employment and self-employment is availed to the members of the families of urban poor and along with this skill development, trainings are also provided to them. In this scheme there is a provision of providing loan to the women and interested individuals and the economic help of 10, 00000 rupees through self-help groups to the women of poor families is also given to them.

5.2. Review of Existing institutional Framework

5.2.1. Urban Development & Housing Department (UD&HD)

The Urban Development & Housing Department is responsible for all the physical planning in the state of Sikkim. Instead of a statutory master plan for the city as in practice in other parts of India, a Structure Plan for the city of Namchi have been prepared on behalf of the UD&HD by Surbana International Consultants Pvt. Ltd., Singapore is in place. The Namchi Structure Plan is a non-statutory Development Guide Plan, which guides the use of future land use in the cities. The Plan proposes the creation of different neighborhoods with population distribution and the required infrastructure until 2040. Prior to the structure plan, the City Development Plan for Gangtok was initiated by the Urban Development & Housing Department under the JNNURM in 2007. It is also the nodal Department in the State for implementation of projects under JNNURM.

The functions covered by the UD&HD related to housing creation are:

- Allotment of Government plots/sites on leasehold basis for a period of 20 years renewable up to 60 years.
- Control over all building construction activity.
- Maintenance of the city roads
- Maintenance of the drainage system
- Supply of social housing under the centrally sponsored schemes (CSS) on Poverty Alleviation under MoHUPA, GoI.

5.2.2. URBAN LOCAL BODIES

Namchi Municipal Council and Jorethang Nagar Panchayat are nascent organizations and have been formed recently after the 74th Constitutional Amendment prior to which the Urban Development and Housing Department was the concerned Department engaging itself for Urban Amenities, Infrastructure, Construction Regulation, Solid Waste, Drainage etc. Reference to the 74th Constitutional Amendment of the Constitution of India, the State had taken up the works for the Constitution of Urban Local Bodies for all the Major Towns in Sikkim including Namchi and Jorethang. The Sikkim Municipality Act, 2007 has been passed by the state Legislative Assembly in March 2007. As envisaged in the 74th Amendment for the formulation of an Urban Local body, Namchi has constituted a Municipal Council which came into functioning since 25th May 2010. The Council is divided into 7 wards, namely; Upper Ghurpisey, Lower Ghurpisey, Dambudara, Boomtar, Purano Namchi, Upper Singhithang and Gangyap. The Jorethang Nagar Panchayat came to effect from 13th May 2010 and it is divided into 5 wards and they are; Shantinagar, Trikaleshwarnagar, Daragaon, Majhi-gaon East and Majhi-gaon West. Jorethang does not have any notified slum.

5.2.3. SIKKIM HOUSING & DEVELOPMENT BOARD (SHDB)

The Sikkim Housing & Development Board was constituted by the State Legislature under the Sikkim Housing & Development Board Act, 1979 and is regulated by the Sikkim Housing & Development Board Meeting, Procedure and Disposal of Business Regulation, 1980. As per the decision of the State Cabinet Meeting held on 26.11.2002, the State Government of Sikkim had decided to wind up the Sikkim Housing and Development Board. Presently the Board is in the process of recovery of its loans with only the necessary staff while others have been deputed to the UD&HD.

5.2.4. BUILDING & HOUSING DEPARTMENT (B&HD)

The Sikkim Public Works (Building & Housing) Department is solely responsible for the construction of Non-Residential accommodations under Public Work. The Department also covers the development of residential accommodation at both Gangtok and other parts of the State for Government of Sikkim.

5.2.5. INSTITUTIONS RELATED TO DELIVERY OF PHYSICAL INFRASTRUCTURE

i. Water Security & Public Health Engineering Department (WS & PHED)

WS&PHED is that wing of the State Public Works Department which is responsible for augmentation and supply of treated water for domestic and other uses in all the urban and semi-urban areas of Sikkim.. This is the same department, which supplies water in an intermittent system to the city of Namchi and Jorethang through piped distribution (gravitational) system. The WS & PHE Department is also responsible for the construction and

Maintenance of FIRE Fighting Systems all over the State. The system consist of construction of static underground tanks and fire stands

ii. Irrigation & Flood Control Department

Irrigation & Flood Control Department is that wing of the State Public Works Department, which is responsible for irrigation works and its maintenance, assessment of irrigation and irrigation development and flood control as well as anti-erosion works including management and control of drainage and Jhoras training works.

iii. Roads & Bridges Department (R&B)

The main function of the Roads and Bridges department is to plan and develop road network throughout the state. It also maintains the road network that has been created in the past years for the smooth flow of both passengers and goods.

iv. Energy & Power Department

The Energy & Power Department of Sikkim is engaged in the generation of electricity, its transmission to various load centers and finally distribution to the consumers of all categories. At present, the total installed capacity of the State is 95.7 MW.

v. Border Roads Organization (BRO)

The Swastik Project of Border Roads Organization (BRO) looks after the road connectivity needs for Sikkim.

6. INITIATION OF SFCPOA FOR JORETHANG & NAMCHI

6.1. STAKEHOLDER CONSULTATION WORKSHOPS

On initiation of the work related to SFCP of Jorethang and Namchi, UD&HD, Govt. of Sikkim with the help of SLTC which already existed in Gangtok undertook SFCP work under RAY. The initial phase of preparatory work to the project involved setting up of City level Ray technical cell for Jorethang and Namchi, identification and finalisation of slums for the cities, identification of stakeholders and working out the modalities to conduct surveys. For the purpose of identification of slums, the definition of slums for Sikkim, as per the gazette notification of 2003 was followed. (Refer Annexure 1: Gazette notification of 2003- Slum definition)

SFCP preparation team also visited the slums and conducted discussions with slum dwellers in presence of councilors, meetings were also conducted with Govt. officials of various departments and other key personalities to solicit their input regarding the expectations of the different sections of the society regarding the future course of action for slum-development of Jorethang and Namchi.

The mechanism for preparation of SFCP involved a constant interaction with stakeholders in every stage of the project, and series of consultations were held directly with slum dwellers at every stage. The SFCP preparation team visited every slum in Jorethang and Namchi, and held discussions on issues and suggestions with a cross

section of the slums dwellers, including tenants and non-tenants and members of various ethnic groups. In absence of a strong community based network in the slums, the interactions and surveys were conducted directly with the slum dwellers as stakeholders and Local NGO. The details of interactions with the slum dwellers are given in detail in Annexure II. A timeline summary of the different interactions by SFCP preparation team is also provided.

Stesalit Limited was appointed by UD&HD as consultant for preparation of SFCPoA report for Jorethang and Namchi. Stesalit also conducted Stakeholder consultation at various levels for preparation of the Slum Free City Plan. The details of meeting have been elaborated below:

TABLE 4: DETAILS OF STAKEHOLDER CONSULTATION FOR SFCPOA PREPARATION

SL NO	DATE	WITH WHOM	PURPOSE
1	12.1.2014	Jorethang Nagar Panchayat, CLTC RAY- Jorethang & Namchi SLTC RAY	Preliminary Slum visit by Stesalit's Team along with CLTC and SLTC to collect data/information etc.
2	12.1.2014	Slum dwellers, Jorethang	Informal discussions with slum dwellers
3	13.1.2014	Slum dwellers, Namchi	Informal discussions with slum dwellers
4	13.1.2014	Namchi Municipal Council, CLTC RAY- Jorethang & Namchi SLTC RAY	Preliminary Slum visit by Stesalit's Team along with CLTC and SLTC to collect data/information etc.
5	14.1.2014	UD&HD, Govt. of Sikkim.	Submitted a Road Map for preparation of SFCPoA under RAY for Jorethang and Namchi as prepared by Stesalit, based on RAY guidelines for initiation of further work on SFCP.
6	10.3.2014	CLTC RAY- Jorethang & Namchi CLTC RAY-Singtam & Rangpo SLTC RAY	Presentation on the Framework of SFCPoA, Discussion on data gaps and Collection of documents already prepared regarding preventive actions contemplated regarding non-emergence of slums and any other policy matters already taken up /planned to be taken up.
7	12.3.2014	Meeting with Slum dwellers, Jorethang	Visit to the slums for understanding conditions in the slums. To identify the deficiencies as per the existing housing and infrastructure conditions.
8	13.3.2014	Meeting with Slum dwellers, Namchi	Visit to the slums for understanding conditions in the slums. To identify the deficiencies as per the existing housing and infrastructure conditions.

SL NO	DATE	WITH WHOM	PURPOSE
9	14.3.2014	Jorethang Nagar Panchayat Namchi Municipal Council	Discussions held with Nagar Panchayat officials regarding the present status of the slums, infrastructure facilities existing in the cities.
10	14.3.2014	UD&HD, Govt. of Sikkim	Plan of further course of action and suggestions for SFCP preparation.
11	20.11.2014	UD&HD, Govt. of Sikkim	Discussion on Draft SFCPoA Report for Jorethang and Namchi
12	22.11.2014	UD&HD, Govt. of Sikkim Jorethang Nagar Panchayat Namchi Municipal Council Slum dwellers Lead NGO	Presentation on Draft SFCPoA was made along with UD&HD and Stesalit for Jorethang and Namchi at Namchi Municipal Council auditorium. Interaction was held on the Plan of Action with different stakeholders and feedback on SFCPoA was received for finalisation of the same.
13	18.12.2014	UD&HD, Govt. of Sikkim	Discussion & review on Final Draft SFCPoA for finalisation of the same for SLSMC.

6.2. ESTABLISHMENT OF RAY TECHNICAL CELL

RAY envisages each State to prepare a Slum Free City Plan of Action (SFCPoA) through legal, institutional, technical and financial interventions. Under the Slum Free City Planning guidelines, there is a requirement for the Urban Local Bodies (ULBs) to build an inventory of existing spatial data available with various agencies. Under RAY, it is needed to have 'Technical Cell', which will have responsibilities to coordinate and collect data from state governments, NRSC/ISRO, Survey of India, National Informatics Centre (NIC), etc.

The State level Technical Cell has been functioning with appointment of specialists done individually by the UD&HD and their contract period ends in 31st March 2014. Since then the State Level Technical Cell apart from collating the aforementioned data, was also expected to advise UD&HD on all technical matters pertaining to RAY. With the help of SLTC, City level Technical Cell for Jorethang and Namchi was established by UD&HD with individual experts who were responsible for conducting the Stakeholder consultation at various levels and management and monitoring of slum survey.

6.3. SOCIO-ECONOMIC HOUSEHOLD SLUM SURVEY

The RAY Technical Cell spent the first few days in doing the basic groundwork in Jorethang and Namchi. This included meeting various government officials such as the Commissioner-cum-Secretary of the UD&HD, President and Vice President of Jorethang Nagar Panchayat and Namchi Municipal Corporation, visiting other government departments and various slum locations to get an understanding of slums and squatter settlements

in Jorethang and Namchi. The major outcome of this exercise was an action plan spelling out various activities that the City Level Technical Cell would undertake/facilitate over the next one year.

It was decided that RAY cell will finalise and prepare an updated list of slums for the cities. Consequently socio-economic and livelihood survey as well as survey for housing and other amenities for all notified and non-notified slums in Jorethang and Namchi were undertaken by a local NGO to create the necessary information/database for preparation of SFCPoA of the cities.

6.4. SLUM PROFILING SURVEY AND GIS MAPPING

a. Preparation of Terms of Reference

RAY envisages mapping of the cities and the slums using GIS technology. This includes preparation of a citywide base map using the latest high resolution satellite images and preparing detailed map and plans at the slum level. Thus, with the help of the GIS-MIS guidelines prepared by MoHUPA and the aforementioned report on the status of spatial data, Terms of Reference document was prepared. It highlighted the data which was already available and emphasised what needed to be generated. It was distributed to the bidders to help them formulate their techno-financial proposals. Thus UD&HD appointed Stesalit Limited as consultant for carrying

out slum profiling survey with handheld devices and subsequent preparation of City base map and Slum base maps on GIS platform for Jorethang and Namchi.

b. Satellite Images

High resolution satellite images are needed as part of the base map creation. For this Cartosat-II scenes for Jorethang and Namchi were identified and purchased from National Remote Sensing Agency (NRSA). This image was provided to the Consultant by SLTC.

c. MIS

(i) Data Entry in designated Govt. of India website

MoHUPA has recommended the use of an online Management Information System (MIS) for entering the socio-economic and livelihood survey data. This online system developed by Centre for Good Governance (CGG), Hyderabad provides a uniform platform for data entry for all the urban local bodies (ULBs) in India. The format also provides the option of generating reports on various aspects of the questionnaire. Apart from the online MIS website, CGG has created a replica site to fill ample questionnaires. This was used by the RAY Technical Cell team to fill the information collected during the slum survey.

(ii) MIS Activities Flow planned

The data of the socio-economic slum survey was collected by the local NGO for the different slums. Data collection was done at household level as well as slum level. The data was checked as per checklist for quality

checking by MIS expert and Capacity Building Specialist of CLTC and SLTC. In case of any in-accurate data the surveys were contacted and the same was rectified by the form rectification. Then data entry was done on-line CGG Data Entry interface as per RAY guidelines or in off-line mode in the required Format by MIS- GIS expert. After data entry analysis of the data was done to find out the data gaps and further rectification, if any. Further MIS expert had prepared a user manual for future reference and provided inputs on data updating and provided training of MIS team in ULB.

(iii) Requirements of Changes in the on-line data entry format for requirements of the State of Sikkim

CGG, Hyderabad was requested for necessary modification to the data entry interface for Sikkim RAY Slum survey. Questions for adult education and non-formal education center were added under the "Education Facility" section of the survey.

6.5. GENERATION OF SLUM CODE AND GIS-MIS INTEGRATION

Each slum has been provided with a 3 digit code which is unique to that slum and each slum household has been marked with a unique ID. This slum code has been used for generation of the Unique ID. The MIS application and the GIS would be integrated using this unique house numbering system. Each house will be numbered as per the numbering convention below. For example generation of unique ID for HH will be done as under:

Cities will be divided into 500x500 Grid.

Grid number will be 0001,0002,0003……N

Formula for UID:

State ID + City Id + Grid No + Parcel No + HH No

2 Digit + 4 Digit + 4 Digit + 4 Digit + 3 Digit = 17 Digit Unique ID

CHAPTER 2: SLUM FREE CITY PLAN OF ACTION FOR JORETHANG NAGAR PANCHAYAT

1. CITY PROFILE

1.1. GENERAL PROFILE

Jorethang is located at a distance of 80km and 100km from Gangtok and Siliguri respectively; it is directly accessible from Siliguri by road. Jorethang has developed into a business capital for South and West district of Sikkim. Proximity to Siliguri in West Bengal and Gangtok together with its centralized location has facilitated its transformation into an economic center.

With increased economic activity, the population of the town has increased manifold and this has led to cause a severe strain in the existing infrastructure in terms of roads, drainage, sanitation, garbage disposal, street lighting, open spaces etc. The periodical extension of basic urban infrastructure by the State Government has not been able to match the actual requirement and therefore, slum areas especially Majhigaon has started to develop. It will be in overall interest of the citizens of Jorethang and Sikkim as a whole that immediate intervention is made in up scaling the services delivery in slum areas before the situation becomes unmanageable.

TABLE 5: CITY PROFILE OF JORETHANG

SL NO.	INDICATOR	
1	**AREA STATEMENT**	
1.1	Municipal Area (Ha)	77.64*
1.2	Fringe Area (Ha)	152.84*
1.3	Area of Slums (Ha)	3.4 *
2	**NUMBER OF MUNICIPAL WARDS**	**5**
3	**POPULATION & HOUSEHOLDS**	
3.1	Total Population	9009**
3.2	No. of Households	2107**
3.3	Population Density (ppH)	116
3.4	Slum Population	1165***
3.5	Slum Household	290***

*Source: GIS Survey, RAY, Stesalit Limited,2014
** Source: Census of India, 2011
*** Source: Primary slum survey, RAY, UD&HD, 2013

1.1.1. LOCATION

MAP 3 : LOCATION MAP OF JORETHANG TOWN

Jorethang is a major town in South Sikkim district of Sikkim. It is situated at an altitude of about 313m (1030 Ft.) above sea level and has a temperate climate. Jorethang lies near the Rangit River, a tributary of the River Teesta. The iconic Akar Bridge connects Jorethang to West Sikkim towns of Gyalshing (Gayzing), Sombaray, Soreng, Kaluk, Dentam, Pelling, etc. and makes it an important stop on the way to Pelling from Darjeeling, Siliguri and Kalimpong.

Jorethang is the most populous urban centre of South Sikkim after Namchi. Having a flat topography, the town was planned by the Chogyal Maharaja of Sikkim Late Palden Thendup Namgyal in 1955, when he visited Jorethang, which was then a Mandi area used for orange trade; he was inspired by the strategic location of the town near the banks of River Rangit. He then visualized the formation of an active Town area.

Today the Jorethang Nagar Panchayat has an area of 77.64 ha (0.78 km²)[1]. However, the 'Town Area' that claims the lion's share of the Nagar Panchayat is 55.24 Ha (0.55 km²). It lies between 73°05'E to 40°E longitude and 40°10'N to 40°85'N latitude and is 25 km and 90 km away from the district Headquarter, Namchi and state capital, Gangtok respectively. During the period of 1971-81, Jorethang witnessed considerable growth owing to the merger of Sikkim with India that resulted in strengthening of economic ties and infrastructure development. The town today serves as the business capital of South and west Districts of Sikkim. Concentration of economic

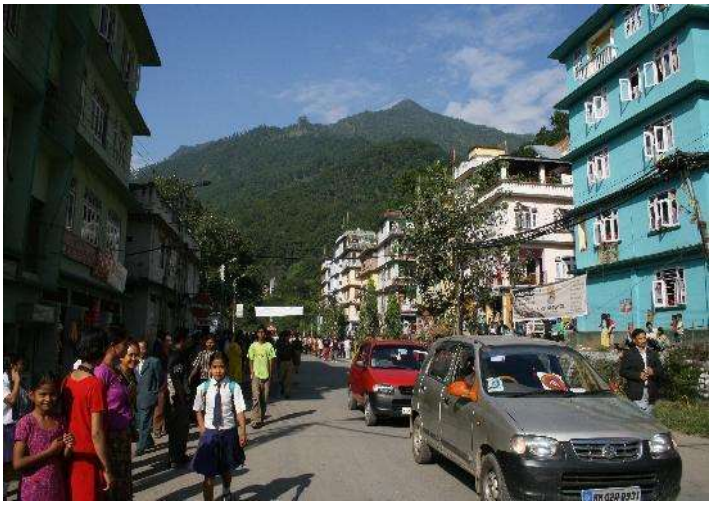
[1] CLTC (RAY), UD&HD

opportunities coupled with availability of flat, developable land has contributed to the rise in population and building activities in Jorethang.

Jorethang is surrounded by inviolable Reserve Forest of Sub-tropical mixed broad leaved hill forests vegetation[2] on three sides which leaves no room for expansion of the town. However, patches of building activities can be found in these forests owing to crunch of land being experienced since the last decade.

FIGURE 9: PHOTOGRAPHS OF JORETHANG TOWN



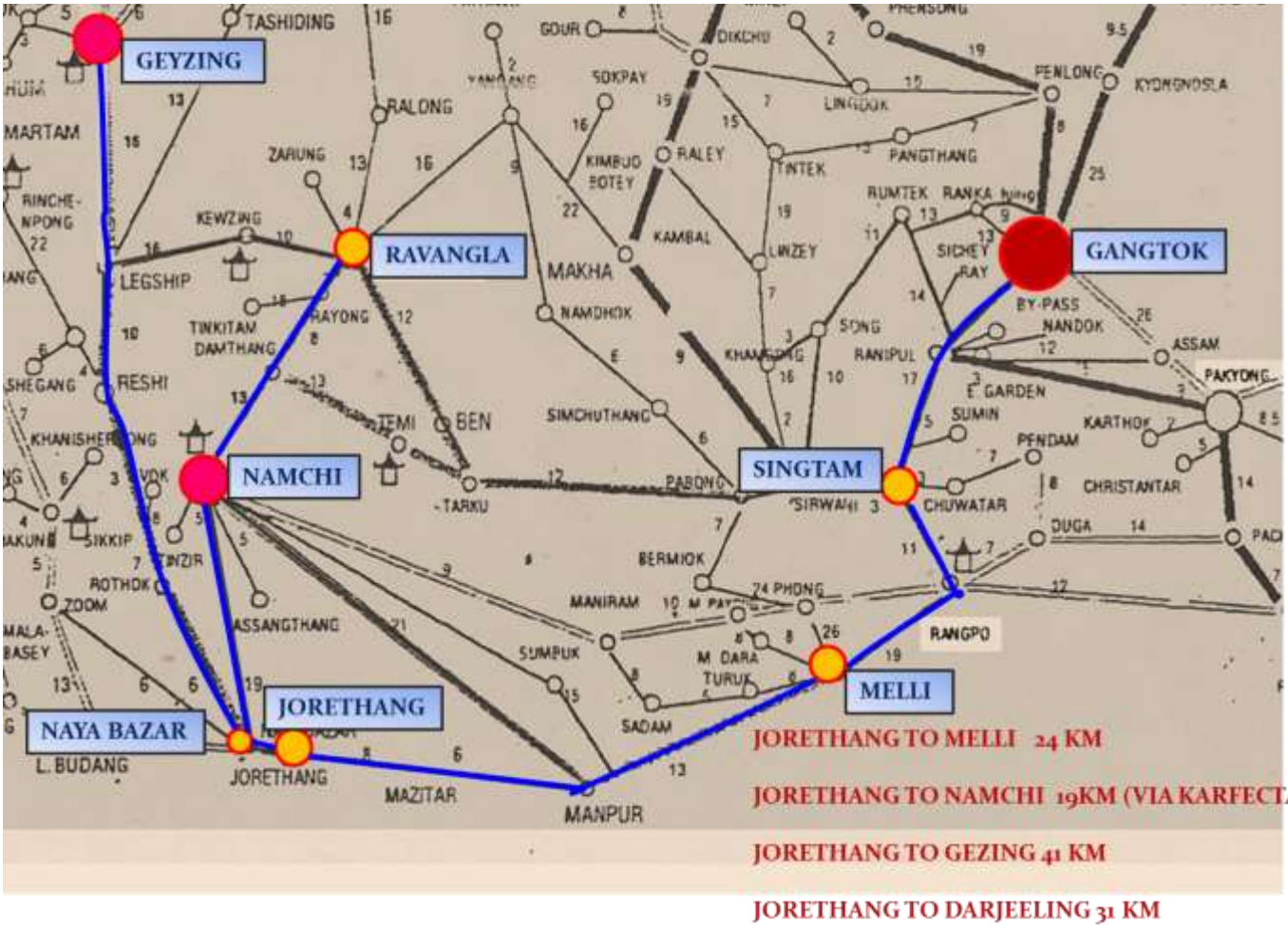



[2]Forest Resources of Sikkim, State of Environment, 2007, Chapter 5, pg.52

1.1.2. CONNECTIVITY

Jorethang is a transitional area and connects between Siliguri, Darjeeling and Kalimpong. The route is well connected by buses and jeeps by NH31A.Connectivity to the town are provided by the Namchi-Nayabazar Road and Melli-Nayabazar Road (on the western shore of River Rangit) that meet at the Akar Bridge (10m RoW). The principle roads in Jorethang town are the Circular Road and the Melli-Nayabazar Road, each having a RoW of 12m. Smaller streets of various widths intersect these major roads.

MAP 4 : CONNECTIVITY MAP OF JORETHANG



1.1.3. HISTORY

The name comes from the confluence of Rangit and Rang Bang Rivers on the banks of Jorethang. Jorethang town was planned by the Chogyal Maharaja of Sikkim Late Palden Thendup Namgyal in 1955, when he visited Jorethang, which was then a Mandi area used by orange pickers to pack and trade in Oranges, he was inspired by the strategic location of the town near the banks of Rangit river. He then visualized the formation of an active Town area. Jorethang town is surrounded by places of worship flanked by Kali Mandir in East, Devi Sthan in West, Gumpha in North and Sri Devi Sakti Peeth in South.

1.1.4. EVOLUTION & GROWTH

The physical growth of Jorethang has been primarily limited by the River Rangit, the land topography and the prevalence of Reserved Forests. Under the Chogyal, the town was put under the Bazaar Department that controlled a very small part of today's Jorethang. The town, unlike any in the state had wide roads and a relatively sparse development. Owing to expansion of services and population increase, the adjacent rural areas too started getting populated. In 1992, the government notified a particular area as the town, which today makes most of the town area. The said area excluded the areas south to the Circular Road (i.e. East and West Majhigaon). The area was put under UD&HD for governance. In 2010, with the formation of Jorethang Nagar Panchayat, the two Majhigaon were included and the urban boundaries were extended to encompass additional areas along the Namchi-Nayabazar Road with a total area of 77.64 Ha (0.8 km²).

1.1.5. SOIL & TOPOGRAPHY

The soil is coarse, with large concentrations of iron oxide, it ranges from neutral to acidic and is lacking in organic and mineral nutrients. This type of soil tends to support evergreen and deciduous forests.

Precambrian rock, which is much younger in age than the hills, dominates the area. The rock consists of phyllites and schists, and is highly susceptible to weathering and erosion. This combined with the state's heavy rainfall, causes extensive soil erosion and the loss of soil nutrients through leaching.

FIGURE10: TOPOGRAPHY OF JORETHANG

Source: https://maps.google.co.in

1.1.6. CLIMATIC CONDITIONS

Having the distinct feature of being one of the town situated at the lowest altitude within Sikkim, Jorethang generally enjoys moderate climate round the year. The major seasons are Summer, Winter and Monsoon. During summer, the temperature reaches the maximum of 35 deg C and during winter the temperature goes to the minimum of 13 deg C.

1.2. DEMOGRAPHIC PROFILE

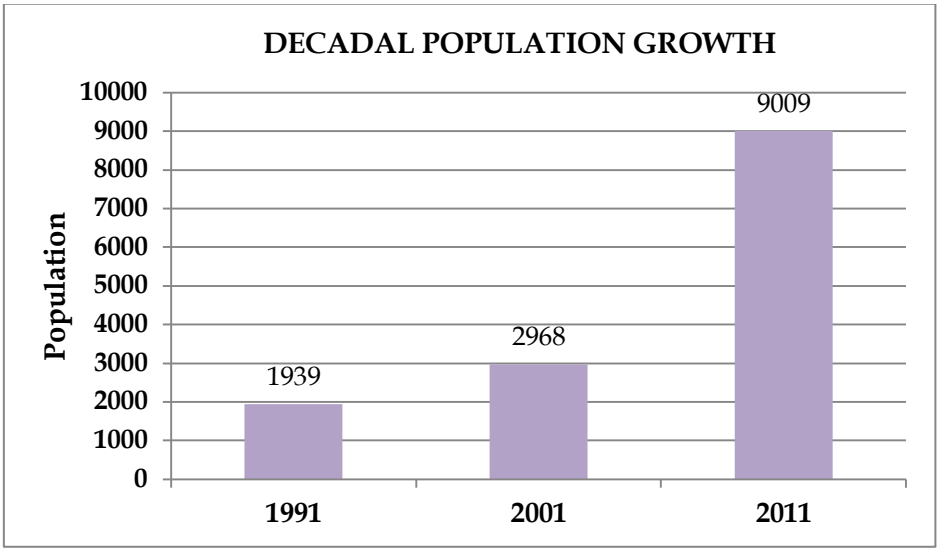
1.2.1. POPULATION GROWTH

Jorethang ranks fourth in the list of nine urban areas of Sikkim and second to Namchi in the South District. The Census of India, 2011 estimated its population to be 9009 which constitutes for 5.87% of the total urban population of Sikkim. Number of households living in the town is 2107, with an average household size of 4 persons. Jorethang has a high average population density of 116 ppH and is justified by the geographical limitations to growth of the town, its reputation as a trade capital attracting migrant population and absence of a Master Plan guiding densities spatially.

As per Census, 2011, the town has a sex ratio of 940, with 4656 (53%) male and 4353 (47%) female. Jorethang has an average literacy rate of 81%, higher than the national average of 59.5%. It is estimated that 86% male and 76% female are literate. Moreover, 10% of the population is under 6 years of age. The Scheduled Caste population is 6% and Scheduled Tribe population is 14% of the total population.

The population of Jorethang has registered a sudden leap owing to the reorganization of Nagar Panchayat boundaries in 2010. However the considerable rise in population from 1991 to 2001 speaks for the importance of the settlement.

FIGURE11: DECADAL POPULATION GROWTH IN JORETHANG



Source: Census of India, 1991-2011

1.2.2. POPULATION DENSITY

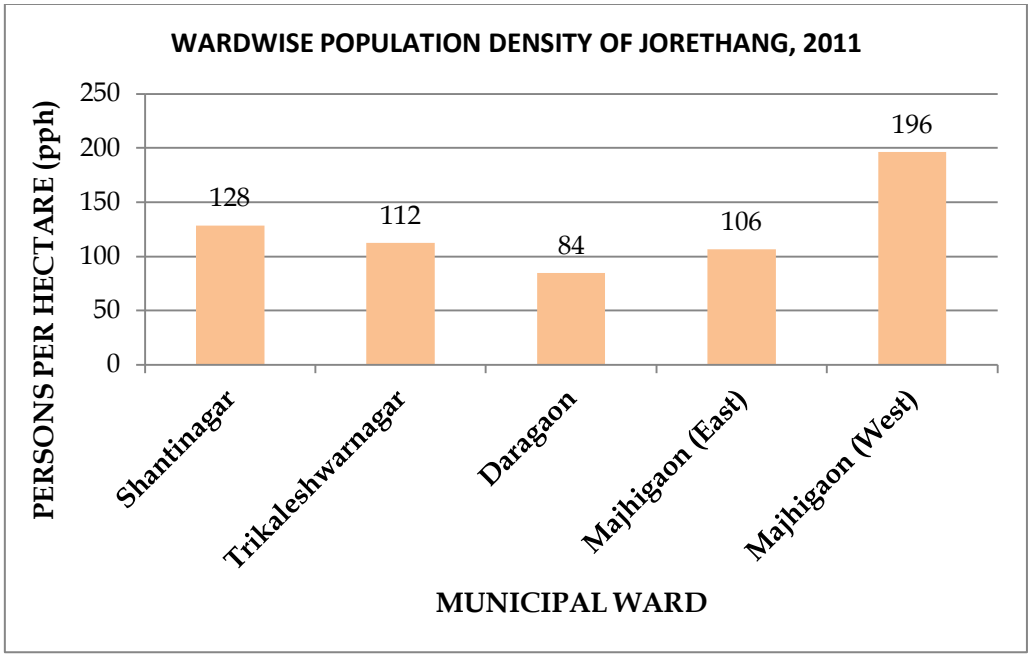
The town area of Jorethang is divided into 5 electoral wards, each headed by a ward councilor. The following table shows the population distribution of the wards along with their density.

TABLE 6: WARD-WISE POPULATION DETAILS OF JORETHANG NAGAR PANCHAYAT

Sl No.	Ward No. / Name		Population	HH	Area (Ha)	Population Density (ppH)	Rank (Density)
1	Ward 1	Shantinagar	1397	316	10.89	128	2
2	Ward 2	Trikaleshwarnagar	1244	294	11.06	112	3
3	Ward 3	Daragaon	1706	427	20.19	84	5
4	Ward 4	Majhigaon (East)	2731	631	25.66	106	4
5	Ward 5	Majhigaon (West)	1931	439	9.84	196	1
	Total		9009	2107	77.64	116	

Source: Census of India, CLTC-Namchi & Jorethang, RAY

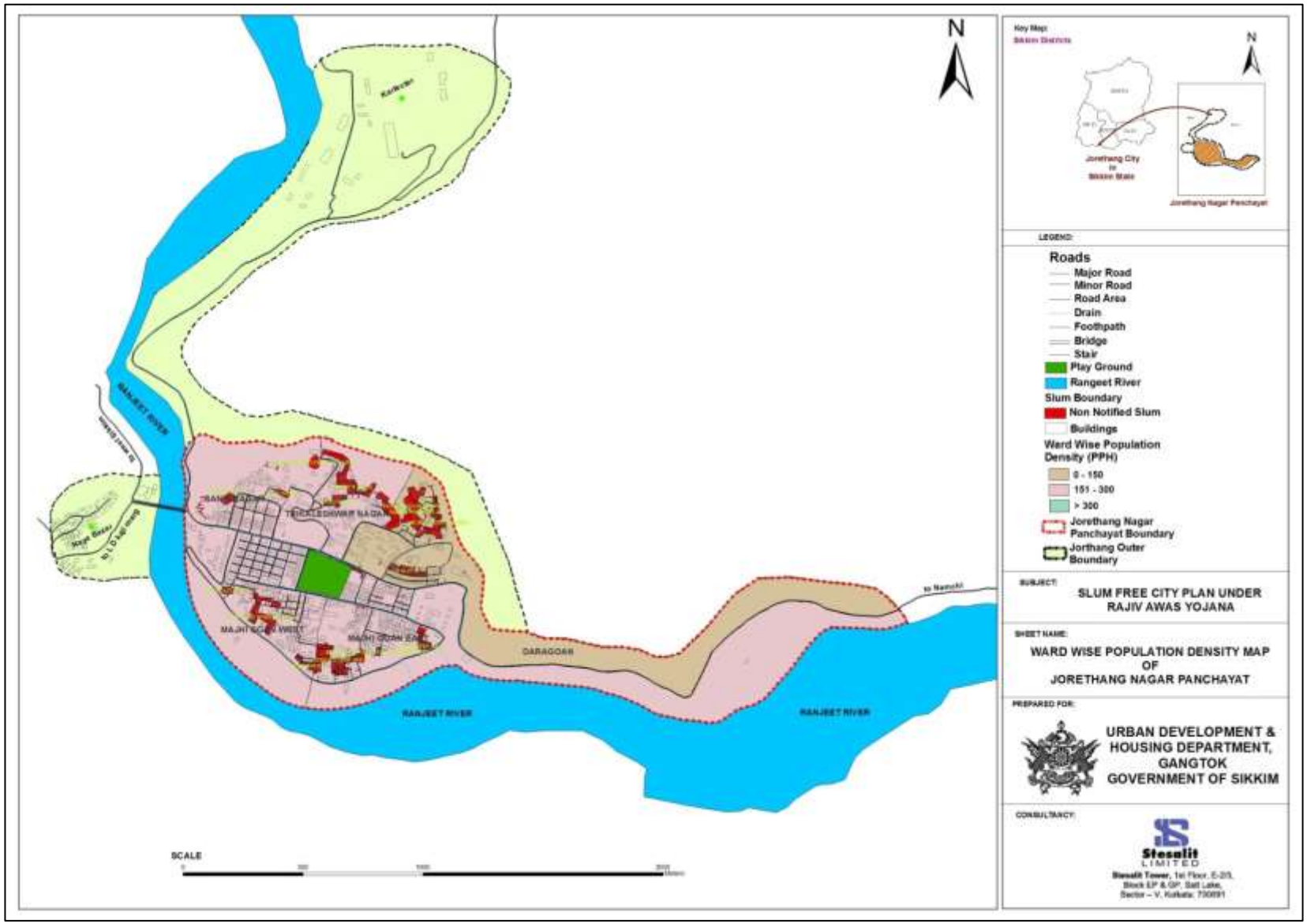
FIGURE12: WARD-WISE POPULATION DENSITY IN JORETHANG



Source: Census of India, 2011

From the above charts it appears that Majhigaon (West) has the highest population density, followed by Shantinagar, Majhigaon (East), Trikaleshwarnagar and Daragaon respectively. Such high density in case of Majhigaon (West) can be attributed to the fact that there is a heavy shortage to developable land in this ward owing to the presence of the river. Also, due to the steep topography on the river-facing side reducing the effective developable land, proximity to the circular road and presence of more private land-holdings, building activities intensified in this ward. Moreover, it can also be suggested that before the formation of Nagar

MAP 5 : WARDWISE POPULATION DENSITY OF JORETHANG



Source: Census of India 2011

Panchayat, the two Majhigaon fell outside the Bazar Area (Notified town area)[3] and hence had little or no development control thereby aiding heavy development. However, if only the Town Area is seen, Majhigaon (East) has highest population density as most of the new area added to this ward during the finalization of the Nagar Panchayat boundaries falls under Reserved Forest, making it effectively unavailable and unaccountable.

1.3. SOCIAL GROUPS

The people are mainly of Nepali descent. Primarily the Nepalese and a few people from surrounding plain land, most of who are engaged in primary as well as tertiary activities inhabit the place. Other ethnic groups include the Lepcha and Bhutia communities. Nepali is the most widely spoken language in the town.

1.4. ECONOMIC PROFILE

The Census of India, 2011 estimates only 37% of total population of Jorethang being economically productive (main workers). Moreover, 95% workers were employed for more than six months in their respective trades.

The State Socio-Economic Census, 2006 of Sikkim by DESME suggests that the work participation rate of the town is 37% with agricultural workers being 20% of the total population. Among the working population, state government employs 13.30% of the population. This trend is in consonance with the fact that the state government largely remains the sole largest employer of working population in Sikkim.

TABLE 7: WORKERS' PROFILE OF JORETHANG

SL. NO.	CATEGORIES	NO. OF WORKERS	PERCENTAGE
1	Farmer	3427	52.67
2	Agricultural Laborers	219	3.37
3	Non-Agricultural Laborers	447	6.87
4	Salaried State Govt.	865	13.30
5	Salaried Central Govt.	156	2.40
6	Salaried Pvt.	18	0.28
7	Salaried PSU	252	3.87
8	Business	170	2.61
9	Muster Roll	439	6.75
10	Self Employed	408	6.27
11	Contractor	67	1.03
12	Work Charged	38	0.58
TOTAL		**6506**	**100.00**

Source: State Socio-Economic Census, DESME, 2006

[3] According to descriptive boundary, Notification No. 24(202)UD&HD/85/B/5/705, 15th July 1992, Codified Laws of Urban Development & Housing Dept., Govt. of Sikkim

TABLE 8: MONTHLY INCOME DISTRIBUTION IN JORETHANG

SL. NO	INCOME PER MONTH (RS.)	% AGE OF HOUSEHOLDS
1	0-2500	3.89
2	2501-5000	28.14
3	5001-10000	33.63
4	10001-25000	24.96
5	25001 and above	9.38
TOTAL		**100.00**

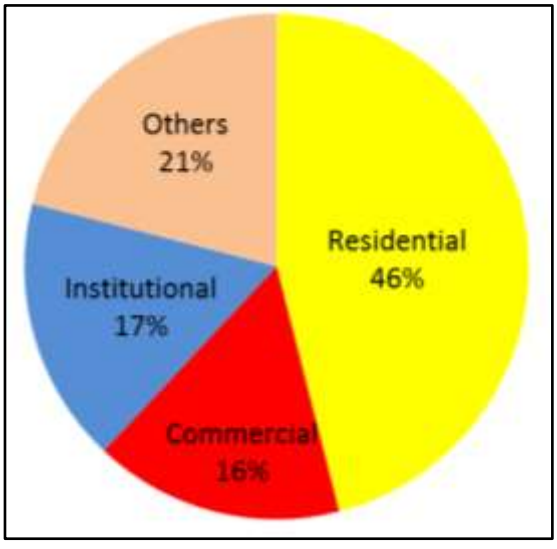
Source: State Socio-Economic Census, DESME, 2006

A very small percentage of households in Jorethang earn less that Rs.2500/month, thereby making the town well-off. However, it would be imperative to compare such finding to the population distribution in each monthly income category to clearly understand the income scenario.

1.5. URBAN LAND

The town area of Jorethang can be divided into distinctive belts depending on its existing land-use pattern. Although; there is no statutory plan for Jorethang present, a development guide plan prepared by the local UD&HD suggests a lump-sum land use pattern.

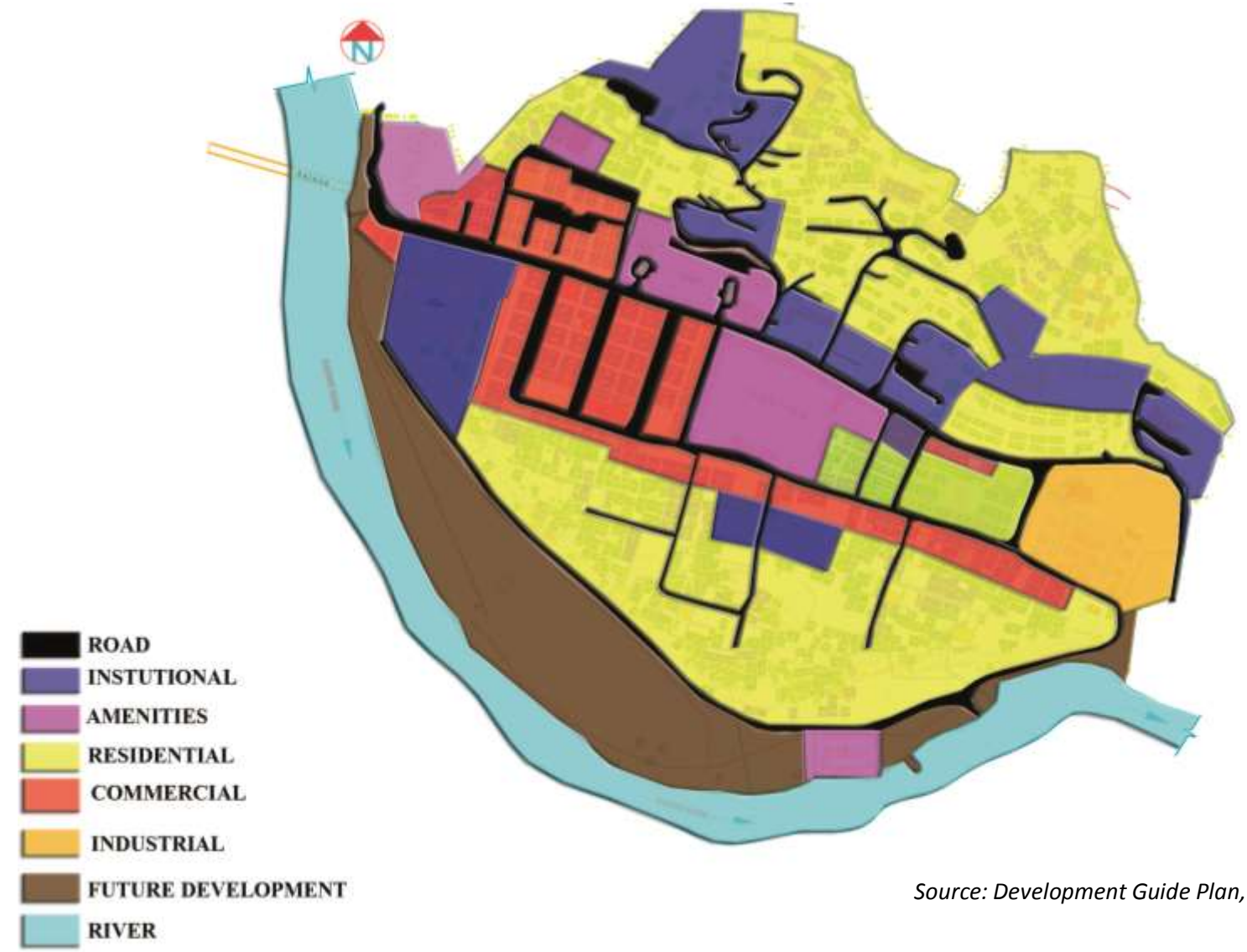
FIGURE13: EXISTING LAND-USE DISTRIBUTION OF JORETHANG TOWN AREA



Source: Development Guide Plan, Jorethang, UD&HD, 2011

The commercial establishments are normally found along with the residential establishments; hence it is mixed in nature. The major places of worship in Jorethang are the Trikaleshwar Temple abutting the Circular Road, Kali Mandir in East, Devi Sthan in West, and Gumpha at the junction of Akar Bridge and the Melli-Nayabazar Road and Sri Devi Sakti Peeth abutting the River Rangit in South. The Sai Temple and the Pentecostal Church near the Police Station are also prominent places of worship.

MAP 6 : PROPOSED LANDUSE PLAN OF JORETHANG



Source: Development Guide Plan, Jorethang, UD&HD, 2011

Jorethang has a police station that serves the town and the Nayabazar Area, which has a Police Check post. Owing to developed transport services, the Dept. of Food, Civil Supplies and Consumer Affairs has a district-level food go-down in the town. However, the health infrastructure is lacking in the town. Jorethang has only one, 10bedded Primary Health Centre[4] and has to depend on the Namchi District Hospital or on STNM Hospital, Gangtok for specialized medical emergencies[5].

1.5.1. HOUSING CHARACTERISTICS

Jorethang is developing and expanding rapidly. Lot of development projects are taking place at Jorethang. Being a business capital of South and West Districts, there are lots of Government offices. People in South and West District migrate to Jorethang for better living. Sikkim Housing and Development Board, a State Government Agency has constructed almost 200 units of dwelling for LIG Category. There has also been faster development in terms of private housing and all this factors has led to better provision of housing stock in the town.

1.5.1.1. HOUSING BY TYPE OF STRUCTURE

According to Census, 2011 estimates 2824 census houses are being resided into by 2107 households in Jorethang. The following table depicts the housing situation in Jorethang. The number of semi pucca houses has increased 98% from 2001 to 2011. This is a clear indication of the rise in the number of impoverished population of the city. Nearly 66.4% increase in the pucca houses took place between 2001 and 2011. The semi-pucca houses mostly have burnt brick walls, but temporary roofs of corrugated sheets or asbestos sheets.

TABLE 9: HOUSING BY STRUCTURE IN JORETHANG CITY

SL NO	YEAR	PUCCA	SEMI PUCCA	KUTCHA	TOTAL
1	1991	379	9	0	388
2	2001	623	14	2	639
3	2011	1854	928	42	2824

Source: Census of India, 1991, 2001 & 2011

The above table suggests that a very small percentage of dwelling units are kaccha. However, considering the topography of the area, if these dwelling units are located on slopes, they might pose a threat to the people living in them. Hence, it is important to target such houses initially for development.

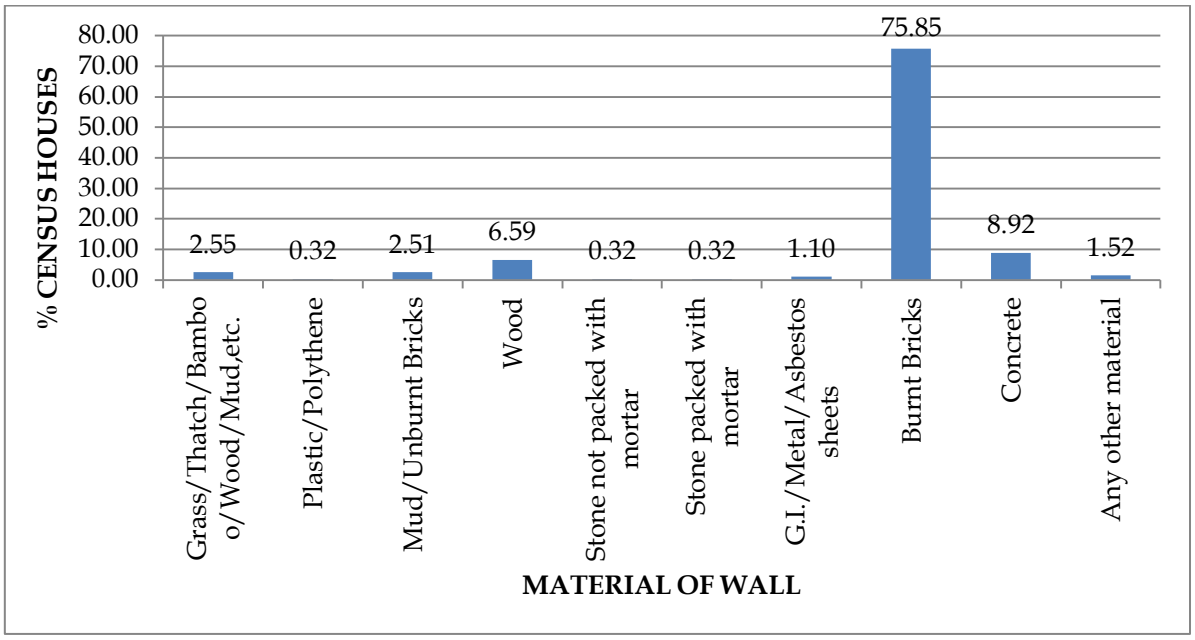
[4] State of Environment, 2007, Govt. of Sikkim
[5] Citizen Charter, Department of Information Technology, Govt. of Sikkim, 2008

TABLE 10: DISTRIBUTION OF CENSUS HOUSES ACCORDING TO MATERIAL OF WALLS

SL NO	WALLING MATERIAL	NO. OF CENSUS HOUSES	% CENSUS HOUSES
1	Grass/Thatch/Bamboo/Wood/Mud, etc.	72	2.55
2	Plastic/Polythene	9	0.32
3	Mud/Unburnt Bricks	71	2.51
4	Wood	186	6.59
5	Stone not packed with mortar	9	0.32
6	Stone packed with mortar	9	0.32
7	G.I./Metal/Asbestos sheets	31	1.10
8	Burnt Bricks	2142	75.85
9	Concrete	252	8.92
10	Any other material	43	1.52
	Total No. of Census Houses	**2824**	**100**

Source: Housing Census, Census of India, 2011

FIGURE14: CENSUS HOUSES BY MATERIAL OF WALLS



Source: Housing Census, Census of India, 2011

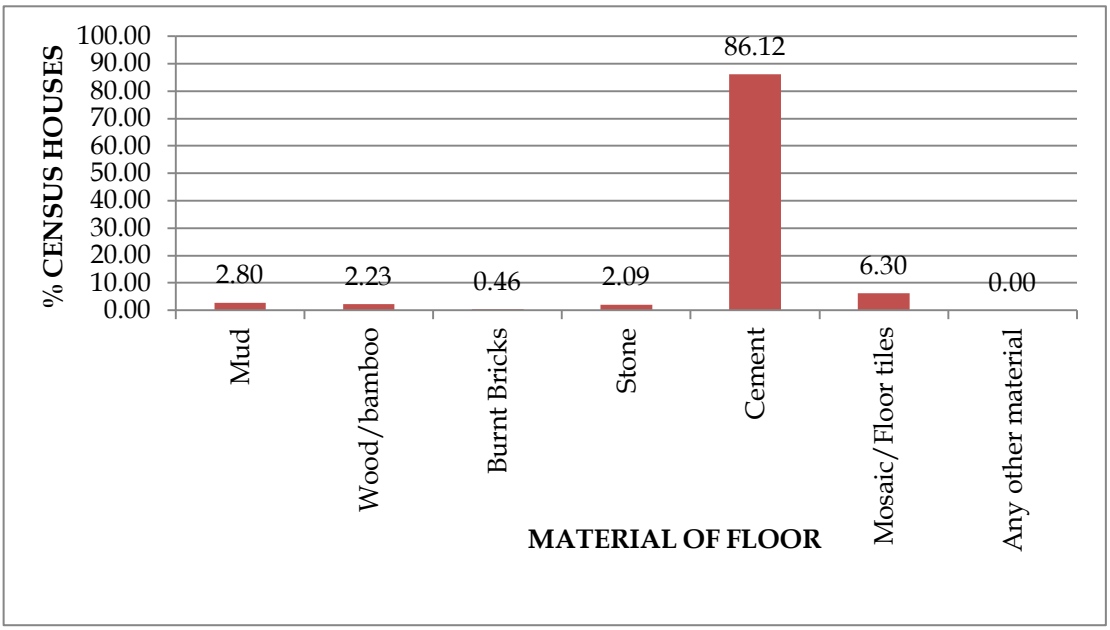
The above charts show that more than 75% of the census houses are constructed with burnt brick walls.

TABLE 11: DISTRIBUTION OF CENSUS HOUSES BY MATERIAL OF FLOOR

SL NO	FLOORING MATERIAL	NO. OF CENSUS HOUSES	% CENSUS HOUSES
1	Mud	79	2.80
2	Wood/bamboo	63	2.23
3	Burnt Bricks	13	0.46
4	Stone	59	2.09
5	Cement	2432	86.12
6	Mosaic/Floor tiles	178	6.30
7	Any other material	0	0.00
	Total No. of Census Houses	**2824**	**100**

Source: Housing Census, Census of India, 2011

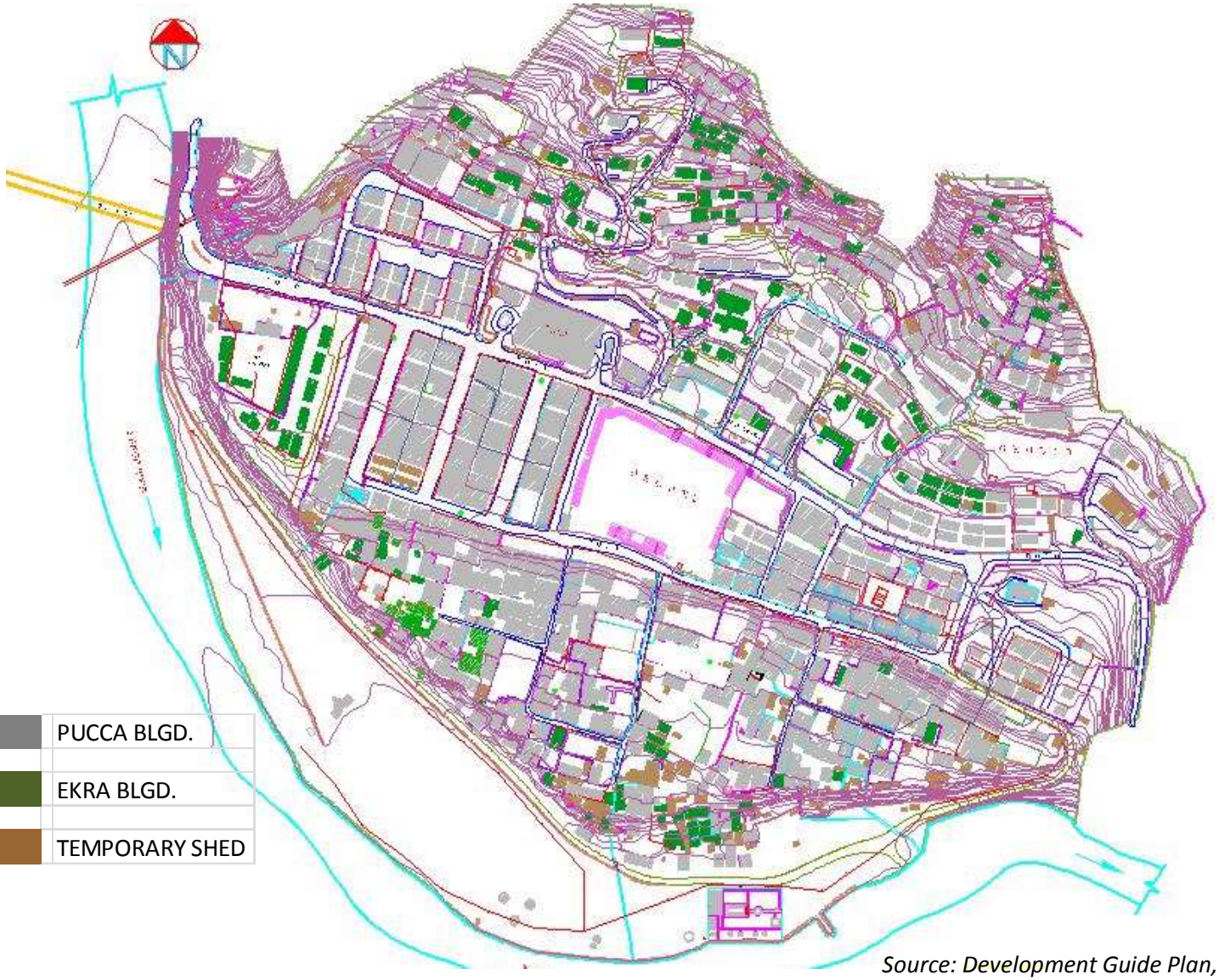
FIGURE15: CENSUS HOUSES BY MATERIAL OF FLOOR



Source: Housing Census, Census of India, 2011

It is observed that almost 86% of the census houses have pucca floor and have predominantly used cement as a flooring material.

MAP 7 : HOUSING BY MATERIAL OF STRUCTURE



Source: Development Guide Plan, Jorethang, UD&HD, 2011

TABLE 12: MATERIAL OF ROOF OF CENSUS HOUSES USED AS RESIDENCE & RESIDENCE-CUM-OTHER USE

MATERIAL OF WALL	TOTAL NO. OF CENSUS HOUSES	NO OF CENSUS HOUSES USED AS RESIDENCE AND RESIDENCE-CUM-OTHER USE	MATERIAL OF ROOF								
			GRASS/ THATCH/ BAMBOO/ WOOD/MUD	PLASTIC/ POLYTHENE	HAND-MADE TILES	MACHINE MADE TILES	BURNT BRICK	STONE/ SLATE	G.I./METAL/ ASBESTOS SHEETS	CONCRETE	ANY OTHER
All material	2824	2161	8	15	6	4	9	51	726	1340	2
Grass/Thatch/ Bamboo etc.	72	68	*	5	1	*	*	3	59	*	*
Plastic/Polythene	9	7	*	2	*	*	*	1	4	*	*
Mud/Unburnt Bricks	71	59	*	*	*	*	*	5	16	38	*
Wood	186	158	6	2	*	*	*	13	136	*	1
Stone not packed with mortar	9	9	*	*	1	*	*	*	7	1	*
Stone packed with mortar	9	8	*	*	*	1	*	*	2	5	*
G.I./Metal/Asbestos sheet	31	23	*	*	*	*	*	*	21	2	*
Burnt Brick	2142	1579	*	1	4	3	1	26	426	1117	1
Concrete	252	214	2	5	*	*	8	1	21	177	*
Any other	43	36	*	*	*	*	*	2	34	*	*

Source: Housing Census, Census of India, 2011

The analysis of material of roof against material of walls reveals that most of the residential and non-residential census houses in Jorethang are made of permanent materials and therefore can be expected to be in a better condition. However, there also exist almost 10% of houses that are made of traditional materials such as wood/timber that might need special attention over the years.

1.5.1.2. HOUSEHOLD SIZE

The present Household size of Jorethang is assumed from HH/Population ratio of the 2011 Census as 4.28. There is a steady decrease in HH size over the last two decades which is a result of outmigration of locals to metro cities of India for higher education and employment. Refer Table below.

TABLE 13: TREND IN HOUSEHOLD SIZE IN JORETHANG CITY

SL NO	YEAR	POPULATION	NO. OF HH	HH SIZE
1	1991	1939	388	5.00
2	2001	2967	639	4.64
3	2011	9009	2107	4.28

Source: Census of India, 1991, 2001 &2011

1.5.2. HOUSEHOLDS BY MAIN SOURCE OF DRINKING WATER

The total number of households excluding Institutional Households in Jorethang is 2162, out of which 2111 households have tap connection, 28 households have other sources and 23 has spring water as main source of drinking water. Thus 98% of households in Jorethang have tap water connection and only 2% households' use spring water and others as source of drinking water. Mainly this tap water is from treated sources.

TABLE 14: HOUSEHOLDS BY MAIN SOURCE OF DRINKING WATER

SL NO	SOURCE OF DRINKING WATER	NO. OF HHs	%
1	Tap water	2111	97.64
A	Tap Water from Treated Sources	1925	89.04
B	Tap water from Un-treated Sources	186	8.60
2	Well	0	0.00
3	Hand Pump	0	0.00
4	Tube well/Borewell	0	0.00
5	Spring	23	1.06
6	River/Canal	0	0.00
7	Tank/Pond/Lake	0	0.00
8	Other Sources	28	1.30
TOTAL NO. OF HOUSEHOLDS		**2162**	**100**

Source: Census of India, 2011

1.5.3. HOUSEHOLDS BY MAIN SOURCE OF LIGHTING

The total number of households excluding Institutional Households in Jorethang is 2162, out of which 2117 households use electricity, 30 households use kerosene, 5 households use solar energy and 10 households have no lighting facility.

TABLE 15: HOUSEHOLDS BY SOURCE OF LIGHTING

SL NO	SOURCE OF LIGHTING	NO. OF HHs	%
1	Electricity	2117	97.92
2	Kerosene	30	1.39
3	Solar	5	0.23
4	Other oil	0	0.00
5	Any other	0	0.00
6	No Lighting	10	0.46
TOTAL NO. OF HOUSEHOLDS		**2162**	**100**

Source: Census of India, 2011

1.5.4. HOUSEHOLDS BY LATRINE FACILITY

The total number of households excluding Institutional Households in Jorethang is 2162, out of these 2088 households have latrine facility within the premises and 74 households have no latrine facility within premises. Thus, 96% households have latrine facilities within the premises and only 4% households do not have any latrine within latrine. Out of the 74 households, 34 households use public latrine and 40 households engaged in open defecation. Thus 2% of total households of Jorethang are engaged in open defecation and 2% use public latrine.

TABLE 16: HOUSEHOLDS BY TYPE OF LATRINE FACILITY

SL NO	TYPE OF LATRINE FACILITY	NO. OF HHs	%
1	Latrine Facility within the premises	2088	96.58
A	Water Closet	2080	96.21
i	Piped sewer system	450	20.81
ii	Septic tank	1597	73.87
iii	Other Systems	33	1.53
B	Pit Latrine	8	0.37
i	With slab/Ventilated Improved Pit	8	0.37
ii	Without slab/Open Pit	0	0.00
2	No latrine within premises	74	3.42
i	Public Latrine	34	1.57
ii	Open Defecation	40	1.85
TOTAL NO. OF HOUSEHOLDS		**2162**	**100**

Source: Census of India, 2011

1.5.5. HOUSEHOLDS BY BATHING FACILITY

The total number of households excluding Institutional Households in Jorethang is 2162, as per Census 2011. 196 households do not have any bathing facility, 83 households have some form of enclosure with roof and 1883 households have bathroom. Hence 30% households have no access to proper bathing facility.

TABLE 17: HOUSEHOLDS BY BATHING FACILITY

SL NO	BATHROOM FACILITY	NO. OF HHs	%
1	Bathroom	1883	87.10
2	Enclosure with Roof	83	3.84
3	No Bathroom	196	9.07
TOTAL NO. OF HOUSEHOLDS		**2162**	**100**

Source: Census of India, 2011

1.5.6. HOUSEHOLDS BY TYPE OF DRAINAGE CONNECTIVITY FOR WASTEWATER

As per Census 2011, 520 households have closed drains for disposal of waste water while 1509 households have open drains and 133 households do not have any drainage facility. Thus the coverage of closed drains is very less and only 6% households do not have any drainage facility for disposing the waste water.

TABLE 18: HOUSEHOLDS BY TYPE OF DRAINAGE FOR WASTEWATER

SL NO	TYPE OF DRAINAGE	NO. OF HHs	%
1	Closed Drainage	520	24.05
2	Open Drainage	1509	69.80
3	No Drainage	133	6.15
TOTAL NO. OF HOUSEHOLDS		**2162**	**100**

Source: Census of India, 2011

1.5.7. HOUSEHOLDS BY TYPE OF KITCHEN FACILITY

As per Census 2011, 2074 households i.e. 96% have cooking facility inside house while 61 households i.e. 3% have cooking facility outside house and 1% i.e. 27 households do not have any cooking facility. 84% of the 96% has kitchen inside house while remaining 12% households does not have kitchen. Out of 3% households having cooking facility outside house, 2.68% has kitchen while 0.14% does not have kitchen.

TABLE 19: HOUSEHOLDS BY AVAILABILITY OF KITCHEN FACILITY

SL NO	KITCHEN FACILITY	NO. OF HHs	%
1	Cooking inside house	2074	95.93
a	Has Kitchen	1811	83.77
b	Does not have Kitchen	263	12.16
2	Cooking outside House	61	2.82
a	Has Kitchen	58	2.68
b	Does not have Kitchen	3	0.14
3	No Cooking	27	1.25
TOTAL NO. OF HOUSEHOLDS		**2162**	**100**

Source: Census of India, 2011

1.6. PHYSICAL INFRASTRUCTURE

1.6.1. ROAD

Jorethang is well connected with other areas of the district, Gangtok and Siliguri in West Bengal by road. The road network within the town area badly needs improvement of its riding quality which is presently filled with potholes and pilled bitumen. The main roads in Jorethang vary in width from 4m to 8m. Some of these roads are being widened to accommodate the increasing traffic. The pedestrian footpaths connecting the various inner areas are in bad shape and have to be developed in terms of quality and quantity. The width also has to be increased to accommodate the increased pedestrian traffic.

1.6.2. WATER SUPPLY

Drinking water is provided by the PHED (Public Health Engineering Department) via trunk lines that are connected to individual houses by smaller diameter pipes on the expense of the beneficiary (house-owner). The households are responsible for financing of the connection pipe and its operation. Connection is given after verification of the legal status of the building, property, and plot. They connect to the main distribution lines. These lines are maintained privately. The household pipes usually have a diameter of 1" and losses through leakage are high. Since all pipes are above the ground and unprotected, the danger of mechanical damage and consequential leakage, as well as contamination is high as the pipes often run along drains and Jhoras. While majority of population has access to PHED supply, drawing water from other sources such as groundwater is also in vogue. A water filter tank in Shantinagar has been installed by the PHED that sends the filtered water to the distribution tanks spread in the town. These are connected to the water storage tanks located at various locations in the town that store water for private use.

TABLE 20: WATER INFRASTRUCTURE IN JORETHANG

SL NO	LOCATION	FILTER TANK	WATER STORAGE TANK	WATER DISTRIBUTION TANK	FIRE HYDRANT
1	Shantinagar	1	4	15	1
2	Trikaleshwarnagar	*	*	6	2
3	Daragaon	*	1	12	1
4	Majhigaon (East)	*	*	2	*
5	Majhigaon (West)	*	*	*	*

Source: Development Guide Plan, Jorethang, UD&HD, 2011

The Census, 2011 estimates that 97.64% households in Jorethang use tap water for drinking purposes. A small percentage of households (1.06%) use spring water and 8.60% use water from untreated sources.

1.6.3. SEWERAGE AND SANITATION

The city of Jorethang has no operational sewerage system at present though sewerage network had been laid under UIDSSMT scheme of JNNURM. Hence, households have individual septic tanks. A very small percentage of people (1.57%) use the public latrine facility installed by the UD&HD and some (1.85%) still resort to open defecation. The riverside serves as the haven for open defecation and is mostly accessed by people from the two Majhigaon. The overflow from septic tanks is discharged into the river directly. Recently, the Development Guide Plan of Jorethang (2011) has proposed an underground sewerage network along the entire stretch of the Circular Road, serving the populace in its vicinity, terminating into a sewerage treatment plant in the south-eastern corner of the town.

Sanitation needs of the town have been partially met by construction of public conveniences at various critical locations. As per the present situation there is good access to toilets for the residents and the public at large.

1.6.4. DRAINAGE

The erstwhile bazaar area has been planned with drainage facilities. The Census, 2011 estimates that 69.80% households are served by open drains, while only 24.05% households are connected by closed drains. River Rangit is invariably the destination to all these drains. Issues of water logging do not occur in the higher areas, however, certain parts in the bazaar area and the Majhigaon have been found to be prone to flooding primarily owing to obstruction of slopes.

1.6.5. SOLID WASTE MANAGEMENT

Jorethang town today generates about 8 tons of Garbage per day. Due to reasons like lack of sufficient fleet for collection, transfer station, etc. only about 60% of the Garbage is collected and disposed. The garbage collection from the inner parts of the town which does not have any road access for garbage vehicle to ply is inefficient. The collected unsegregated Garbage is being dumped at landfill site at Shipchu which is almost 4kms from the Jorethang town.

1.7. SOCIAL INFRASTRUCTURE

1.7.1. EDUCATION FACILITIES

There are good numbers of schools and colleges at Jorethang. There is Jorethang Government Senior Secondary School, Jorethang Public School and various other private schools. The EIILMU University campus at Jorethang conducts various programs under different departments of Business Administration, Social Sciences, Media, Hospitality and Tourism. Thus the higher education services in the town are therefore adequate.

1.7.2. HEALTH FACILITIES

There is a centralized 20 bedded Primary Health Centre in the heart of the town. This hospital is accessible from all the parts of the town but is reeling under various problems like shortage of staff, inadequate medical supplies, improper drinking water facilities and dysfunctional ambulances are among many other issues the hospital is currently facing.

1.7.3. COMMUNITY FACILITIES

Presently a community hall is under construction by the Buildings and Housing Department, Government of Sikkim in the heart of the town. This community center would serve the purpose for community gathering for the whole town of Jorethang. There is also an open playfield where residents can go and play.

1.7.4. STREET LIGHTING

Jorethang town is 100 percent covered by power supply. The street lighting along the main market roads and the bazaar area is satisfactory. It is again the inner parts of the town where the street lighting facilities have to be extended.

1.7.5. FIRE SAFETY

At Jorethang itself is located the Fire Station with fleet of vehicles at its disposal.

2. ASSESSMENT OF SLUM SCENARIO IN JORETHANG

2.1. DEFINITION OF SLUM

The slums are defined on the basis of definition of slums per the Sikkim Government Gazette Notification, which is given below as

1. Areas which are generally unfit for human settlement due to subsidence, steep slope, land slide prone etc. but stand occupied generally by people below the poverty line, including relocation of such people in other stable areas and providing them low cost housing including distribution of building materials.
2. Areas which are by reason of dilapidation, overcrowding, faulty arrangements and poor infrastructure of houses, narrowness or faulty arrangements of avenues, streets and setbacks, lack of ventilation or light or any composition of these factors which are detrimental to safety, health and morals/social and hat sheds/tenements requiring standardization and up gradation.
3. All under-serviced settlements, owing to unauthorized occupation of Government land, congested back streets and areas surrounding them, which require introduction of skill development programmes, health

care, child care programmes including adult literacy and, poverty alleviation programmes preferably through area-specific community development groups.

4. Any area where the residents or those in the neighborhood are prone to the health hazard due to poor waste management, lack of inadequate or proper infrastructure, public amenities, utilities or conveniences or due to squalid overcrowding, insanitary and unhygienic conditions etc.
5. Any area where the construction are not regulated in accordance with Sikkim Building Construction regulation 1991.
6. Any area where the sanitation provisions relating to toilet, waste management, drainage, maintenance etc. are not in accordance with Sikkim Sanitation Rules.
7. Area without proper water supply and electricity connection.

2.2. EXISTING SLUM SCENARIO

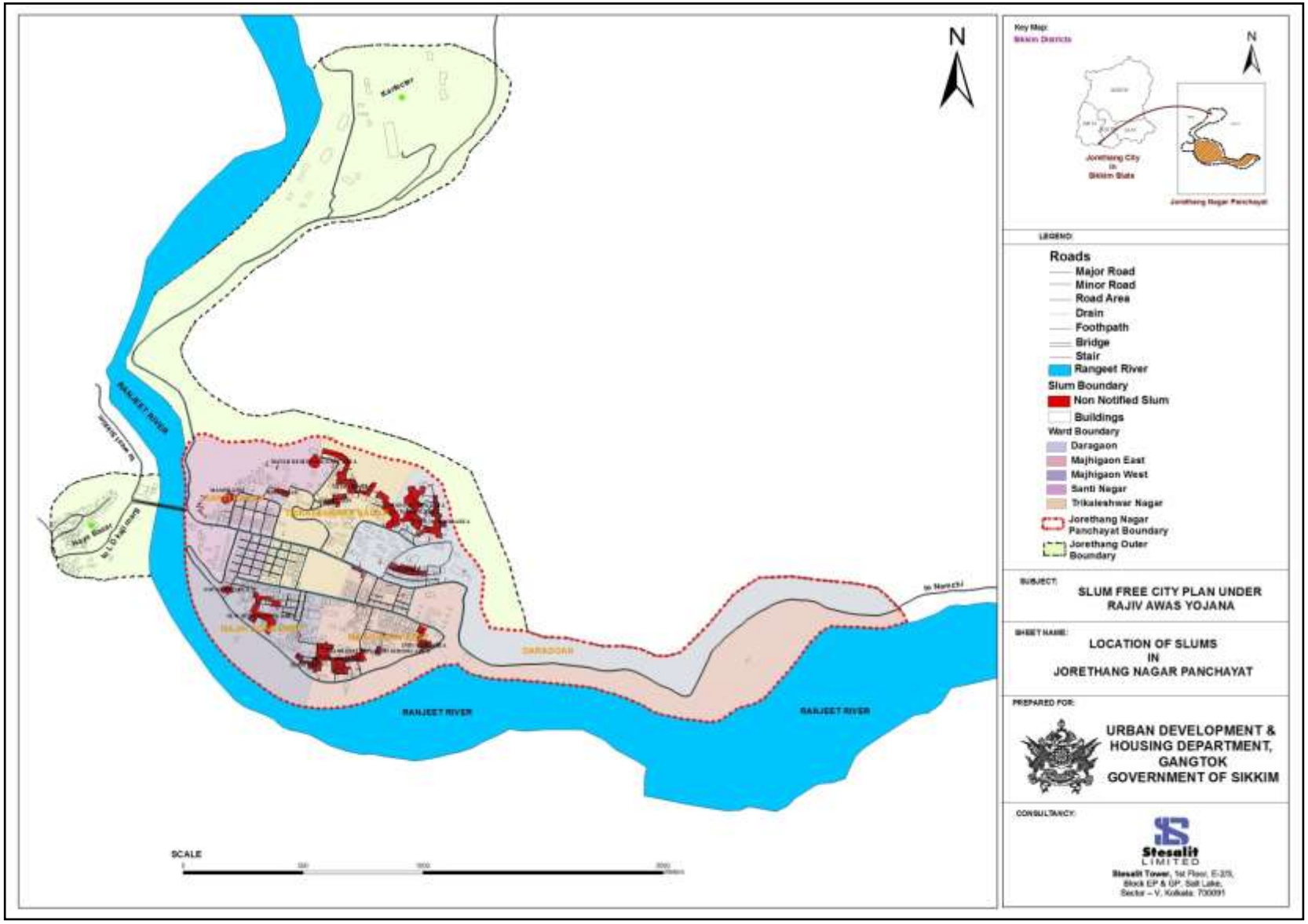
There are 5 wards with total number of slums in Jorethang is 15, all of which are Non-notified i.e. there are no Notified slums. Therefore the legal status of all 15 slums of Jorethang is Non-notified. According to Primary survey under Rajiv Awas Yojana, the total slum population is 1165 and the total slum households is 290 which show 13% of total population is slum population and resides in 13.76% of total households occupying 4.36% of the total Nagar Panchayat area. (Note: The total population of Jorethang Nagar Panchayat is 9009 and total number of HHs is 2107, as per Census 2011. Area of Jorethang Nagar Panchayat is 77.64 hectares and that under slums is 3.39 hectares as per CLTC, RAY). There is one slum, viz, Sai Mandir Area which falls under two wards, Trikaleshwarnagar and Daragaon.

TABLE 21: WARDWISE DISTRIBUTION OF SLUMS

SL NO.	WARD NAME	SLUM NAME	No. OF HHs	POPULATION
1	Shantinagar	Masjid Line	15	55
2		Rail Ghar	19	77
3		Water reservoir gate area	5	17
4	Trikaleshwarnagar	Church area	24	97
5		Gairigaon	12	50
6	Trikaleshwarnagar &Daragaon	Sai Mandir area	6	37
7	Daragaon	Chalisay	19	92
8		Sr. Sec. School Area	22	91
9		Tamang Gumpa area	20	83
10	Majhigaon (east)	Industry Area	23	93
11		Devi Mandir area	48	184
12		Prashanti School Area	4	15
13	Majhigaon (west)	Zero Point	28	109
14		New Buds school area	27	91
15		Fountain area	18	74
TOTAL			**290**	**1165**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 8: LOCATION OF SLUMS IN JORETHANG NAGAR PANCHAYAT



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.3. AREA OF SLUMS

The total area under slums in Jorethang is 33854.28 sq meters i.e. 3.39 Hectares. Five slums namely, Masjid Line, Rail Ghar, Water Reservoir gate area, Prashanti School area and Fountain area has area less than even 1000 sq meters where Prashanti School area slum has the least area of 353.69 sq meters. Three slums have area ranging between 1000 to 2000 sq meters and these are, Gairigaon, Industry Area and Zero Point. Sai Mandir area slum and Chalisay slum are the two slums having area between 2000 to 3000 sq meters. Sr. Sec. School Area slum and New Buds school area slum have area between 3000 to 4000 sq meters while three slums namely, Church area, Tamang Gumpa area and Devi Mandir area slums have the highest area more than 4000 sq meters.

TABLE 22: DISTRIBUTION OF SLUMS AS PER AREA IN SQM

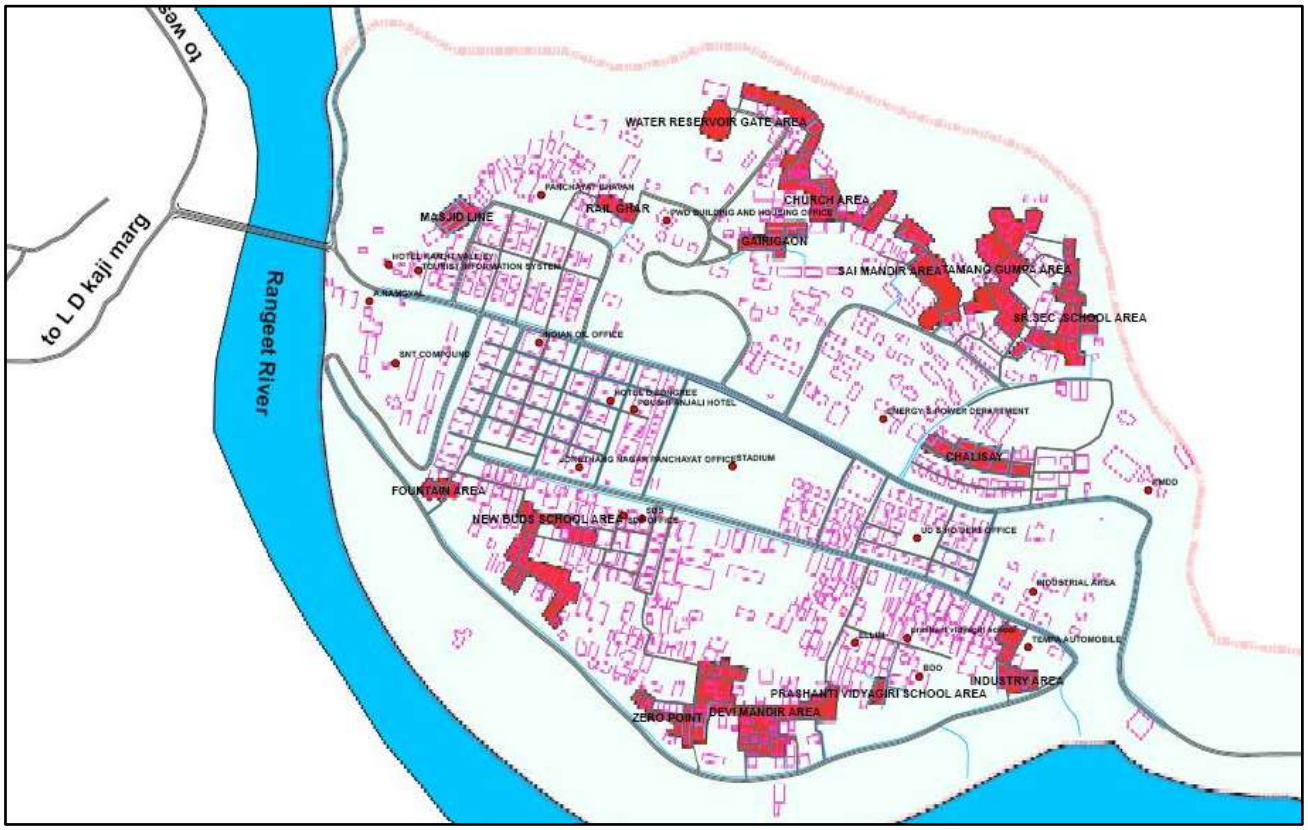
SL. NO.	SLUM NAME	WARD NAME	AREA (SQ.M.)
1	Masjid Line	Shantinagar	957.86
2	Rail Ghar	Shantinagar	553.95
3	Water reservoir gate area	Shantinagar	896.03
4	Church area	Trikaleshwarnagar	4711.95
5	Gairigaon	Trikaleshwarnagar	1350.96
6	Sai Mandir area	Trikaleshwarnagar &Daragaon	2532.88
7	Chalisay	Daragaon	2047.69
8	Sr. Sec. School Area	Daragaon	3341.70
9	Tamang Gumpa area	Daragaon	4462.70
10	Industry Area	Majhigaon (east)	1600.86
11	Devi Mandir area	Majhigaon (east)	5808.38
12	Prashanti School Area	Majhigaon (east)	353.69
13	Zero Point	Majhigaon (west)	1149.83
14	New Buds school area	Majhigaon (west)	3531.85
15	Fountain area	Majhigaon (west)	553.95
TOTAL AREA UNDER SLUMS IN JORETHANG			**33854.28**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.4. LOCATIONAL ANALYSIS OF SLUMS

The locations of the slums are shown in the Map below. This shows that the slums are located on the eastern and western fringe of the town. All the 5 wards of Jorethang town has varying degrees of slums where Majhigaon East ward and Majhigaon West ward has the highest slum population of 292 and 274 respectively and Shantinagar ward has the least slum population of 149.

MAP 9: DISTRIBUTION OF SLUMS IN JORETHANG



Source: GIS Mapping, RAY, 2014

2.5. DEMOGRAPHIC & SOCIAL PROFILE

2.5.1. SLUM POPULATION

The Table below shows almost equitable distribution of slums in all the five wards of the town but the slum population and number of households vary widely with Majhigaon East and Majhigaon West slums with highest population of 292 and 274, followed by Daragaon ward with 271 population, Trikaleshwarnagar with 179 and Shantinagar ward having the least population of 149. Thus Majhigaon East having the highest slum population has 25% of total slum population whereas that of Shantinagar is 13%. In comparison with the total population of the ward, the slum population is highest in Daragaon ward with 16%, followed by Majhigaon west ward and Trikaleshwarnagar ward both having 14% and both Shantinagar ward and Majhigaon east ward have 11%.

Thus it is evident that though Majhigaon east ward has the highest percentage of slum population compared to other wards but the percentage of slum population to total ward population of the ward is 11% which is the least among all the five wards. This is because; the total population of Majhigaon east ward is highest among all the five wards. Hence it can be said that the most favorable location of Jorethang is Majhigaon east ward followed by Majhigaon west ward with second highest population. But Daragaon ward pose to be the most attractive among all the other wards for slum settlements because of its location on stable high slopes.

TABLE 23: WARDWISE SLUM POPULATION

SL NO	WARD NAME	NO. OF SLUM	% OF TOTAL NO. OF SLUMS	NO. OF SLUM HHs	% OF TOTAL SLUM HHs	SLUM POPULATION	% OF TOTAL SLUM POP	TOTAL WARD POP.	% SLUM POP. TO TOTAL WARD POP.
1	Shantinagar	3	20%	39	13%	149	13%	1397	11%
2	Trikaleshwarnagar[6]	3	20%	41	14%	179	15%	1244	14%
3	Daragaon	3	20%	62	21%	271	23%	1706	16%
4	Majhigaon (east)	3	20%	75	26%	292	25%	2731	11%
5	Majhigaon (west)	3	20%	73	25%	274	24%	1931	14%
TOTAL		**15**	**100%**	**290**	**100%**	**1165**	**100%**	**9009**	

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 24: SLUM POPULATION DENSITY

SL NO.	WARD NAME	SLUM NAME	SLUM AREA (Ha)	SLUM POPULATION	SLUM POPULATION DENSITY (PPh)
1	Shantinagar	Masjid Line	0.10	55	574
2		Rail Ghar	0.06	77	1390
3		Water reservoir gate area	0.09	17	190
4	Trikaleshwarnagar	Church area	0.47	97	206
5		Gairigaon	0.14	50	370
6	Trikaleshwarnagar &Daragaon	Sai Mandir area	0.25	37	146
7	Daragaon	Chalisay	0.20	92	449
8		Sr. Sec. School Area	0.33	91	272
9		Tamang Gumpa area	0.45	83	186
10	Majhigaon (east)	Industry Area	0.16	93	581
11		Devi Mandir area	0.58	184	317
12		Prashanti School Area	0.04	15	424
13	Majhigaon (west)	Zero Point	0.11	109	948
14		New Buds school area	0.35	91	258
15		Fountain area	0.06	74	1336
TOTAL			**3.39**	**1165**	**Average= 510pph**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The slum population density analysis shows two slums Rail Ghar of Shantinagar ward and Fountain area of Majhigaon west having population density of 1390pph and 1336pph respectively. The next highest density of 948pph is found in Zero point slum of Majhigaon west ward. Sai Mandir area slum which lies partly in Trikaleshwarnagar ward and partly in Daragaon ward has the least density of 146pph. Tamang Gumpa area slum

[6] Sai Mandir Area slum has been included under Trikaleshwarnagar ward since major portion of the slum falls under this ward.

and Water reservoir gate area slums are also sparsely populated with population density as 186pph and 190pph respectively. The average slum population density for Jorethang has been found as 510pph.

2.5.2. SOCIAL GROUPS

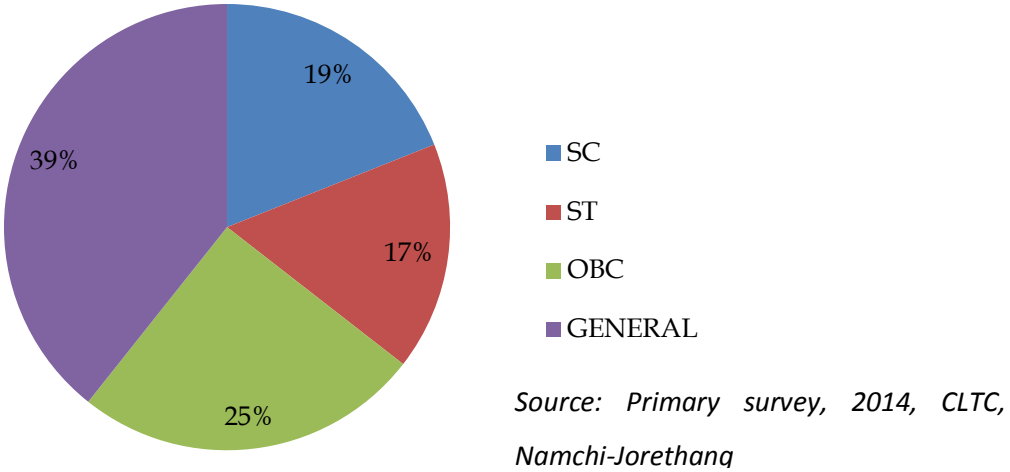
The distribution of slum households by various social groups in Jorethang shows 39% of households under General category, 25% under OBC, 19% under SC and 17% under ST category. Thus it can be concluded that there is an equitable distribution of all social groups in all slums except Masjid Line, Rail Ghar, Industry area, New Buds school area and Fountain area where General category predominates because these slums are mainly resided by migrants from neighboring states primarily West Bengal.

TABLE 25: SLUMS BY SOCIAL GROUPS

SL NO	SLUM NAME	SLUM POPULATION	No. OF HHs	HHs BY SOCIAL GROUPS			
				SC	ST	OBC	GENERAL
1	Masjid Line	55	15	0	0	0	15
2	Rail Ghar	77	19	4	2	1	12
3	Water reservoir gate area	17	5	0	4	1	0
4	Church area	97	24	6	3	9	6
5	Gairigaon	50	12	2	5	0	5
6	Sai Mandir area	37	6	1	0	4	1
7	Chalisay	92	19	5	7	4	3
8	Sr. Sec. School Area	91	22	3	5	11	3
9	Tamang Gumpa area	83	20	3	8	6	3
10	Industry Area	93	23	3	2	1	17
11	Devi Mandir area	184	48	15	2	20	11
12	Prashanti School Area	15	4	0	1	0	3
13	Zero Point	109	28	7	7	7	7
14	New Buds school area	91	27	4	1	6	16
15	Fountain area	74	18	2	1	3	12
TOTAL		1165	290	55	48	73	114
				19%	17%	25%	39%

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE16: DISTRIBUTION OF SLUM HHS BY SOCIAL GROUPS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5.3. SEX RATIO

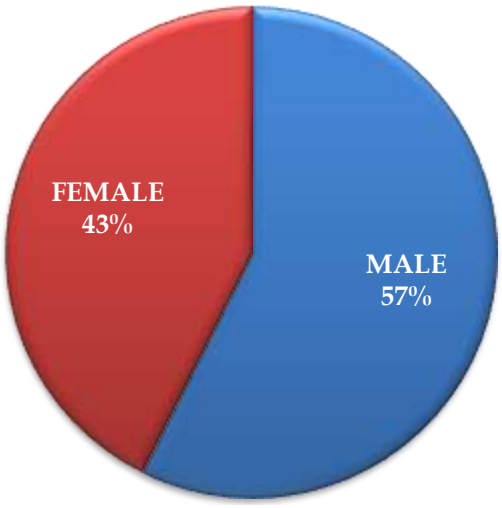
The total number of male and female in Jorethang slums is 668 and 497respectively**.** Thus the sex ratio of the slums is 744. This shows that the number of females compared to 1000 males is 744, which is high. The sex ratio of the slums is lower than that of the town because slums have large number of migrant single male working population because of the favorable location of Jorethang town in Sikkim.

TABLE 26: SLUM POPULATION BY GENDER

SL NO.	SLUM NAME	POPULATION	MALE	FEMALE
1	Masjid Line	55	41	14
2	Rail Ghar	77	48	29
3	Water reservoir gate area	17	5	12
4	Church area	97	47	50
5	Gairigaon	50	25	25
6	Sai Mandir area	37	19	18
7	Chalisay	92	50	42
8	Sr. Sec. School Area	91	43	48
9	Tamang Gumpa area	83	43	40
10	Industry Area	93	80	13
11	Devi Mandir area	184	94	90
12	Prashanti School Area	15	8	7
13	Zero Point	109	55	54
14	New Buds school area	91	63	28
15	Fountain area	74	47	27
TOTAL		**1165**	**668**	**497**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE17: DISTRIBUTION OF POPULATION BY GENDER



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5.4. HOUSEHOLDS BY SIKKIM SUBJECT

The distribution of slum households by Sikkim State Subject shows that there are 116 household in the slums of Jorethang which are Sikkim subject and this is 43% of the total slum population. Thus the finding highlights that almost 60% slum households in Jorethang are migrants from neighbouring states due to its proximity to Siliguri and Darjeeling and availability of employment options because of its strategic location. Thus strategies need to be formulated by Sikkim Government for providing Tenure rights to these slum dwellers who are residing in the city for almost a decade or even more than that but they cannot own or purchase property in Jorethang because of the prevailing Land law.

TABLE 27: SLUM HOUSEHOLDS BY SIKKIM STATE SUBJECT/COI

SL NO	SLUM NAME	POPULATION	HHs	SIKKIM SUBJECT/COI	
				HH	%
1	Masjid Line	55	15	0	0%
2	Rail Ghar	77	19	4	21%
3	Water reservoir gate area	17	5	5	100%
4	Church area	97	24	17	71%
5	Gairigaon	50	12	5	42%
6	Sai Mandir area	37	6	4	67%
7	Chalisay	92	19	12	63%
8	Sr. Sec. School Area	91	22	14	64%
9	Tamang Gumpa area	83	20	11	55%
10	Industry Area	93	23	5	22%
11	Devi Mandir area	184	48	22	46%
12	Prashanti School Area	15	4	1	25%
13	Zero Point	109	28	11	39%
14	New Buds school area	91	27	2	7%
15	Fountain area	74	18	3	17%
TOTAL		**1165**	**290**	**116**	**43%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5.5. RELIGIOUS GROUPS

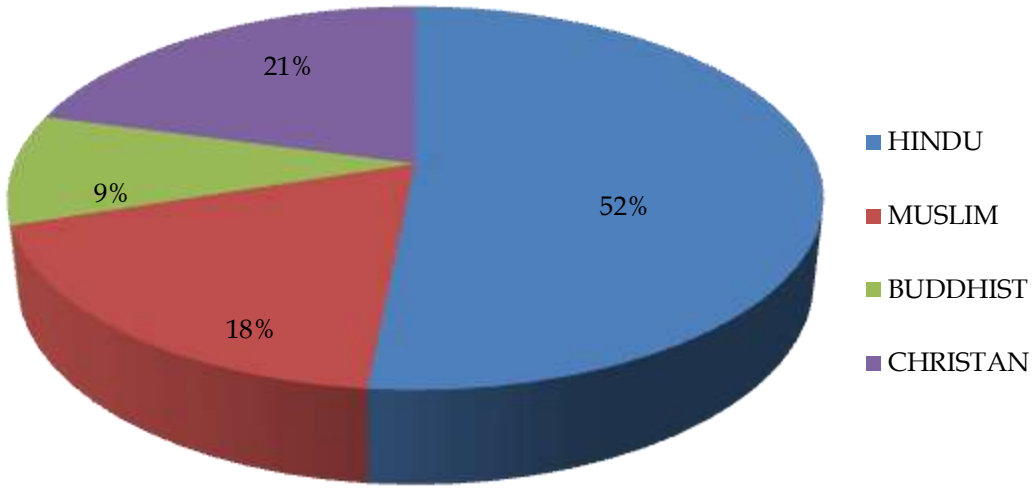
The distribution of slum households by different religious groups show more than 50% of total slum households belong to Hindus followed by Christian 21%, Muslim 18% and only 9% households are Buddhist. Thus it is evident from the Table below that, Masjid Line slum because of its location on Waqf land is a settlement of Muslim people while on the other hand in Rail Ghar slum all the 19 households are Hindu. Apart from these two slums, all other slums have mixed communities comprising of different religious groups with predominance of Hindus.

TABLE 28: SLUM HOUSEHOLDS DISTRIBUTION BY RELIGION

SL NO	SLUM NAME	POPULATION	HHs	HINDU	MUSLIM	BUDDHIST	CHRISTIAN
1	Masjid Line	55	15	0	15	0	0
2	Rail Ghar	77	19	19	0	0	0
3	Water reservoir gate area	17	5	3	0	0	2
4	Church area	97	24	12	0	2	10
5	Gairigaon	50	12	7	0	3	1
6	Sai Mandir area	37	6	3	0	0	3
7	Chalisay	92	19	9	0	6	4
8	Sr. Sec. School Area	91	22	5	2	2	13
9	Tamang Gumpa area	83	20	6	0	6	8
10	Industry Area	93	23	3	16	0	4
11	Devi Mandir area	184	48	35	1	3	9
12	Prashanti School Area	15	4	3	0	1	0
13	Zero Point	109	28	19	1	3	5
14	New Buds school area	91	27	15	11	0	1
15	Fountain area	74	18	10	7	1	0
TOTAL		**1165**	**290**	**149**	**53**	**27**	**60**
				51%	**18%**	**9%**	**21%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE18: SLUM HOUSEHOLDS BY RELIGIOUS GROUPS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5.6. POVERTY PROFILE

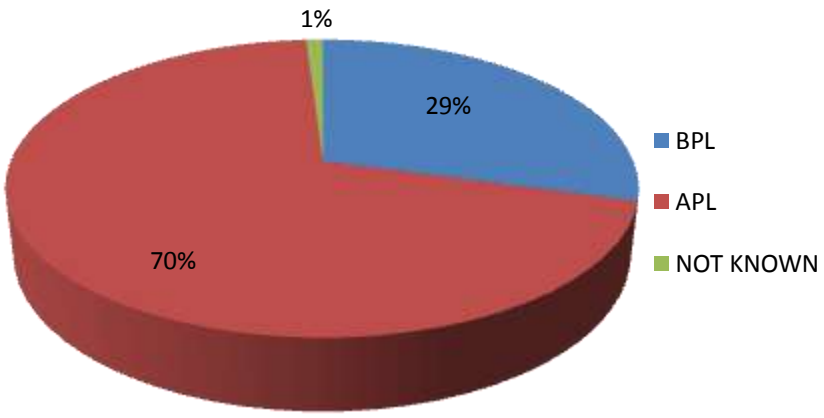
The Table below provides distribution of slum households by Below Poverty Line and Above Poverty Line, 3 households were found during survey that were unaware of their Poverty profile, hence it has been recorded as Not Known. Thus it is found that 29% of the total households of Jorethang slums are below poverty line while 70% are above poverty line, therefore it is found that Jorethang slums do not exhibit acute poverty. For the 30% BPL households, strategies for socio-economic development need to be adopted under SFCPoA.

TABLE 29: SLUM POVERTY PROFILE

SL NO.	SLUM NAME	POPULATION	HHs	BPL	APL	NOT KNOWN
1	Masjid Line	55	15	0	15	0
2	Rail Ghar	77	19	3	16	0
3	Water reservoir gate area	17	5	3	2	0
4	Church area	97	24	10	14	0
5	Gairigaon	50	12	3	9	0
6	Sai Mandir area	37	6	3	3	0
7	Chalisay	92	19	8	9	2
8	Sr. Sec. School Area	91	22	11	11	0
9	Tamang Gumpa area	83	20	11	9	0
10	Industry Area	93	23	5	17	1
11	Devi Mandir area	184	48	16	36	0
12	Prashanti School Area	15	4	0	4	0
13	Zero Point	109	28	7	21	0
14	New Buds school area	91	27	3	24	0
15	Fountain area	74	18	3	15	0
TOTAL		**1165**	**290**	**86**	**205**	**3**
				29%	**70%**	**1%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE19: SLUM HHS BY POVERTY



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5.7. LITERACY RATE

The total number of adult illiterate in Jorethang slums is 227 i.e. 19% of the total slum population where the number of adult male illiterate is 126 and adult female illiterate is 101. Thus out of total adult illiterate population 56% is male and 44% is female. Therefore the literacy rate in Jorethang slums is found out to be 80.5% which is higher than the national adult literacy rate of 74.04% as per Census 2011. Hence it can be concluded that Literacy rate is for both adult male and female is high even in the slums of Jorethang because of availability of education facilities both within the town and in the neighboring towns of Sikkim and West Bengal.

Number of Children not attending school in slums of Jorethang is very less with total 18 children, out of which 10 are male and 8 are female. Thus only 2% of the total slum population belongs to children who are not attending school because of either poverty or distance between school and home.

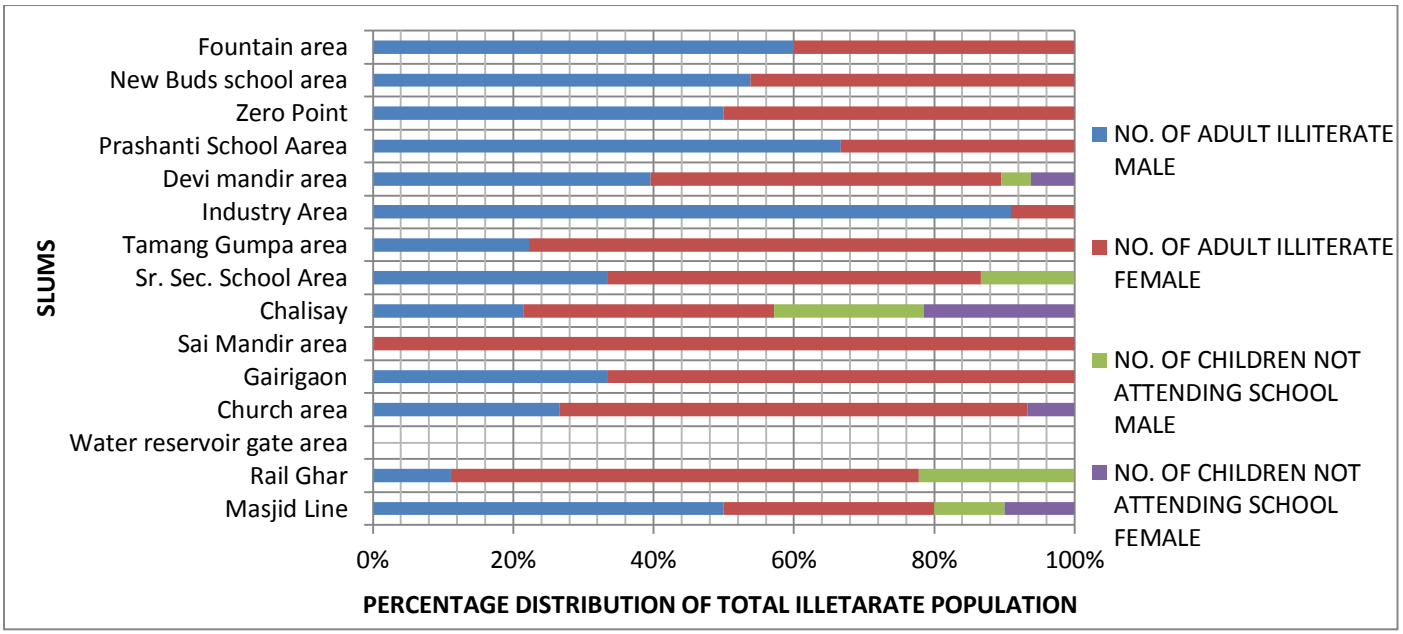
TABLE 30: SLUM POPULATION BY LITERACY

SL NO.	SLUM NAME	HHs	POPULATION	NO. OF ADULT ILLITERATE			NO. OF CHILDREN NOT ATTENDING SCHOOL		
				MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1	Masjid Line	15	55	5	3	8	1	1	2
2	Rail Ghar	19	77	1	6	7	2	0	2
3	Water reservoir gate area	5	17	0	0	0	0	0	0
4	Church area	24	97	4	10	14	0	1	1
5	Gairigaon	12	50	1	2	3	0	0	0
6	Sai Mandir area	6	37	0	2	2	0	0	0
7	Chalisay	19	92	3	5	8	3	3	6
8	Sr. Sec. School Area	22	91	5	8	13	2	0	2
9	Tamang Gumpa area	20	83	2	7	9	0	0	0
10	Industry Area	23	93	50	5	55	0	0	0
11	Devi Mandir area	48	184	19	24	43	2	3	5
12	Prashanti School Area	4	15	2	1	3	0	0	0
13	Zero Point	28	109	8	8	16	0	0	0
14	New Buds school area	27	91	14	12	26	0	0	0
15	Fountain area	18	74	12	8	20	0	0	0
TOTAL		**290**	**1165**	**126**	**101**	**227**	**10**	**8**	**18**
				56%	**44%**	**19%**	**56%**	**44%**	**2%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

From the Table above, it can be seen that the number of illiterate adults is the highest in Industry area slum and Devi Mandir area slum because both the slums predominantly comprise of migrants from neighboring towns within Sikkim and also from West Bengal and Bihar due to its location near Industries where they find employment as casual labors.

FIGURE20: DISTRIBUTION OF TOTAL ILLITERATE SLUM POPULATION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.6. MIGRATION

Out of total 290 slum households in Jorethang, 277 households are residing in their present location for more than 5 years and only 4 households and 9 households are residing for 3 to 5 years and less than 3 years respectively. Thus 96% of slum households are staying in their present location for more than 5 years. The migration that has happened shows that 86% households have migrated from urban areas to urban areas and only 14% is rural to urban migration. This shows that due to availability of employment opportunity in Jorethang town, migration from neighboring urban areas has resulted in the formation of slums. Migration type analysis shows 83% permanent migration and 17% seasonal. The number of seasonal migrants is highest in Industry area slum and New Buds School area slum because of availability of easy employment in industry in the form of casual labor in almost all time of the year. Therefore people migrate from remote areas of Sikkim during winter to find employment in Jorethang.

The reasons for migration could not be properly accessed from the Primary survey data as 80% households felt shy in responding but it is understood from interaction with community that the main reason behind migration is Unemployment. 34% households have migrated due to unemployment, 8% due to marriage, 12% because of other reasons like education, health, relatives etc. and remaining 79% households failed to respond.

TABLE 31: HOUSEHOLDS BY DETAILS OF MIGRATION

SL NO	SLUM NAME	TOTAL POPULA-TION	TOTAL HHs	NUMBER OF SLUM HOUSEHOLDS										
				No. Of Years Stay			Migrated From		Migration Type		Reasons For Migration			
				up to 3	3 to 5	>5	Urban-Urban	Rural-Urban	Permanent	Seasonal	Marriage	Unemployment	Others	No Ans
1	Masjid Line	55	15	0	0	15	15	0	15	0	0	14	0	1
2	Rail Ghar	77	19	0	0	19	18	1	19	0	0	5	0	14
3	Water reservoir gate area	17	5	0	0	5	5	0	5	0	0	0	0	5
4	Church area	97	24	0	0	24	23	1	23	1	0	4	1	19
5	Gairigaon	50	12	1	1	10	8	4	10	2	1	2	2	7
6	Sai Mandir area	37	6	0	0	6	6	0	6	0	0	0	2	4
7	Chalisay	92	19	0	0	19	14	5	17	2	3	4	4	15
8	Sr. Sec. School Area	91	22	0	1	21	20	2	22	0	1	4	1	21
9	Tamang Gumpa area	83	20	1	0	19	17	3	19	1	0	3	8	12
10	Industry Area	93	23	0	0	23	17	6	7	16	2	17	0	23
11	Devi Mandir area	184	48	4	1	43	43	5	40	8	6	11	10	38
12	Prashanti School Area	15	4	1	0	3	3	1	3	1	0	2	0	4
13	Zero Point	109	28	0	0	28	25	3	27	1	5	7	5	23
14	New Buds school area	91	27	2	0	25	20	7	14	13	1	17	0	27
15	Fountain area	74	18	0	1	17	15	3	15	3	3	8	1	17
TOTAL		**1165**	**290**	**9**	**4**	**277**	**249**	**41**	**242**	**48**	**22**	**98**	**34**	**230**
				3%	**1%**	**96%**	**86%**	**14%**	**83%**	**17%**	**8%**	**34%**	**12%**	**79%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7. ECONOMIC PROFILE OF SLUMS

2.7.1. WORKING POPULATION

The total number of earning adult population in slums of Jorethang is 417, which is 36% of the total slum population. The percentage of male earning adult is 86% and that of female is 14%, hence a considerable number of female adults are working in Jorethang slums.

TABLE 32: SLUMS BY EARNING ADULT POPULATION

SL NO.	SLUM NAME	HHs	POPULATION	NO. OF EARNING ADULTS		
				MALE	FEMALE	TOTAL
1	Masjid Line	15	55	16	0	16
2	Rail Ghar	19	77	19	1	20
3	Water reservoir gate area	5	17	3	3	6
4	Church area	24	97	22	6	28
5	Gairigaon	12	50	13	1	14
6	Sai Mandir area	6	37	6	1	7
7	Chalisay	19	92	18	4	22
8	Sr. Sec. School Area	22	91	19	7	26
9	Tamang Gumpa area	20	83	22	1	23
10	Industry Area	23	93	73	2	75
11	Devi Mandir area	48	184	43	15	58
12	Prashanti School Area	4	15	7	0	7
13	Zero Point	28	109	23	9	32
14	New Buds school area	27	91	49	6	55
15	Fountain area	18	74	25	3	28
TOTAL		**290**	**1165**	**358**	**59**	**417**
				86%	**14%**	**36%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7.2. EMPLOYMENT STATUS OF WORKING POPULATION

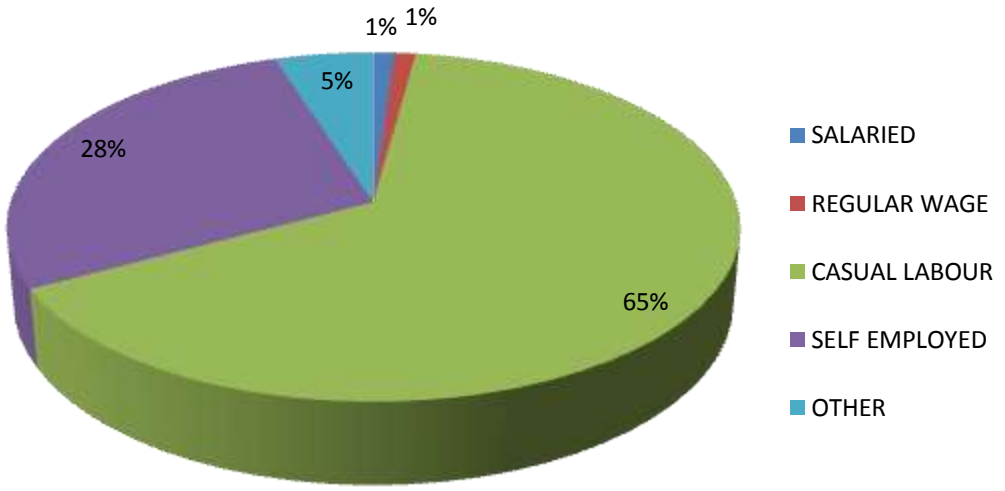
The distribution of working population of Jorethang slums show predominance of Casual Labors with 44% of the total working population followed by Self-employed with 19%, both Salaried and Regular wage with 1% each and 3% engaged in any other type which includes Brokerage etc. The highest number of Casual labors has been found in slums in proximity to Industries and commercial bazaar areas. Thus it can be concluded that the main workforce of the slum population are casual labors who migrated to Jorethang from the neighboring urban areas of both Sikkim and West Bengal for employment opportunities present in the town due to its strategic location in Sikkim and Darjeeling district of West Bengal.

TABLE 33: SLUMS BY EMPLOYMENT STATUS OF WORKING POPULATION

SL NO	SLUM NAME	TOTAL POPULATION	WORKING POPULATION	EMPLOYMENT STATUS				
				SALARIED	REGULAR WAGE	CASUAL LABOUR	SELF EMPLOYED	OTHER
1	Masjid Line	55	16	3	0	0	13	0
2	Rail Ghar	77	20	9	0	5	6	0
3	Water reservoir gate area	17	6	2	0	0	4	0
4	Church area	97	28	22	0	3	3	0
5	Gairigaon	50	14	11	0	0	3	0
6	Sai Mandir area	37	7	3	0	1	2	1
7	Chalisay	92	22	13	0	5	3	1
8	Sr. Sec. School Area	91	26	14	0	7	4	1
9	Tamang Gumpa area	83	23	9	1	3	7	3
10	Industry Area	93	75	2	0	69	3	1
11	Devi Mandir area	184	58	9	1	29	16	3
12	Prashanti School Area	15	7	0	0	0	4	3
13	Zero Point	109	32	0	1	20	11	0
14	New Buds school area	91	55	2	0	39	13	1
15	Fountain area	74	28	4	0	9	15	0
TOTAL		**1165**	**417**	**56**	**3**	**182**	**78**	**14**
				1%	**1%**	**44%**	**19%**	**3%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE21: WORKING POPULATION DISTRIBUTION BY EMPLOYMENT STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7.3. OCCUPATION STRUCTURE

The working population in the slums of Jorethang is engaged in different Primary and Secondary occupation. The skilled Primary occupations found through survey are Artisan, Craftsman, Motor mechanics, Bakery, Driving, Electrician, Health and Paramedics, Office related work, Security work and Tailoring while unskilled jobs include Contract worker, Casual Labor, Construction worker, Hawking or Street vending, Watchman, Industrial worker etc. Secondary occupation which exists is Office work, Retail, Photography etc

Table below shows 98% of the working population engaged in Primary occupation and only 2% engaged in Secondary occupation. Out of the primary occupation, 71% population is engaged in unskilled jobs and only 27% population does skilled jobs. Thus skill up gradation training for poverty alleviation and livelihood up gradation will be an integral policy under Slum Free City Plan of Action for Jorethang town.

TABLE 34: WORKING POPULATION BY OCCUPATION STRUCTURE

SL NO	SLUM NAME	TOTAL POPULATION	WORKING POPULATION	PRIMARY OCCUPATION		SECONDARY OCCUPATION	
				SKILLED	UNSKILLED	SKILLED LABOUR	OTHER
1	Masjid Line	55	16	6	9	0	1
2	Rail Ghar	77	20	5	15	0	0
3	Water reservoir gate area	17	6	2	4	0	0
4	Church area	97	28	17	10	0	1
5	Gairigaon	50	14	10	3	1	0
6	Sai Mandir area	37	7	3	3	0	1
7	Chalisay	92	22	8	13	1	0
8	Sr. Sec. School Area	91	26	10	15	1	0
9	Tamang Gumpa area	83	23	13	10	0	0
10	Industry Area	93	75	2	73	0	0
11	Devi Mandir area	184	58	12	46	0	0
12	Prashanti School Area	15	7	3	4	0	0
13	Zero Point	109	32	1	30	1	0
14	New Buds school area	91	55	14	40	0	1
15	Fountain area	74	28	8	20	0	0
TOTAL		**1165**	**417**	**114**	**295**	**4**	**4**
				27%	**71%**	**1%**	**1%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7.4. WORK-HOME RELATIONSHIP

The study of work home relationship of the working population of Jorethang slums reveals that the most preferred location for employment is within 0.5km from the place of residence as this helps in saving of time,

energy and money on commute thereby yielding more hours of work. This can be established from the following Table, which shows 16% of working population, has their workplace within the slum and 73% has their work areas within 0.5km and 5% within 1km of the slum thus only 6% of the total have their workplace at a distance more than 5kms.

TABLE 35: WORK-HOME RELATIONSHIP OF WORKING POPULATION

SL NO	SLUM NAME	TOTAL POPULATION	WORKING POPULATION	PLACE OF WORK				
				WITHIN SLUM	OUTSIDE SLUM			
					< 0.5KM	0.5-1KM	2-5KM	>5KM
1	Masjid Line	55	16	2	14	0	0	0
2	Rail Ghar	77	20	2	16	1	0	1
3	Water reservoir gate area	17	6	2	4	0	0	0
4	Church area	97	28	5	21	0	0	2
5	Gairigaon	50	14	3	8	0	0	3
6	Sai Mandir area	37	7	2	5	0	0	0
7	Chalisay	92	22	3	12	0	2	5
8	Sr. Sec. School Area	91	26	5	18	0	0	3
9	Tamang Gumpa area	83	23	7	13	1	0	2
10	Industry Area	93	75	4	65	6	0	0
11	Devi Mandir area	184	58	16	37	3	0	2
12	Prashanti School Area	15	7	0	7	0	0	0
13	Zero Point	109	32	10	20	1	0	1
14	New Buds school area	91	55	4	41	8	0	2
15	Fountain area	74	28	1	24	1	0	2
TOTAL		**1165**	**417**	**66**	**305**	**21**	**2**	**23**
				16%	**73%**	**5%**	**0%**	**6%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7.5. INCOME AND EXPENDITURE PROFILE

Table below shows that 19% households have average monthly income less than Rs3000, 21% between Rs3000 and 4999, 31% between Rs5000 and Rs6999, 13% between Rs7000 and Rs8999 and 16% have income more than Rs9000. Thus more than 50% of the households lie between income bracket of Rs 3000 and Rs 7000, whereas the average monthly household expenditure of more than 50% households lies between Rs 5000. 25% households have average monthly expenditure less than Rs 3000, 33% between Rs 3000 and Rs4999, 23% between Rs5000 and Rs6999, 11% between Rs7000 and Rs8999 and only 6% has expenditure more than Rs 9000. Thus it is evident that income is high and expenditure is comparatively less hence households have saving and capacity to pay for housing. Survey also revealed that households do not have any debt.

TABLE 36: SLUMS BY AVERAGE MONTHLY HOUSEHOLD INCOME & EXPENDITURE

SL NO	SLUM NAME	POPULATION	HHs	AVERAGE MONTHLY INCOME/HOUSEHOLD (Rs)					AVERAGE MONTHLY EXPENDITURE/HOUSEHOLD (Rs)				
				LESS THAN 3000	3000-4999	5000-6999	7000-8999	9000 & ABOVE	LESS THAN 3000	3000-4999	5000-6999	7000-8999	9000 & ABOVE
1	Masjid Line	55	15	4	5	2	2	2	4	6	3	1	1
2	Rail Ghar	77	19	2	1	9	1	6	3	5	6	4	1
3	Water reservoir gate area	17	5	1	0	2	0	2	2	0	2	0	1
4	Church area	97	24	2	5	7	6	4	4	8	6	4	2
5	Gairigaon	50	12	2	2	2	3	3	2	4	2	1	3
6	Sai Mandir area	37	6	1	2	1	0	2	2	1	1	1	1
7	Chalisay	92	19	2	3	7	3	4	3	6	4	4	2
8	Sr. Sec. School Area	91	22	2	4	8	5	2	2	6	9	4	1
9	Tamang Gumpa area	83	20	4	5	7	4	1	5	7	3	5	0
10	Industry Area	93	23	2	1	14	1	5	7	10	4	1	1
11	Devi Mandir area	184	48	16	12	14	5	1	20	16	9	3	0
12	Prashanti School Area	15	4	1	0	1	0	2	1	0	2	0	1
13	Zero Point	109	28	7	10	6	3	2	12	9	6	1	0
14	New Buds school area	91	27	5	6	7	3	6	7	10	7	1	2
15	Fountain area	74	18	4	6	4	1	3	6	8	3	1	0
TOTAL		**1165**	**290**	**55**	**62**	**91**	**37**	**45**	**80**	**96**	**67**	**31**	**16**
				19%	**21%**	**31%**	**13%**	**16%**	**28%**	**33%**	**23%**	**11%**	**6%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.8. HOUSING CHARACTERISTICS

2.8.1. HOUSING SCENARIO

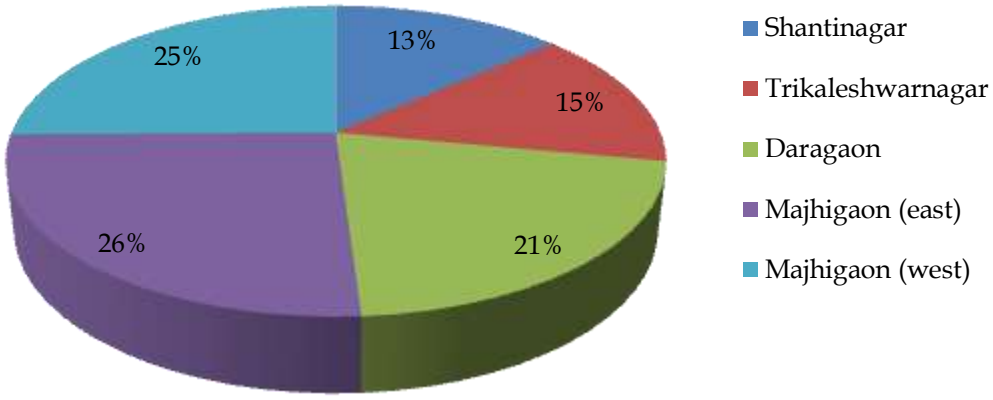
The analysis of housing scenario of Jorethang slums, shows that Majhigaon East ward has the highest number of slum households followed by Majhigaon West ward and these two wards together has 51% of slum households but in terms of household density, Majhigaon west ward has the highest density of 215 households per hectare followed by Shantinagar ward having density 185 households per hectare because of smallest area of these two wards among all the five wards.

TABLE 37: HOUSING SCENARIO OF JORETHANG SLUMS

SL NO	WARD NAME	SLUM NAME	HHs	% OF TOTAL SLUM HHs	AREA (Ha)	HH DENSITY (HH/Ha)
1	Shantinagar	Masjid Line	15	5%	0.10	157
2		Rail Ghar	19	7%	0.06	343
3		Water reservoir gate area	5	2%	0.09	56
4	Trikaleshwar nagar	Church area	24	8%	0.47	51
5		Gairigaon	12	4%	0.14	89
6		Sai Mandir area	6	2%	0.25	24
7	Daragaon	Chalisay	19	7%	0.20	93
8		Sr. Sec. School Area	22	8%	0.33	66
9		Tamang Gumpa area	20	7%	0.45	45
10	Majhigaon (east)	Industry Area	23	8%	0.16	144
11		Devi Mandir area	48	17%	0.58	83
12		Prashanti School Area	4	1%	0.04	113
13	Majhigaon (west)	Zero Point	28	10%	0.11	244
14		New Buds school area	27	9%	0.35	76
15		Fountain area	18	6%	0.06	325
TOTAL			**290**	**100%**	**3.39**	**127**

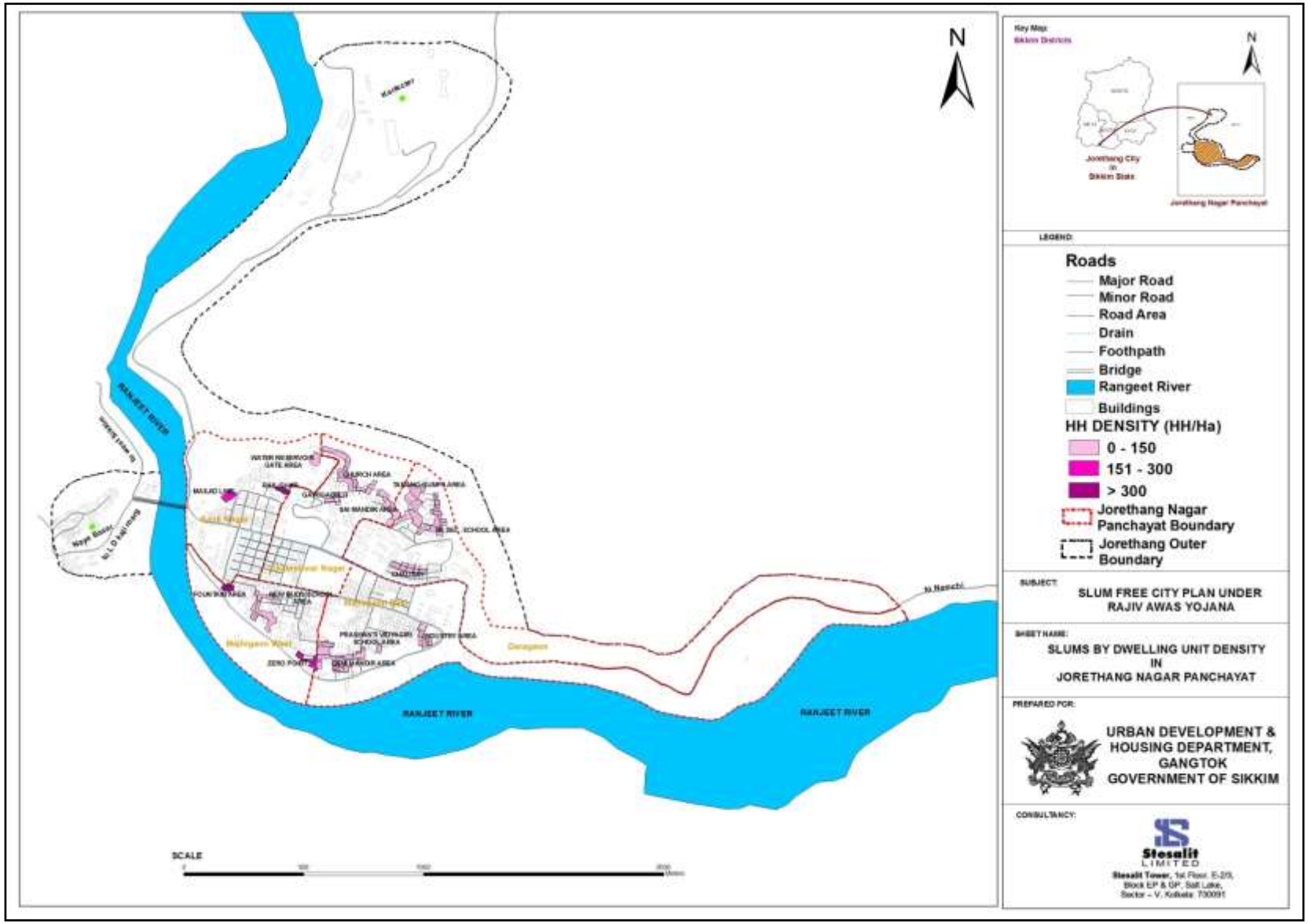
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE22: WARDWISE PERCENTAGE OF SLUM HOUSEHOLDS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 10: SLUMS BY HOUSHEOLD DENSITY



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.8.2. HOUSING BY STRUCTURE

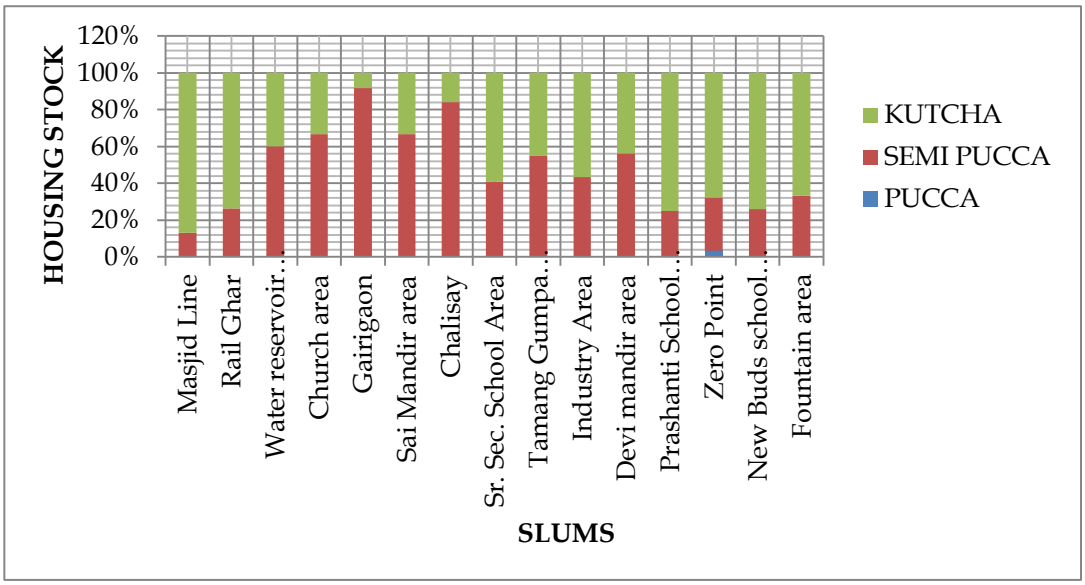
The housing by structure analysis shows predominance of semi-pucca and kaccha stock and almost nil pucca stock in the slums of Jorethang. Out of the total slum households, 52% is kaccha stock and 48% is semi pucca stock. Only Zero point slum has one pucca household while no other slum has any pucca stock. Masjid Line slum has 87% of kaccha stock which is the highest followed by Rail Ghar with 74%.

TABLE 38: HOUSING BY STRUCTURE OF MATERIAL IN SLUMS

SL NO	SLUM NAME	POPULATION	HHs	HOUSING STRUCTURE					
				PUCCA		SEMI PUCCA		KUTCHA	
				NO.	%	NO.	%	NO.	%
1	Masjid Line	55	15	0	0%	2	13%	13	87%
2	Rail Ghar	77	19	0	0%	5	26%	14	74%
3	Water reservoir gate area	17	5	0	0%	3	60%	2	40%
4	Church area	97	24	0	0%	16	67%	8	33%
5	Gairigaon	50	12	0	0%	11	92%	1	8%
6	Sai Mandir area	37	6	0	0%	4	67%	2	33%
7	Chalisay	92	19	0	0%	16	84%	3	16%
8	Sr. Sec. School Area	91	22	0	0%	9	41%	13	59%
9	Tamang Gumpa area	83	20	0	0%	11	55%	9	45%
10	Industry Area	93	23	0	0%	10	43%	13	57%
11	Devi Mandir area	184	48	0	0%	27	56%	21	44%
12	Prashanti School Area	15	4	0	0%	1	25%	3	75%
13	Zero Point	109	28	1	4%	8	29%	19	68%
14	New Buds school area	91	27	0	0%	7	26%	20	74%
15	Fountain area	74	18	0	0%	6	33%	12	67%
TOTAL		**1165**	**290**	**1**	**0%**	**136**	**48%**	**153**	**52%**

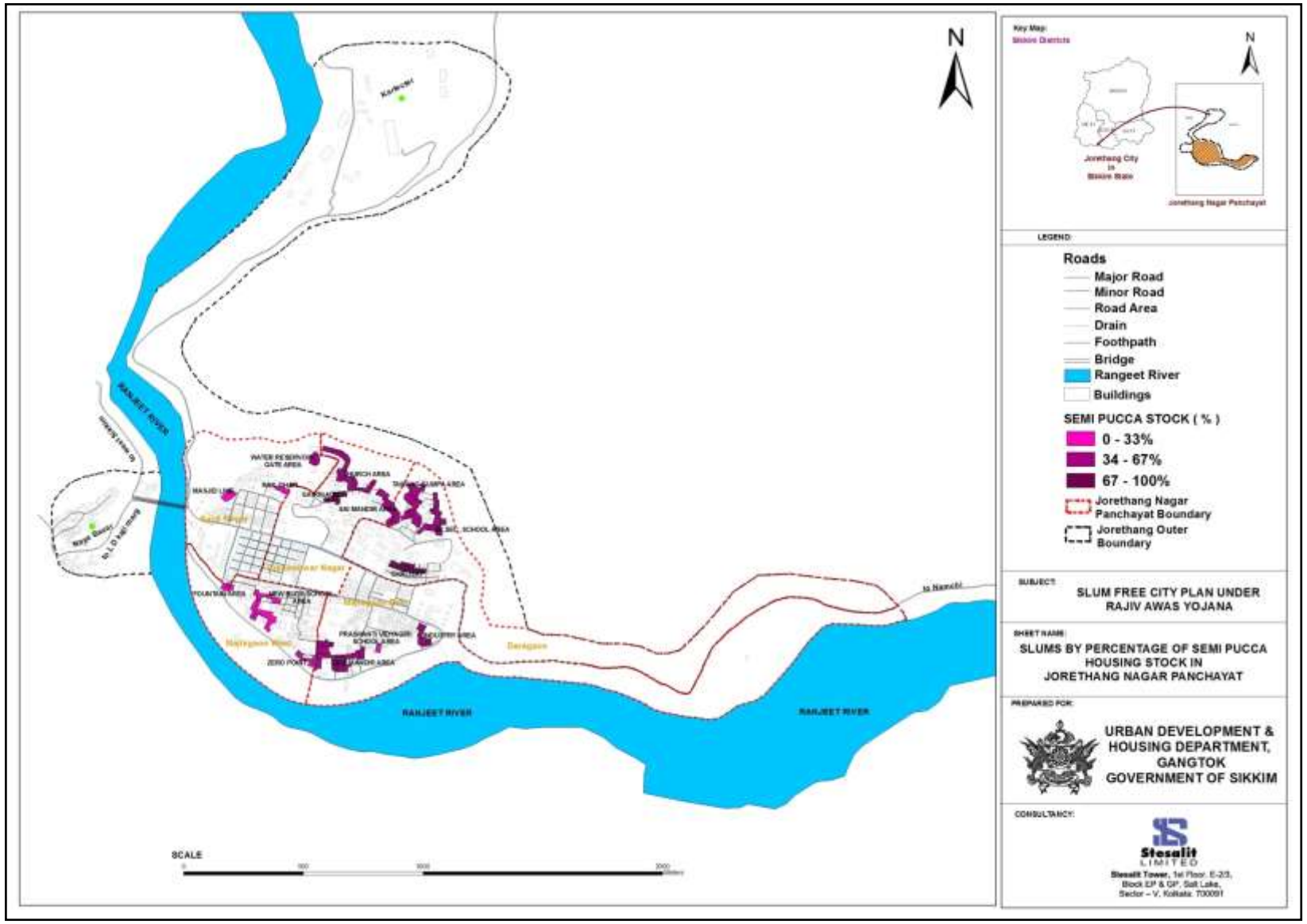
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE23: SLUMS BY STRUCTURE OF HOUSING STOCK



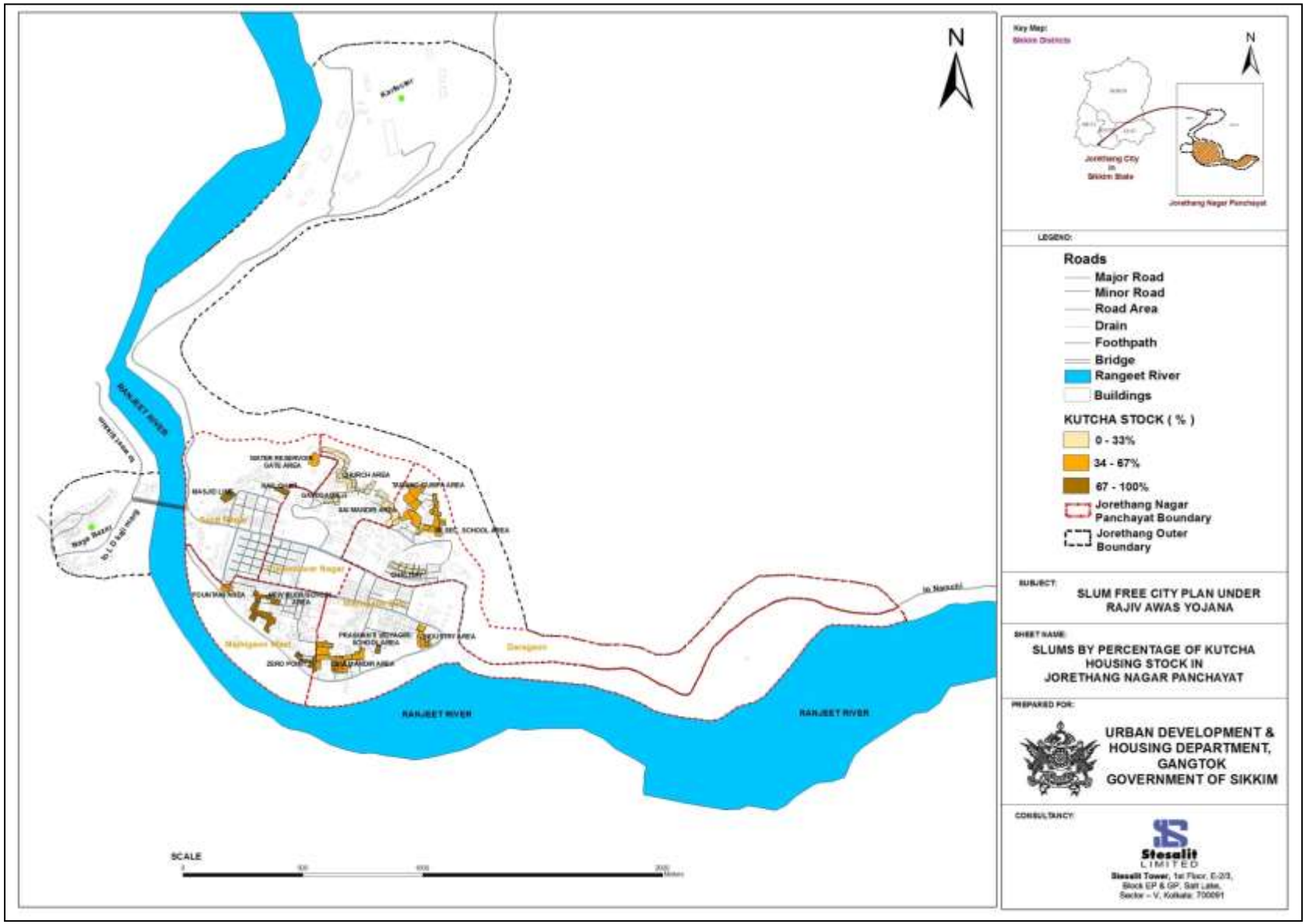
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 11: SLUMS BY PERCENTAGE OF SEMI PUCCA HOUSING STOCK



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 12: SLUMS BY PERCENTAGE OF KUTCHA HOUSING STOCK



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9. SLUMS BY BASIC FACILITIES & AMENITIES

Slum level infrastructure data has been collected by Slum profiling and general slum survey by consultation to slum dwellers. The data has been compiled for assessment of Infrastructure condition of the slums. The following sub sections comprise of detailed data on existing Water Supply, Sanitation, Roads, Drainage, Solid waste disposal and Social amenities and facilities status of the slums.

2.9.1. ACCESS TO DRINKING WATER SUPPLY

The Table below shows only 13% slum households has access to individual tap connection, 73% has access to public tap, 11% is dependent on river or spring and each of Water tanker, Tube well and other sources have 1% households under each category. Masjid Line, Rail Ghar, Water reservoir gate area and Prashanti School area are the four slums which do not have any households with individual tap connection. Industry area slum is mainly dependent on river as source of drinking water. The supply of piped water is provided by State Public Health Engineering Department (PHED).

TABLE 39: SLUMS BY SOURCE OF DRINKING WATER

SL NO	SLUM NAME	HHs	SOURCE OF DRINKING WATER												% OF HHs w/o INDIVIDUAL CONNECTION
			INDIVIDUAL TAP		PUBLIC TAP		RIVER/ SPRING		WATER TANKER		TUBEWELL/ HANDPUMP		OTHER		
			NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
1	Masjid Line	15	0	0%	14	93%	0	0%	0	0%	0	0%	1	7%	100%
2	Rail Ghar	19	0	0%	19	100%	0	0%	0	0%	0	0%	0	0%	100%
3	Water reservoir gate area	5	0	0%	4	80%	1	20%	0	0%	0	0%	0	0%	100%
4	Church area	24	7	29%	16	67%	1	4%	0	0%	0	0%	0	0%	71%
5	Gairigaon	12	2	17%	10	83%	0	0%	0	0%	0	0%	0	0%	83%
6	Sai Mandir area	6	2	33%	2	33%	2	33%	0	0%	0	0%	0	0%	67%
7	Chalisay	19	3	16%	13	68%	0	0%	1	5%	0	0%	2	11%	84%
8	Sr. Sec. School Area	22	3	14%	14	64%	3	14%	0	0%	1	5%	1	5%	86%
9	Tamang Gumpa area	20	8	40%	11	55%	0	0%	1	5%	0	0%	0	0%	60%
10	Industry Area	23	1	4%	1	4%	20	87%	1	4%	0	0%	0	0%	96%
11	Devi	48	5	10%	41	85%	1	2%	0	0%	1	2%	0	0%	90%

SL NO	SLUM NAME	HHs	SOURCE OF DRINKING WATER												% OF HHs w/o INDIVIDUAL CONNECTION
			INDIVIDUAL TAP		PUBLIC TAP		RIVER/ SPRING		WATER TANKER		TUBEWELL/ HANDPUMP		OTHER		
			NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
	Mandir area														
12	Prashanti School Area	4	0	0%	4	100%	0	0%	0	0%	0	0%	0	0%	100%
13	Zero Point	28	4	14%	23	82%	0	0%	1	4%	0	0%	0	0%	86%
14	New Buds school area	27	2	7%	24	89%	0	0%	0	0%	1	4%	0	0%	93%
15	Fountain area	18	1	6%	17	94%	0	0%	0	0%	0	0%	0	0%	94%
TOTAL		**290**	**38**	**13%**	**213**	**73%**	**28**	**11%**	**4**	**1%**	**3**	**1%**	**4**	**1%**	

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 40: SLUMS BY STATUS OF WATER SUPPLY

SL NO	SLUM NAME	HHs	DURATION OF PIPED WATER SUPPLY				DISTANCE OF OUTSIDE PREMISE SOURCE			
			LESS THAN 1 Hr	1-2 Hrs	MORE THAN 2 Hrs	NO SUPPLY	LESS THAN 0.5KM	0.5-1 KM	1-2 KMs	2-5 KMs
1	Masjid Line	15	0	1	0	14	10	5	0	0
2	Rail Ghar	19	0	19	0	0	19	0	0	0
3	Water reservoir gate area	5	1	4	0	0	5	0	0	0
4	Church area	24	1	11	6	6	24	0	0	0
5	Gairigaon	12	0	9	3	0	12	0	0	0
6	Sai Mandir area	6	0	2	0	1	6	0	0	0
7	Chalisay	19	1	14	1	3	14	1	0	1
8	Sr. Sec. School Area	22	0	0	10	7	14	5	1	0
9	Tamang Gumpa area	20	0	6	8	6	17	0	0	0
10	Industry Area	23	0	3	0	20	22	1	1	0
11	Devi Mandir area	48	1	36	0	11	32	16	2	0

SL NO	SLUM NAME	HHs	DURATION OF PIPED WATER SUPPLY				DISTANCE OF OUTSIDE PREMISE SOURCE			
			LESS THAN 1 Hr	1-2 Hrs	MORE THAN 2 Hrs	NO SUPPLY	LESS THAN 0.5KM	0.5-1 KM	1-2 KMs	2-5 KMs
12	Prashanti School Area	4	0	4	0	0	4	0	0	0
13	Zero Point	28	0	9	3	16	25	1	2	0
14	New Buds school area	27	2	19	0	6	25	0	1	1
15	Fountain area	18	0	16	0	2	14	3	1	0
TOTAL		**290**	**6**	**153**	**31**	**92**	**243**	**32**	**8**	**2**
			2%	**53%**	**11%**	**32%**	**84%**	**11%**	**3%**	**1%**

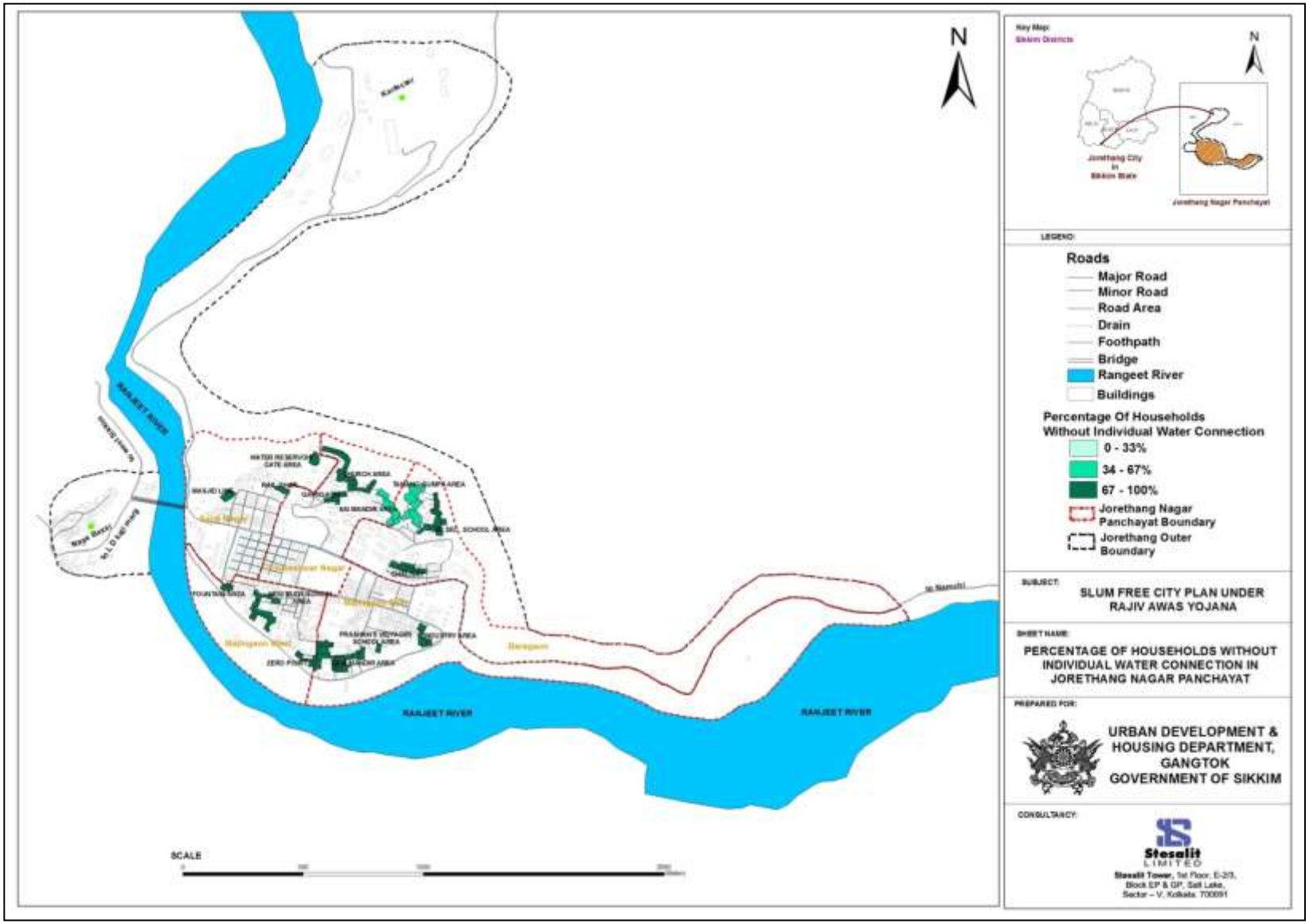
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The above Table shows that 2% slum households receives water for less than 1year daily, 53% receives water for 1 to 2 years daily, and 11% has supply for more than 2 years while 32% households are devoid of any water supply. These 32% households are the most vulnerable in terms of water supply.

Households which are dependent on sources of water supply outside their premise face tough challenge daily as it requires carrying water from distant source negotiating the slopes of a hilly area. The surveyed data shows, 84% households have their source of water supply at a distance less than 0.5 km, 11% households between 0.5 to 1 km, 3% households between 1 to 2 km and only 1% households have to fetch water from a distance between 2km to 5 km.

Water supply is a prominent problem in the slums as the PHED supplied water is highly insufficient in terms of both duration of supply and quantity of supply in case of common public tap. Slums which are on the fringe are solely dependent on natural spring or river for water since there is no supply of water from PHED.

MAP 13: SLUMS BY PERCENTAGE OF HOUSEHOLDS WITHOUT INDIVIDUAL WATER CONNECTION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.2. ACCESS TO TOILET FACILITY

Primary survey of the slum households show that 11% of the total slum households are engaged in Open defecation in Jorethang. Analysis of access to toilet facilities reveal 4% has own dry toilet, 13% has own flush latrine with septic tank, 12% has shared dry latrine, 43% has shared flush latrine with septic tank, 1% has community dry latrine and 15% has community flush latrine with septic tank. Thus toilet facility is adequate in most of the slums except for Industry area slum and Sr. Sec. School area slum.

TABLE 41: SLUMS BY OPEN DEFECATION & TOILET FACILITY

SL NO	SLUM NAME	HHs	OPEN DEFECATION		TOILET FACILITY					
			NO. OF HHs	% OF TOTAL HHs	OWN DRY LATRINE	OWN FLUSH LATRINE/SEPTIC TANK	SHARED DRY LATRINE	SHARED FLUSH LATRINE/SEPTIC TANK	COMMUNITY DRY LATRINE	COMMUNITY FLUSH LATRINE/ SEPTIC TANK
1	Masjid Line	15	0	0%	0	0	2	2	0	11
2	Rail Ghar	19	0	0%	0	0	0	19	0	0
3	Water reservoir gate area	5	0	0%	0	0	2	3	0	0
4	Church area	24	0	0%	0	6	7	11	0	0
5	Gairigaon	12	0	0%	1	0	4	7	0	0
6	Sai Mandir area	6	0	0%	0	1	3	2	0	0
7	Chalisay	19	0	0%	0	0	1	8	0	0
8	Sr. Sec. School Area	22	6	27%	6	10	5	3	0	0
9	Tamang Gumpa area	20	1	5%	4	4	5	8	0	0
10	Industry Area	23	13	57%	1	1	1	2	0	6
11	Devi Mandir area	48	5	10%	0	13	3	14	1	12
12	Prashanti School Area	4	0	0%	0	0	0	1	0	2
13	Zero Point	28	3	11%	0	2	1	20	0	1
14	New Buds school area	27	3	11%	0	1	1	10	1	11
15	Fountain area	18	0	0%	0	1	0	16	0	1
TOTAL		**290**	**31**	**11%**	**12**	**39**	**35**	**126**	**2**	**44**
					4%	**13%**	**12%**	**43%**	**1%**	**15%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.3. ACCESS TO BATHROOM FACILITY

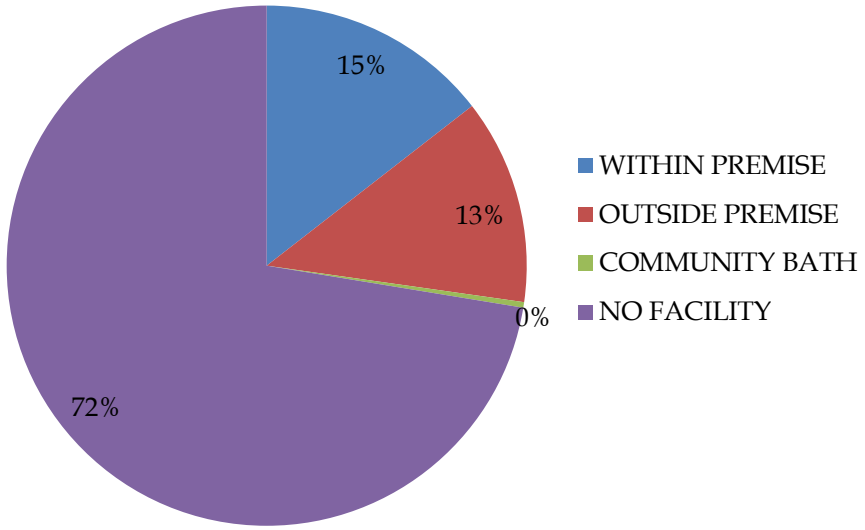
The Table below highlights that 14% households have Bathroom facility within their premise, 13% households have bathroom facility outside their premises and 72% households do not have any bathroom facility. Hence bathroom facility is highly deficient in the slums of Jorethang.

TABLE 42: SLUMS BY BATHROOM FACILITY

SL NO.	SLUM NAME	HHs	BATHROOM FACILITY			
			WITHIN PREMISE	OUTSIDE PREMISE	COMMUNITY BATH	NO FACILITY
1	Masjid Line	15	0	0	0	15
2	Rail Ghar	19	0	0	0	19
3	Water reservoir gate area	5	0	4	0	1
4	Church area	24	7	3	0	14
5	Gairigaon	12	4	4	1	3
6	Sai Mandir area	6	2	2	0	2
7	Chalisay	19	9	2	0	8
8	Sr. Sec. School Area	22	2	0	0	20
9	Tamang Gumpa area	20	5	9	0	6
10	Industry Area	23	2	2	0	19
11	Devi Mandir area	48	6	4	0	38
12	Prashanti School Area	4	1	1	0	2
13	Zero Point	28	2	3	0	23
14	New Buds school area	27	2	0	0	25
15	Fountain area	18	0	3	0	15
TOTAL		**290**	**42**	**37**	**1**	**210**
			14%	**13%**	**0%**	**72%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE24: TYPE OF BATHROOM FACILITY AVAILABLE



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.4. ACCESS TO SEWERAGE FACILITY

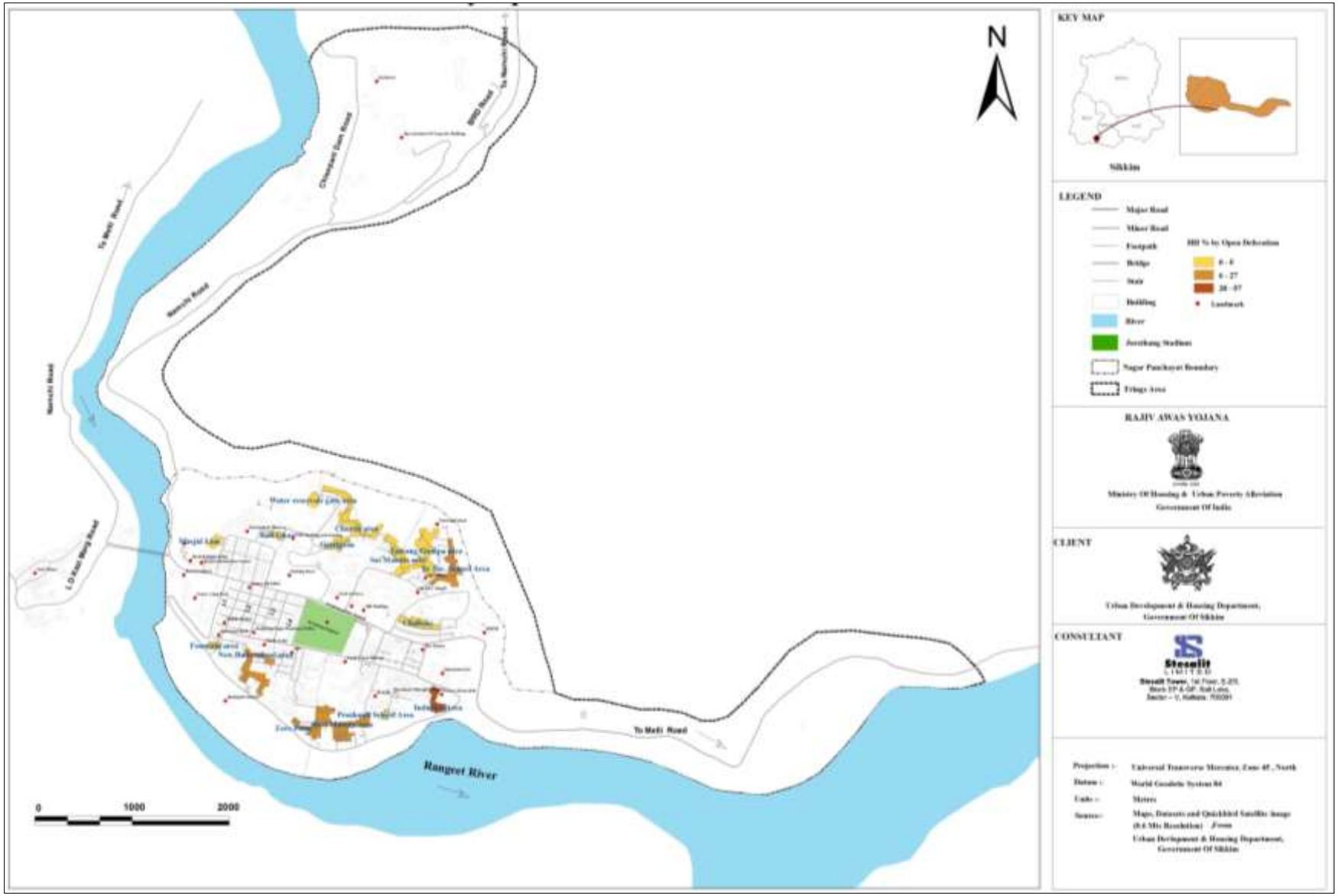
Table below shows that 49 households do not have access to sewerage facilities in Jorethang slums where Sr. Sec. School Area slum with 50% households without access to sewerage facility has the highest percentage of Households followed by Tamang Gumpa area slum with 45%, Gairigaon with 42% and Water reservoir gate area with 40% households devoid of sewerage system.

TABLE 43: SLUMS BY ACCESS TO SEWERAGE FACILITY

SL NO	SLUM NAME	HHs	SEWERAGE FACILITY				
			OWN DRY LATRINE	SHARED DRY LATRINE	COMMUNITY DRY LATRINE	HHs W/O SEWERAGE FACILITY	
						NO.	%
1	Masjid Line	15	0	2	0	2	13%
2	Rail Ghar	19	0	0	0	0	0%
3	Water reservoir gate area	5	0	2	0	2	40%
4	Church area	24	0	7	0	7	29%
5	Gairigaon	12	1	4	0	5	42%
6	Sai Mandir area	6	0	3	0	3	50%
7	Chalisay	19	0	1	0	1	5%
8	Sr. Sec. School Area	22	6	5	0	11	50%
9	Tamang Gumpa area	20	4	5	0	9	45%
10	Industry Area	23	1	1	0	2	9%
11	Devi Mandir area	48	0	3	1	4	8%
12	Prashanti School Area	4	0	0	0	0	0%
13	Zero Point	28	0	1	0	1	4%
14	New Buds school area	27	0	1	1	2	7%
15	Fountain area	18	0	0	0	0	0%
TOTAL		**290**	**12**	**35**	**2**	**49**	**17%**

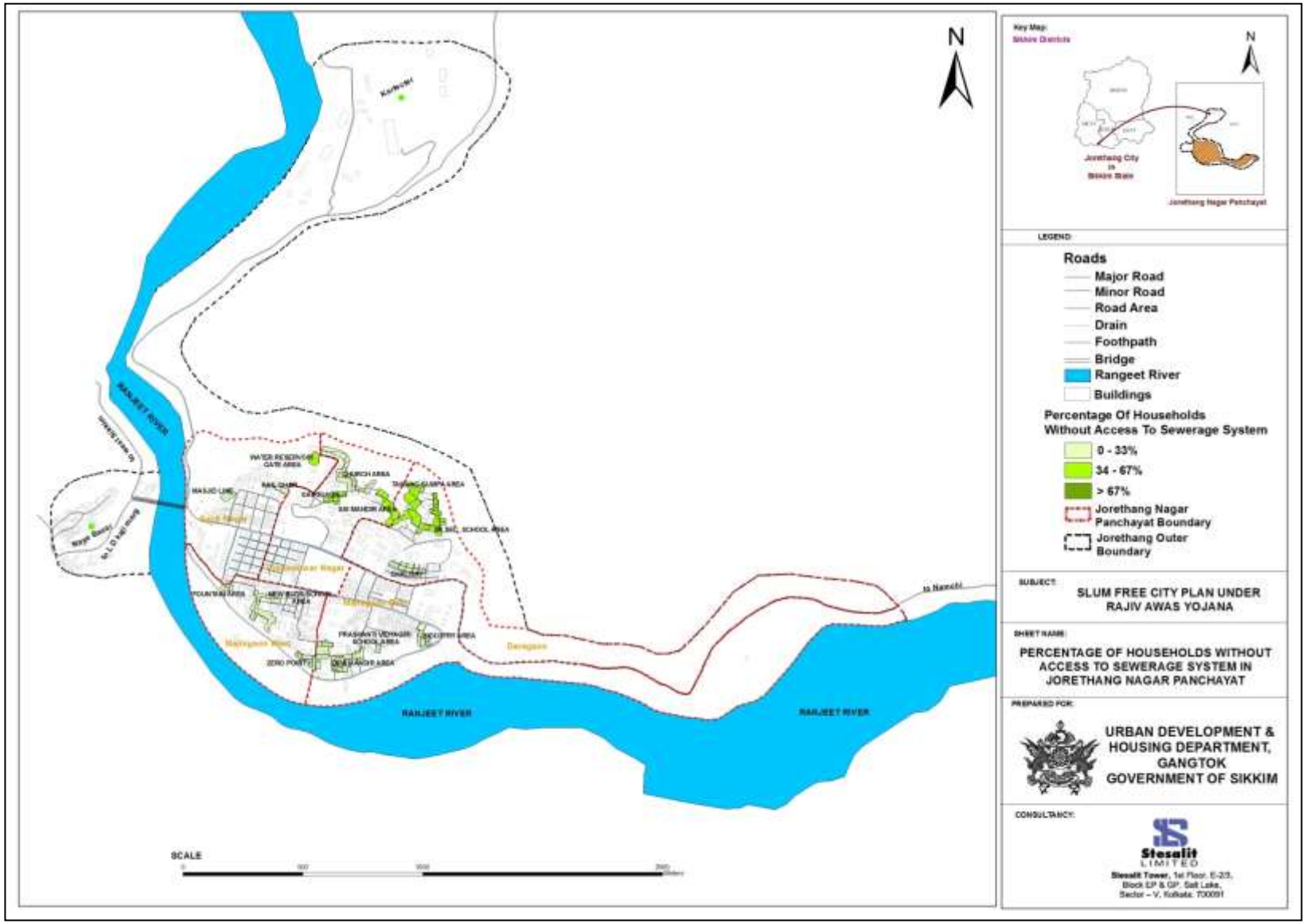
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 14: SLUMS BY PERCENATGE OF HOUSEHOLDS ENGAGED IN OPEN DEFECATION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 15: SLUMS BY PERCENTAGE OF HOUSEHOLDS WITHOUT ACCESS TO SEWERAGE SYSTEM



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.5. ACCESS TO ROAD

The analysis of road infrastructure condition in slums of Jorethang shows that 84% is kaccha road and only 16% is pucca thus a serious deficiency of motorable road persists making the slums inaccessible by vehicles like fire tender, ambulance etc.

TABLE 44: SLUMS BY CONDITION OF ROAD

SL NO.	SLUM NAME	HHs	LENGTH OF ROAD (in M)			% OF TOTAL	
			KUTCHA	PUCCA	TOTAL	KUTCHA	PUCCA
1	Masjid Line	15	63.79	0	63.79	100%	0%
2	Rail Ghar	19	49.07	0	49.07	100%	0%
3	Water reservoir gate area	5	52.98	0	52.98	100%	0%
4	Church area	24	444.53	0	444.53	100%	0%
5	Gairigaon	12	157.93	0	157.93	100%	0%
6	Sai Mandir area	6	131.34	41.56	172.90	24%	76%
7	Chalisay	19	357.20	0	357.20	100%	0%
8	Sr. Sec. School Area	22	364.20	0	364.20	100%	0%
9	Tamang Gumpa area	20	235.40	0	235.40	100%	0%
10	Industry Area	23	257.37	159.75	417.12	62%	38%
11	Devi Mandir area	48	475.74	579.17	1054.91	45%	55%
12	Prashanti School Area	4	74.55	0	74.55	100%	0%
13	Zero Point	28	50.22	45.59	95.81	52%	48%
14	New Buds school area	27	399.74	161.53	561.27	71%	29%
15	Fountain area	18	94.74	0	94.74	100%	0%
TOTAL		**290**	**3208.80**	**987.6**	**4196.40**	**84%**	**16%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.6. ACCESS TO DRAINAGE FACILITY

The Table below shows the percentage coverage of drains in the slums of Jorethang. Slums namely, Masjid line, Industry area, Chalisay, Prashanti School area and Zero point have good coverage of drains while slums, viz, Fountain area, Sr. Sec. School Area and Tamang Gumpa area have the least coverage of drains.

Proper drainage system is very essential as in absence of planned drainage network, the river Rangit receives all the waste water from the households and is getting polluted at downstream.

TABLE 45: SLUMS BY COVERAGE OF DRAINAGE

SL NO.	SLUM NAME	HHs	% COVERAGE OF DRAINS
1	Masjid Line	15	98
2	Rail Ghar	19	52
3	Water reservoir gate area	5	57
4	Church area	24	40
5	Gairigaon	12	58

SL NO.	SLUM NAME	HHs	% COVERAGE OF DRAINS
6	Sai Mandir area	6	68
7	Chalisay	19	91
8	Sr. Sec. School Area	22	36
9	Tamang Gumpa area	20	48
10	Industry Area	23	97
11	Devi Mandir area	48	58
12	Prashanti School Area	4	90
13	Zero Point	28	84
14	New Buds school area	27	56
15	Fountain area	18	21
TOTAL		**290**	**63.6**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.7. STREET LIGHTING

Availability of street lighting facility is highly inadequate in the slums of Jorethang. Only one slum, namely, New Buds School area has only two street lights. Street lighting is an important element for reduction of criminal activities and other illegal activities.

TABLE 46: SLUMS BY AVAILABILITY OF STREET LIGHTS

SL NO.	SLUM NAME	HHs	NO. OF STREET LIGHT
1	Masjid Line	15	0
2	Rail Ghar	19	0
3	Water reservoir gate area	5	0
4	Church area	24	0
5	Gairigaon	12	0
6	Sai Mandir area	6	0
7	Chalisay	19	0
8	Sr. Sec. School Area	22	0
9	Tamang Gumpa area	20	0
10	Industry Area	23	0
11	Devi Mandir area	48	0
12	Prashanti School Area	4	0
13	Zero Point	28	0
14	New Buds school area	27	2
15	Fountain area	18	0
TOTAL		**290**	**2**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3. CATEGORIZATION OF SLUMS IN JORETHANG

Categorization of Slums is most significant step in Slum Free City Planning. Slums have been categorized based on various parameters such as:

- Tenability
- Tenure status
- Land Ownership
- Population Density
- 3x3x3 Matrix Analysis for assessment of slum condition (Housing, Infrastructure and Tenure Condition).

3.1. TENABILITY ANALYSIS

The determination of Tenability has been done based on various criteria's such as

- Hazard/Risk zones (Flood, Seismicity and other Environmental Hazards) – based on Studies and Remote sensing spatial information.
- Landuse Constraints – Consistency, Compatibility and Conformity based on Geo referenced Land Use Map of Jorethang Development Plan.
- Land Ownership based on Geo referenced Cadastral Maps and Slum survey on Ownership.

Untenable Slums

The Untenable slums are the ones which are located either in Hazard or Risk zones such as unstable slopes and prone to local flooding and buffer area of Natural Streams or have Land use constraints such as obstruction to extension of Urban infrastructure like roads, railways, airport, bus terminal etc. or falling on Recreational use zones like green areas.

Semi tenable slums

The semi tenable slums are those which have Landuse constraints as per Development Guide Plan of Jorethang, 2011. These are mainly those slums which fall in

- Existing or Proposed Public Semi Public Use
- Existing or Proposed Industrial Use
- Existing or Proposed Commercial Use

Semi Tenable category of slums have been identified, studied and discussed on case by case basis with Municipal Authorities and considered as Tenable for formulation of Development Option, as though all the semi tenable slums were located on Proposed Non Residential Use, they provide ample opportunity to swapping of Land Use

within same zone. Consensus building is required with the Municipal Authorities to moot resolution in regards to semi tenable slums and send request for change of Land Use to State Government.

Tenable slums

And the slum pockets located on existing and proposed residential use zone were categorized as tenable slums and not falling on Hazard or risk zones.

3.1.1. TENABILITY STATUS OF JORETHANG SLUMS

The Tenability status of slums has been derived from the Slum physical location analysis and Surrounding Landuse study. The slums' Tenability status by their Ward wise distribution is given in the following Table.

TABLE 36: SLUMS BY TENABILITY STATUS

SL NO	SLUM NAME	POPULATION	HHs	PHYSICAL LOCATION	LANDUSE[7]	TENABILITY
1	Masjid Line	55	15	Non-hazardous/Non objectionable	Residential	TENABLE
2	Rail Ghar	77	19	Non-hazardous/Non objectionable	Institutional	TENABLE
3	Water reservoir gate area	17	5	Non-hazardous/Non objectionable	Institutional	TENABLE
4	Church area	97	24	Non-hazardous/Non objectionable	Residential	TENABLE
5	Gairigaon	50	12	Non-hazardous/Non objectionable	Residential	TENABLE
6	Sai Mandir area	37	6	Non-hazardous/Non objectionable	Residential	TENABLE
7	Chalisay	92	19	Non-hazardous/Non objectionable	Residential	TENABLE
8	Sr. Sec. School Area	91	22	Non-hazardous/Non objectionable	Residential	TENABLE
9	Tamang Gumpa area	83	20	Non-hazardous/Non objectionable	Residential	TENABLE
10	Industry Area	93	23	Non-hazardous/Non objectionable	Industrial	SEMI TENABLE
11	Devi Mandir area	184	48	Non-hazardous/Non objectionable	Commercial	SEMI TENABLE
12	Prashanti School Area	15	4	Non-hazardous/Non objectionable	Commercial	SEMI TENABLE
13	Zero Point	109	28	Non-hazardous/Non objectionable	Commercial	SEMI TENABLE
14	New Buds school area	91	27	Non-hazardous/Non objectionable	Commercial	SEMI TENABLE
15	Fountain area	74	18	Non-hazardous/Non objectionable	Institutional	TENABLE
TOTAL		**1165**	**290**	**NOTE: all slums are located on stable & in non-hazardous land**		

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The Table above shows that no slum is located along any physical feature like river, canal, drain, Jhora, transport alignment, power line, unstable slope, ridge, green areas, forest etc. Hence Relocation and Resettlement of slums are not required for Jorethang town.

[7] Proposed Landuse of Jorethang has been considered from Development Guide Plan of Jorethang, 2011.

3.1.2. RESULT OF TENABILITY ANALYSIS

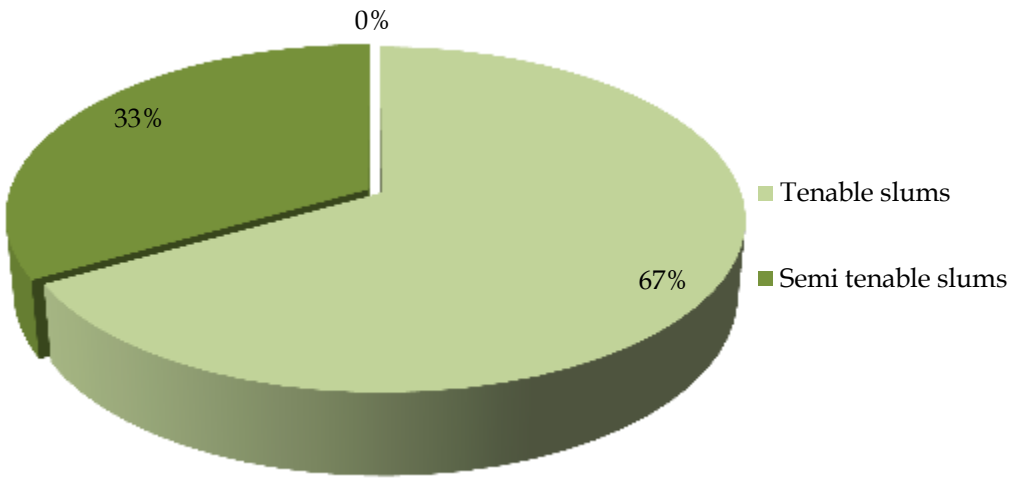
Based on the above parameters the tenability status of slums of Jorethang reveals that 10 slums are Tenable, 5 slums are Semi tenable and no slum is Untenable. Refer Table below.

TABLE 47: RESULT OF TENABILITY ANALYSIS OF SLUMS

SL NO.	TYPE OF TENABILITY	NO. OF SLUMS	PERCENTAGE
1	Tenable slums	**10**	**67%**
2	Semi tenable slums	**5**	**33%**
3	Untenable slums	**0**	**0%**
Total		**15**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE25: SLUMS BY TENABILITY ANALYSIS



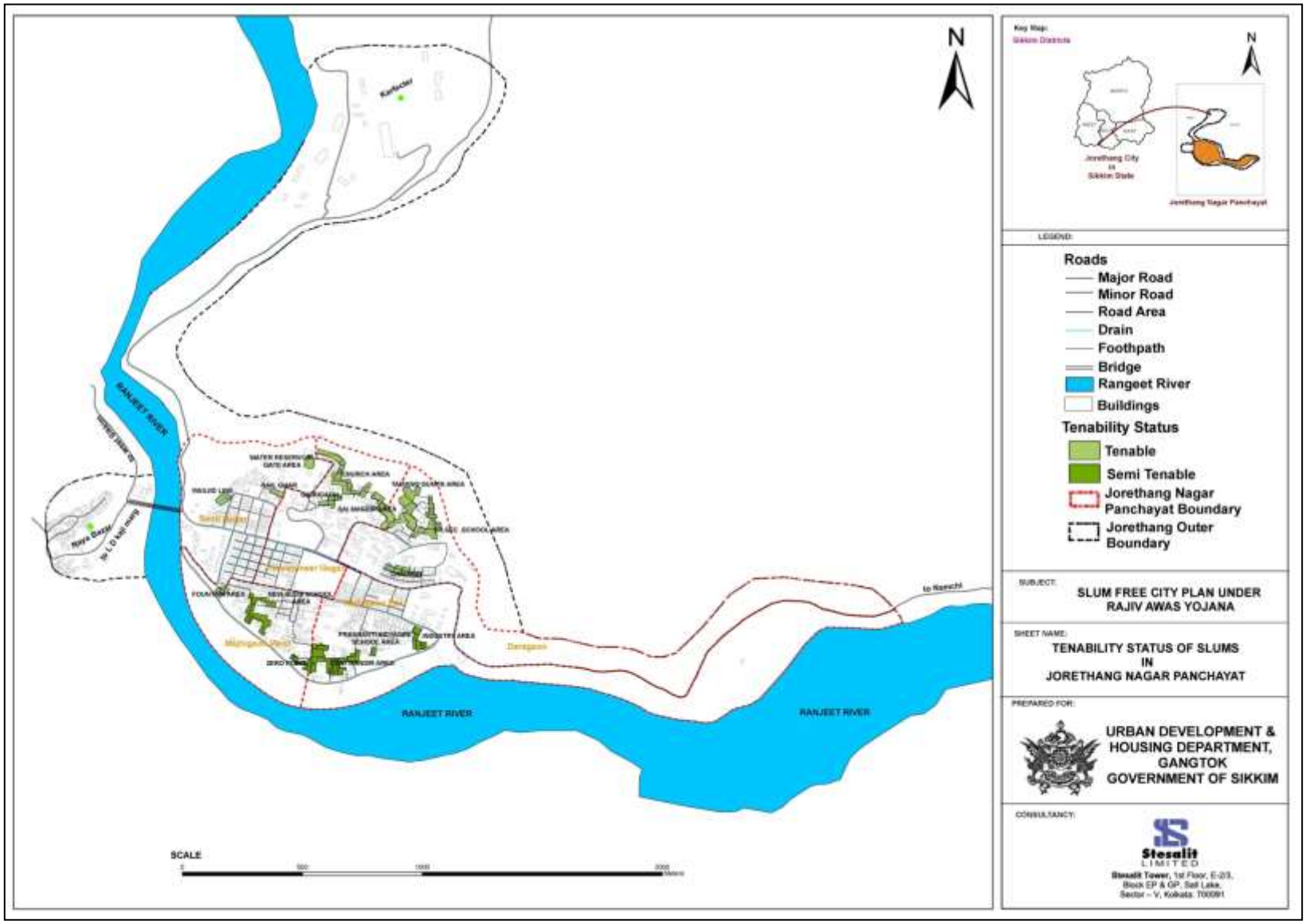
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

Thus it is evident from the above analysis that out of 15 slums of Jorethang Nagar Panchayat area 10 slums which are Tenable can be developed in-situ i.e. in the existing location of the slums.

5 slums have been found in Incompatible Landuse zones and hence decisions regarding Landuse conversion of these slums have been taken by the Jorethang Nagar Panchayat and UD&HD. Since all the semi tenable slums are located in Commercial area hence Landuse of these areas can be swapped easily. Once the Landuse gets conversed by Residential Landuse these slums will continue to exist in their existing location and hence can be developed in situ. **Thus all the slums in Jorethang Nagar Panchayat are Tenable**.

No slum has been found which is Un-tenable, hence Relocation and Resettlement of slums are not considered under this Slum Free City Plan.

MAP 16: SLUMS BY TENABILITY STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.2. TENURE STATUS ANALYSIS

Tenure Status of slums is an important determinant of its vulnerability in terms of insecurity and instability. Thus the Tenure analysis will help in Prioritizations of slums as the slums with In-secure tenure are the most vulnerable ones and require regularization of tenure immediately.

3.2.1. TENURE STATUS OF JORETHANG SLUMS

The various Tenure typologies observed in Jorethang are, Freehold with Possession certificate, Rental, No Legal Right (Encroachment on Private and Public Land) and Other Legal Rights such as unregistered agreements, notaries etc. The distribution of slums as per Tenure status is given in **Table below**, which shows 42% households having possession certificate, 55% rental and 3% households having no Legal right.

TABLE 48: SLUMS BY TENURE STATUS

SL NO	SLUM NAME	POPULATION	HH	LAND TENURE STATUS				% OF HHs WITH POSSESSION CERTIFICATE +RENTAL	TENURE CATEGORY
				POSSESSION CERTIFICATE	RENTAL	ENCROACHMENT ON PVT. LAND	OTHERS		
1	Masjid Line	55	15	0	12	3	0	**80%**	SECURE
2	Rail Ghar	77	19	3	16	0	0	**100%**	SECURE
3	Water reservoir gate area	17	5	2	0	0	3	**40%**	SEMI-SECURE
4	Church area	97	24	16	8	0	0	**100%**	SECURE
5	Gairigaon	50	12	4	8	0	0	**100%**	SECURE
6	Sai Mandir area	37	6	5	1	0	0	**100%**	SECURE
7	Chalisay	92	19	15	4	0	0	**100%**	SECURE
8	Sr. Sec. School Area	91	22	11	11	0	0	**100%**	SECURE
9	Tamang Gumpa area	83	20	9	11	0	0	**100%**	SECURE
10	Industry Area	93	23	4	19	0	0	**100%**	SECURE
11	Devi mandir area	184	48	30	18	0	0	**100%**	SECURE
12	Prashanti School Area	15	4	1	3	0	0	**100%**	SECURE
13	Zero Point	109	28	17	11	0	0	**100%**	SECURE
14	New Buds school area	91	27	4	21	2	0	**93%**	SECURE
15	Fountain area	74	18	1	17	0	0	**100%**	SECURE
TOTAL		**1165**	**290**	**122**	**160**	**5**	**3**		
				42%	**55%**	**2%**	**1%**		

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.2.2. RESULT OF TENURE ANALYSIS

From the result of Slum household survey, based on all these Tenure typologies the slums have been broadly classified into three categories such as

- **Slums with more than 60% HHs having Possession Certificate + Rental:**

  Predominantly Secured Tenure

- **Slums with 30-60% HHs having Possession Certificate + Rental:**

  Predominantly Semi Secured Tenure

- **Slums with 0-30% HHs having Possession Certificate + Rental:**

  Predominantly In-Secured Tenure

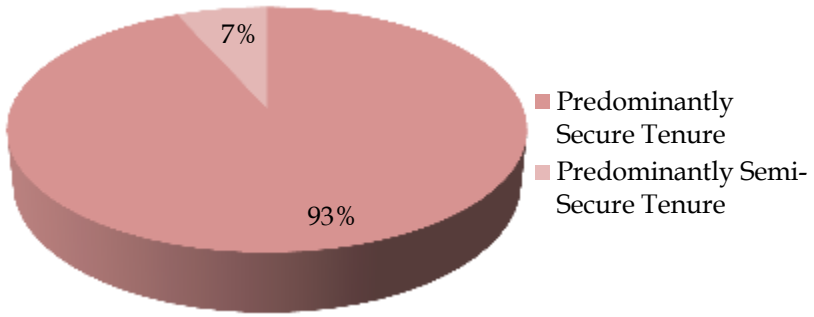
The analysis shows that **93%** of the slums have predominantly **Secure** tenure whereas **7%** slums have predominantly **Semi secure** tenure and no slums have predominantly **In-secure** tenure. Refer **Table below**.

TABLE 49: RESULT OF TENURE ANALYSIS

SL NO.	TENURE STATUS ANALYSIS	NO. OF SLUMS	PERCENTAGE
1	Predominantly Secure Tenure	**14**	**93%**
2	Predominantly Semi-Secure Tenure	**1**	**7%**
3	Predominantly In-Secure	**0**	**0%**
TOTAL		**15**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

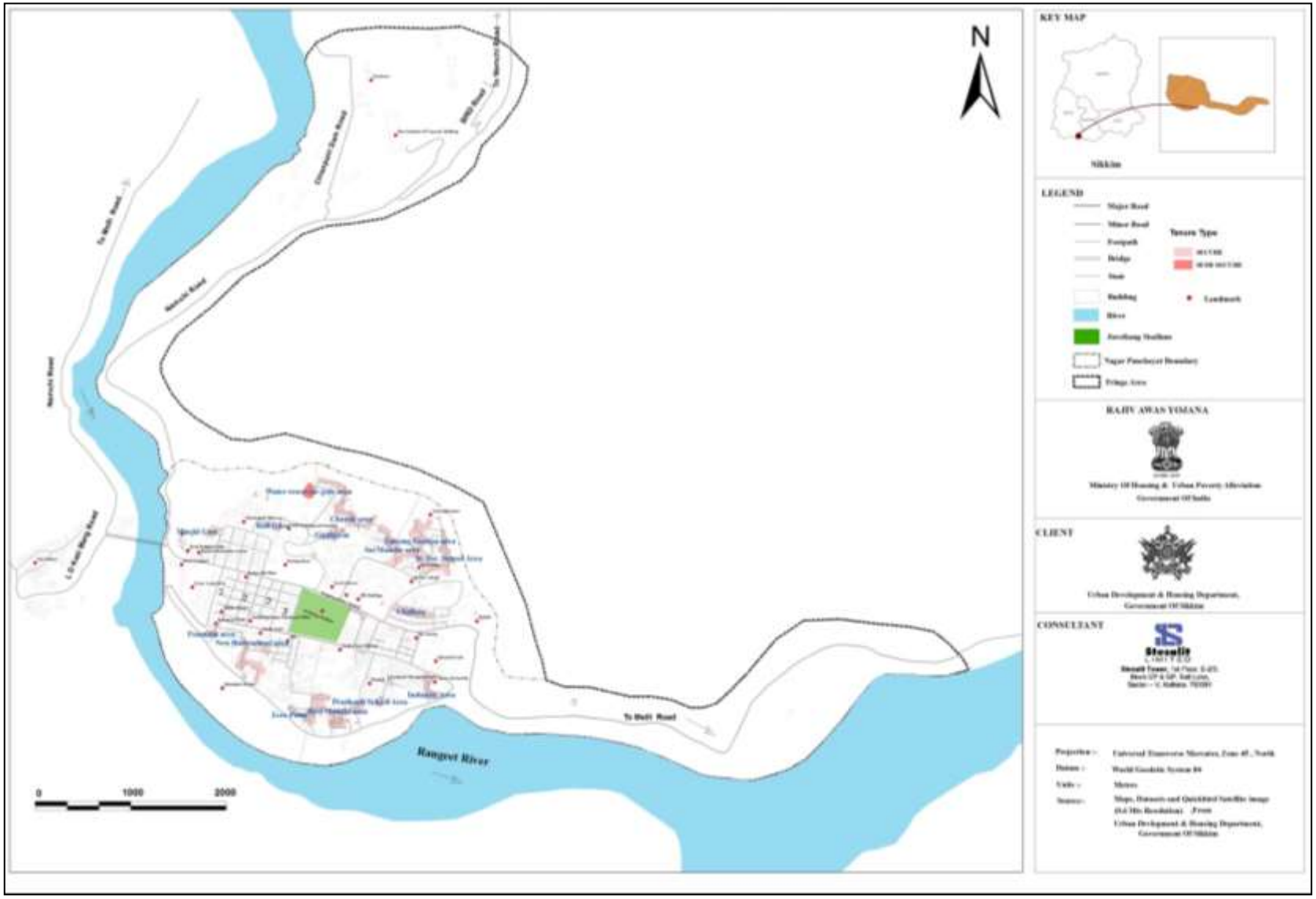
FIGURE 26: SLUMS BY TENURE STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The Tenure status analysis of Jorethang slums shows that secure Tenure status is dominant and there are no slums with Insecure tenure status.

MAP 17: SLUMS BY TENURE STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.3. LAND OWNERSHIP ANALYSIS

Slum land ownership is an important factor in determining the probability, possibility and feasibility of Development to be proposed under Slum Free City Plan of Action for Jorethang.

3.3.1. LAND OWNERSHIP STATUS OF JORETHANG SLUMS

The Land Ownership status of slums shows the various type of Land Holding pattern. The various types of Land Ownership of slums as observed in Jorethang are:

- Govt. Land (UD&HD),
- Private owned Land and
- Trust Land.

The following **Table** shows the slums as per their typology of Land Ownership. It has been found that almost all slums of Jorethang are on Private land with only one slum each on Public land and Masjid land and one slum is partly on Public and partly Private land.

TABLE 50: LANDOWNERSHIP ANALYSIS OF SLUMS

SL NO	SLUM NAME	POPULATION	HHs	LAND OWNERSHIP	OWNERSHIP CATEGORY
1	Masjid Line	55	15	Mosque	TRUST
2	Rail Ghar	77	19	Private	PRIVATE
3	Water reservoir gate area	17	5	Private/Govt.	PRIVATE+PUBLIC
4	Church area	97	24	Private	PRIVATE
5	Gairigaon	50	12	Private	PRIVATE
6	Sai Mandir area	37	6	Private	PRIVATE
7	Chalisay	92	19	UD&HD allotted	PUBLIC
8	Sr. Sec. School Area	91	22	Private	PRIVATE
9	Tamang Gumpa area	83	20	Private	PRIVATE
10	Industry Area	93	23	Private	PRIVATE
11	Devi Mandir area	184	48	Private	PRIVATE
12	Prashanti School Area	15	4	Private	PRIVATE
13	Zero Point	109	28	Private	PRIVATE
14	New Buds school area	91	27	Private	PRIVATE
15	Fountain area	74	18	Private	PRIVATE
TOTAL		**1165**	**290**		

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.3.2. RESULT OF LAND OWNERSHIP ANALYSIS

Therefore the Landownership has been categorized as:

- Public (UD&HD)
- Private
- Trust land (Mosque)
- Mixed (Private + Public)

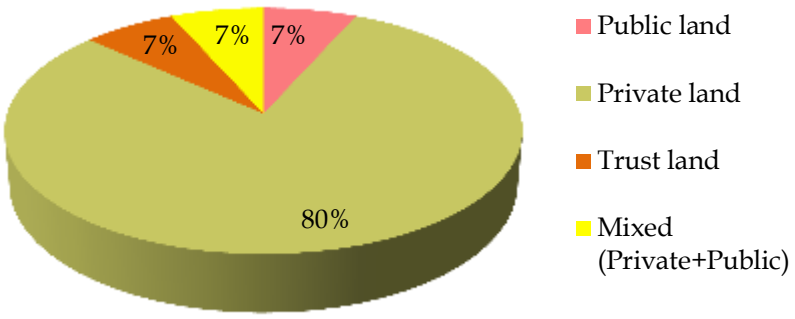
The analysis shows that **1** slum is on **Public land** whereas **12** are on **Private land**, 1 slum on **Trust Land** and 1 slum has **mixed** ownership i.e. partly on Private land and partly on Public land. Refer **Table below**.

TABLE 51: RESULT OF LAND OWNERSHIP ANALYSIS

SL NO.	LAND OWNERSHIP ANALYSIS	NO. OF SLUMS	PERCENTAGE
1	Public land	**1**	**6.7%**
2	Private land	**12**	**79.9%**
3	Trust land	**1**	**6.7%**
4	Mixed (Private+Public)	**1**	**6.7%**
TOTAL		**15**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE 27: RESULT OF LAND OWNERSHIP ANALYSIS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

It has been observed from the Land Ownership Analysis that more than 80% of slums are located on Private land thus it might lead to complications while development either due to Land title issues or willingness of the landowner for development, hence extensive consultation with the landowners are required for decision making. The slum on Masjid land has to be developed in consultation with the Waqf board. The slum on Public land will have the highest priority for development since it will be easier to implement the scheme. Development strategy formulation for slums on private land to be done in close consultation with UD&HD, Jorethang Nagar Panchayat and landowners under SFCPoA.

MAP 18: SLUMS BY LAND OWNERSHIP STATUS

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.4. POPULATION DENSITY ANALYSIS

The population density of slums are dependent on two major factors, namely, age and location within the town also plays an important factor as it provides livelihood opportunities to the slum dwellers. Low density slums are generally located in the fringe areas while the slums with high population density are those which are either in the city core or in vicinity of industries.

3.4.1. POPULATION DENSITY STATUS OF JORETHANG SLUMS

The Population Density of Jorethang slums have been classified into 4 regular class intervals ranging from below 250 pph.to above 750 pph. **Table below** shows the population density wise distribution of Slums. The various Population Densities of slums have been divided into four class intervals with the following ranges are mentioned below:

- **Up to 250pph**
- **250pph-500pph**
- **500pph-750pph**
- **750pph and above**

TABLE 52: POPULATION DENSITY STATUS OF SLUMS

SL NO	WARD NAME	SLUM NAME	SLUM AREA (Ha)	SLUM POPULATION	SLUM POPULATION DENSITY (PPh)	CATEGORY OF DENSITY
			0.10	55	574	500-750pph
			0.06	77	1390	<750pph
			0.09	17	190	>250pph
			0.47	97	206	>250pph
			0.14	50	370	250-500pph
			0.25	37	146	>250pph
			0.20	92	449	250-500pph
			0.33	91	272	250-500pph
			0.45	83	186	>250pph
			0.16	93	581	500-750pph
			0.58	184	317	250-500pph

SL NO	WARD NAME	SLUM NAME	SLUM AREA (Ha)	SLUM POPULATION	SLUM POPULATION DENSITY (PPh)	CATEGORY OF DENSITY
			0.04	15	424	250-500pph
			0.11	109	948	<750pph
			0.35	91	258	250-500pph
			0.06	74	1336	<750pph
TOTAL AREA UNDER SLUMS IN JORETHANG			**3.39**	**1165**	**510**	

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.4.2. RESULT OF POPULATION DENSITY ANALYSIS

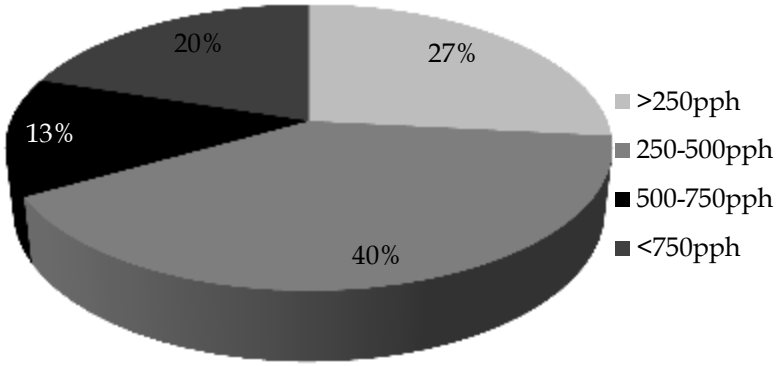
The Population Density analysis of Jorethang slums shows that 20% slums has population density below 250pph, 40% slums has population density between 250pph and 500pph, 13% between 500pph to 750pph and 27% slums has density above 750pph.

TABLE 53: RESULT OF POPULATION DENSITY ANALYSIS

SL NO.	POPULATION DENSITY ANALYSIS	NO. OF SLUMS	PERCENTAGE
1	**>250pph**	**4**	**27%**
2	**250-500pph**	**6**	**40%**
3	**500-750pph**	**2**	**13%**
4	**<750pph**	**3**	**20%**
TOTAL		**15**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

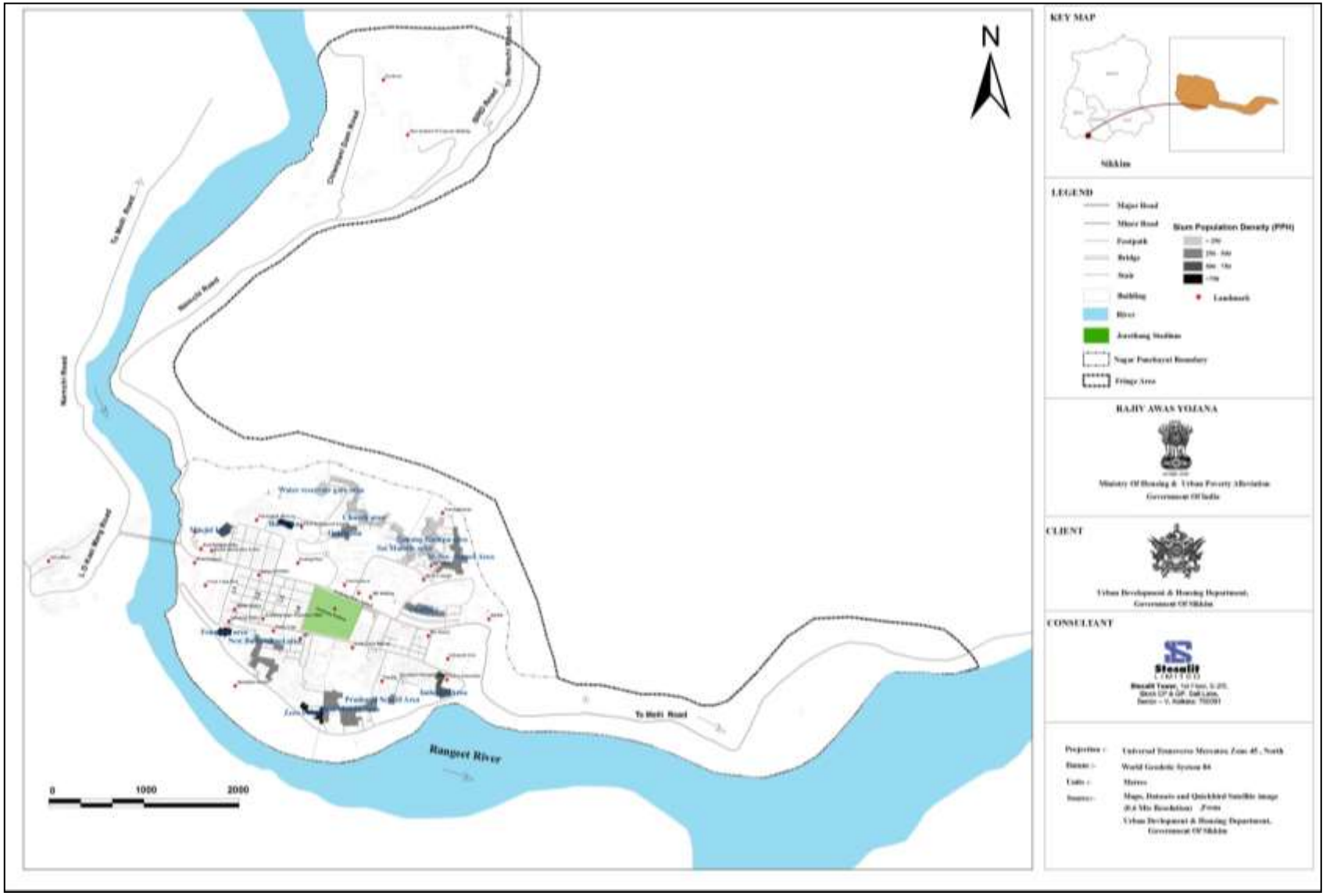
FIGURE 28: RESULT OF POPULATION DENSITY ANALYSIS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The population density analysis highlights that since the population density of slums varies from **low** to **medium** condition the scope of **Re-densification** through **Redevelopment** of the slums can be a possible option.

MAP 19: SLUMS BY POPULATION DENSITY CONDITION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.5. LAND VALUE ANALYSIS

The land value of the slums located in the C.B.D area and those located in proximity to the Commercial Landuse zone of the city are the highest while that on the fringe areas near the Industries is the lowest. The Land Value factor helps determine the mode of Proposed Development of a slum.

3.5.1. LAND VALUE OF JORETHANG SLUMS

The land value ranges from Rs 1000/sqm to Rs 3500/sqm. The slums as per their Land value are given in Table below.

TABLE 54: LAND VALUE STATUS OF SLUMS

SL NO.	WARD NAME	SLUM NAME	LAND VALUE (Rs/sqft)	LAND VALUE CATEGORY
			1000	LOW
			1000	LOW
			1000	LOW
			1500	MEDIUM
			1500	MEDIUM
			1500	MEDIUM
			2000	MEDIUM
			3500	HIGH
			2000	MEDIUM
			2500	MEDIUM
			2500	MEDIUM
			3000	MEDIUM
			3000	MEDIUM
			3500	HIGH
			2500	MEDIUM

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.5.2. LAND VALUE ANALYSIS OF JORETHANG SLUMS

Land Value for every slum pocket has been considered based on rates of Sikkim Land Revenue Department for assessment of Property Values for Developed Residential Land. The various Land Value ranges found have been categorized as:

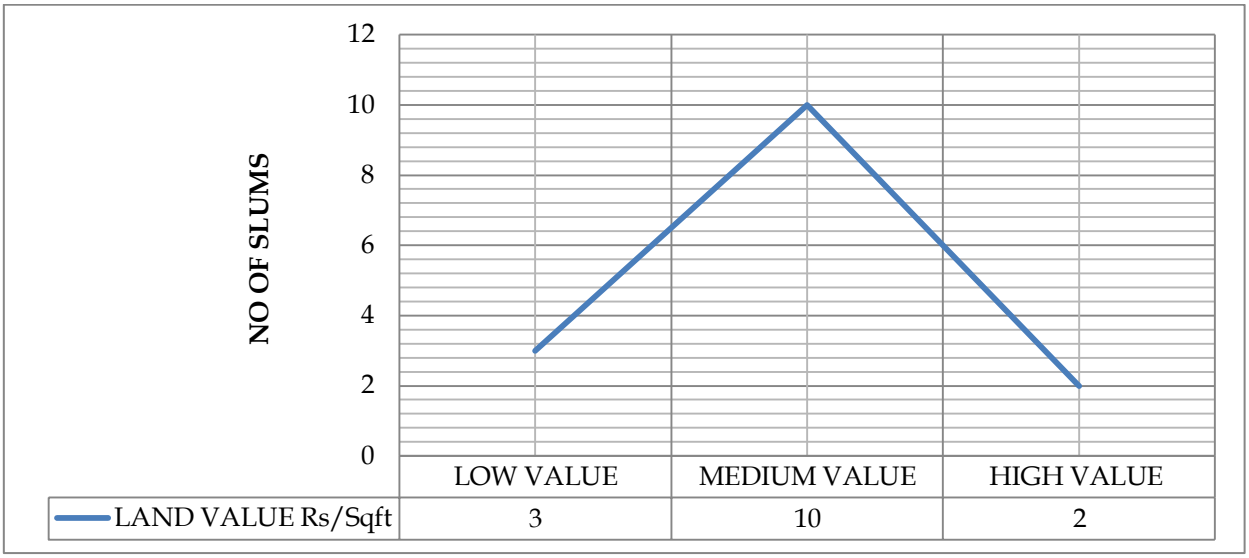
- **Low – Upto Rs 1000/sqm**
- **Medium- Rs 1001-3000/sqm**
- **High – above Rs 3000/sqm**

TABLE 55: RESULT OF LAND VALUE ANALYSIS

LAND VALUE	No. OF SLUMS	PERCENTAGE
LOW VALUE		
Upto 1000	3	20%
MEDIUM VALUE		
1001 to 3000	10	67%
HIGH VALUE		
Above 3000	2	13%
TOTAL	**15**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE 29: RESULT OF LAND VALUE ANALYSIS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

Thus the result of Slum Land Value Analysis gives the total number of slums on High value land as 2 and that in Medium value land as 10. The number of slums on Low value land is 3.

The development option of the slums has been decided on the basis of this Land Value analysis where the slums on high land value have the potential for Redevelopment on Public private partnership mode. Refer **Map Below.**

MAP 20: LAND VALUE ANALYSIS MAP OF JORETHANG SLUMS

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.6. 3X3X3 VULNERABILITY MATRIX ANALYSIS

A three dimensional matrix analysis has been made with 3 parameters, namely, Housing (Housing Condition), Infrastructure (Access to Basic services) and Socio-economic Condition as per given weightage. Each of these parameters has been further analyzed based on various key indicators determining the status of parameters. The following deficiency matrix has been generated assessing each slum as per these indicators. The slums has been categorized into typology by a code (111,121,221,321 etc as defined below) derived out of the matrix which will be further analyzed with respect to the Tenability, Tenure condition, Population Density and Land ownership status to propose the model of development for each slum. The various components and their sub-components are as follows:

PARAMETER 1- Housing condition: Housing condition is measured using following key indicators

i. High Percentage in Kuccha housing
ii. High Percentage in Semi pucca housing

PARAMETER 2- Infrastructure components: The following infrastructure indicators have been considered for calculating infrastructure deficiency:

i. High Percentage of households without water connection
ii. High Percentage of households engaged in Open Defecation
iii. High percentage of deficiency of sewerage facility
iv. High Percentage deficiency of drains
v. High Percentage deficiency of pucca road
vi. High Percentage deficiency in street lights

PARAMETER 3- Socio-economic status: Key indicators for determining the status of socio-economic parameter:

i. High Percentage of Households with monthly income less than Rs.3000
ii. High Percentage of unemployed population
iii. High Percentage of Illiterate population
iv. High Percentage of ST+SC Households

Based on the Indicators mentioned above each slum has been classified into two indices.

Slums with sound condition = **Index 1** and Slums with poor condition = **Index 2**

Each Indicator has been assigned a **weightage** as per their priority. The Index obtained from the analysis of primary data, is multiplied by Weightage to evaluate a score for the corresponding slums. The scores were finally divided into **3 Final Range Codes**.

TABLE 56: PARAMETERS, INDICATORS AND WEIGHTAGE FOR 3X3X3 MATRIXES

PARAMETER	KEY INDICATORS	WEIGHTAGE
Housing Condition	High % of Kuccha house	**60%**
	High % of Semi pucca house	**40%**
Infrastructure Condition	High % of HHs without water connection	**40%**
	High % of population engaged in open defecation	**25%**
	High % deficiency of sewerage system	**15%**
	High % deficiency of pucca drains	**10%**
	High % deficiency of pucca road	**5%**
	High % deficiency of street lights	**5%**
Socio-economic Condition	High % of HHs with monthly income less than Rs.3000	**60%**
	High % of unemployed population	**15%**
	High % of Illiterate population	**15%**
	High % of ST+SC Households	**10%**

Range code 1 = Sound Condition

Range code 2 = Medium Condition

Range code 3 = Vulnerable Condition

3.6.1. 3X3X3 VULNERABILITY MATRIX ANALYSIS

The Matrix analysis has been done by combining the analysis results of the three parameters namely Housing, Infrastructure and Socio-economic condition. The matrix will indicate the deficiency or the vulnerability of an individual slum which will help formulate the Development Proposals for the slums.

The Final Range codes for the three parameters, namely, Housing, Infrastructure and Socio-economic condition has been worked out from the corresponding scores of each slum as given on Table 57. The total score against each parameter has been calculated from the Index and weightage of each Indicator. This final score has been further graded into three Range codes of 1, 2 and 3 which represent good condition, medium condition and vulnerable condition respectively (Table 53).

Therefore for analyzing Housing condition, slums with score ranging between 100-133 has been assumed to be in good condition, those between 134-166 are in medium condition and those with scores equal to and more than 167 are in vulnerable condition.

Similarly for analyzing Infrastructure condition, the slums with score ranging between 100-133 has been given Range code of 1 meaning they are in good condition, those between 134-166 with Range code 2 are in medium condition and those equal to and above 167 are in vulnerable condition with Range code 3.

For Socio-economic condition, Range code 1 has been given to those slums with score ranging between 100-133 thus meaning good condition, Range code 2 to those slums with score between 134-166 are in medium condition and those slums with score equal to and above 167 has been given Range code 3 thus in vulnerable condition.

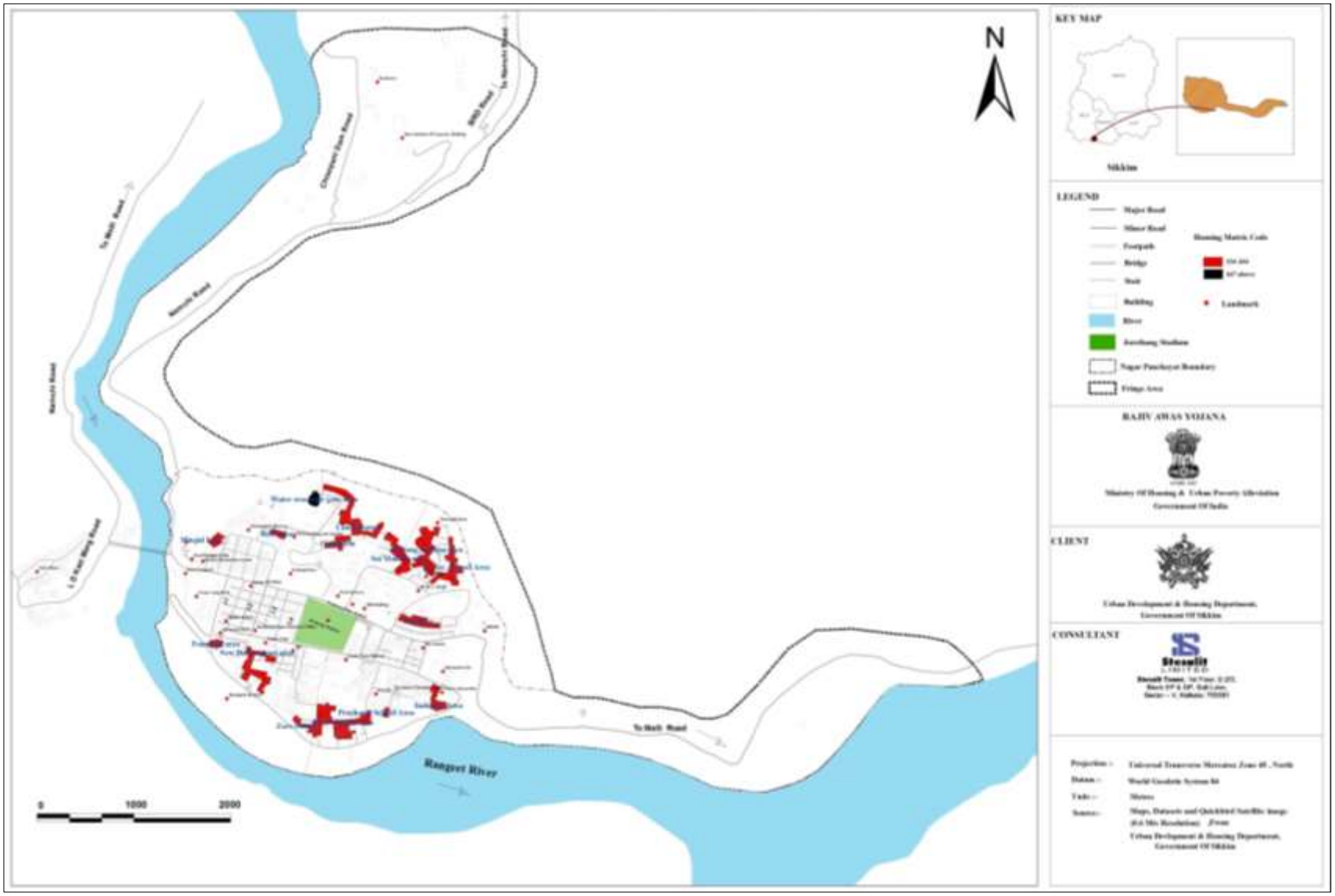
TABLE 57: RANGE CODE FORMATION FOR MATRIX ANALYSIS

	Parameters	Range Code		
		1	2	3
Total Scores	Housing	100-133	134-166	167 and Above
	Infrastructure	100-133	134-166	167 and Above
	Socio-economic	100-133	134-166	167 and Above

TABLE 58: MATRIX ANALYSIS FOR HOUSING CONDITION

PARAMETERS		HOUSING CONDITION						TOTAL SCORE
INDICATORS		PERCENTAGE OF KUTCHA HOUSE			PERCENTAGE OF SEMI PUCCA HOUSE			
		LESS THAN 40%	40% OR MORE		LESS THAN 60%	60% OR MORE		
WEIGHTAGE		60			40			
SL NO	SLUM NAME	INDEX		SCORE	INDEX		SCORE	
1	Masjid Line		2	120	1		40	160
2	Rail Ghar		2	120	1		40	160
3	Water reservoir gate area		2	120		2	80	200
4	Church area	1		60		2	80	140
5	Gairigaon	1		60		2	80	140
6	Sai Mandir area	1		60		2	80	140
7	Chalisay	1		60		2	80	140
8	Sr. Sec. School Area		2	120	1		40	160
9	Tamang Gumpa area		2	120	1		40	160
10	Industry Area		2	120	1		40	160
11	Devi Mandir area		2	120	1		40	160
12	Prashanti School Area		2	120	1		40	160
13	Zero Point		2	120	1		40	160
14	New Buds school area		2	120	1		40	160
15	Fountain area		2	120	1		40	160

MAP 21: SLUMS BY HOUSING VULNERABILITY MATRIX



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 59: MATRIX ANALYSIS FOR INFRASTRUCTURE CONDITION

PARAMETERS		INFRASTRUCTURE CONDITION																		
		HHs WITHOUT WATER CONNECTION			HHs ENGAGED IN OPEN DEFECATION			HHs WITHOUT SEWERAGE SYSTEM			DEFICIENCY OF DRAINS			DEFICIENCY OF PUCCA ROAD (3M WIDE)			DEFICIENCY OF STREET LIGHT			TOTAL SCORE
INDICATORS		LESS THAN 60%	60% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 60%	60% OR MORE		LESS THAN 40%	40% OR MORE		
WEIGHTAGE		40			25			15			10			5			5			
SL NO	SLUM NAME	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE	
1	Masjid Line		2	80	1		25	1		15	1		10	1		5		2	10	145
2	Rail Ghar		2	80	1		25	1		15	1		10	1		5		2	10	145
3	Water reservoir gate area		2	80	1		25		2	30	1		10	1		5		2	10	160
4	Church area		2	80	1		25	1		15	1		10		2	10		2	10	150
5	Gairigaon		2	80	1		25		2	30	1		10	1		5		2	10	160
6	Sai Mandir area		2	80	1		25		2	30		2	20	1		5		2	10	170
7	Chalisay		2	80	1		25	1		15	1		10	1		5		2	10	145
8	Sr. Sec. School Area		2	80	1		25		2	30	1		10		2	10		2	10	165
9	Tamang Gumpa		2	80	1		25		2	30	1		10	1		5		2	10	160

PARAMETERS		INFRASTRUCTURE CONDITION																				TOTAL SCORE
INDICATORS		HHs WITHOUT WATER CONNECTION			HHs ENGAGED IN OPEN DEFECATION			HHs WITHOUT SEWERAGE SYSTEM			DEFICIENCY OF DRAINS			DEFICIENCY OF PUCCA ROAD (3M WIDE)			DEFICIENCY OF STREET LIGHT				
		LESS THAN 60%	60% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 60%	60% OR MORE		LESS THAN 40%	40% OR MORE			
WEIGHTAGE		40			25			15			10			5			5				
SL NO	SLUM NAME	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE	INDEX		SCORE		
	area																					
10	Industry Area		2	80		2	50	1		15	1		10	1		5		2	10		170
11	Devi Mandir area		2	80	1		25	1		15		2	20	1		5		2	10		155
12	Prashanti School Area		2	80	1		25	1		15	1		10	1		5		2	10		145
13	Zero Point		2	80	1		25	1		15		2	20	1		5		2	10		155
14	New Buds school area		2	80	1		25	1		15	1		10	1		5		2	10		145
15	Fountain area		2	80	1		25	1		15	1		10		2	10		2	10		150

MAP 22: SLUMS BY INFRASTURTURE VULNERABILITY MATRIX

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 60: MATRIX ANALYSIS FOR SOCIO-ECONOMIC CONDITION

PARAMETERS		SOCIO ECONOMIC CONDITION												
INDICATORS		HHs WITH MONTHLY INCOME =<Rs 3000			NO. OF UNEMPLOYED			NO. OF ILLITERATES			SC/ST HHs			TOTAL SCORE
		LESS THAN 40%	40% OR MORE		LESS THAN 60%	60% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 40%	40% OR MORE		
WEIGHTAGE		60%			15%			15%			10%			
SL NO	SLUM NAME	RANK		SCORE	RANK		SCORE	RANK		SCORE	RANK		SCORE	
1	Masjid Line	1		60		2	30	1		15	1		10	115
2	Rail Ghar	1		60		2	30	1		15	1		10	115
3	Water reservoir gate area	1		60	1		15	1		15		2	20	110
4	Church area	1		60		2	30	1		15	1		10	115
5	Gairigaon	1		60		2	30	1		15		2	20	125
6	Sai Mandir area	1		60		2	30	1		15	1		10	115
7	Chalisay	1		60		2	30	1		15		2	20	125
8	Sr. Sec. School Area	1		60		2	30	1		15	1		10	115
9	Tamang Gumpa area	1		60	1		15	1		15		2	20	110

PARAMETERS		SOCIO ECONOMIC CONDITION												
INDICATORS		HHs WITH MONTHLY INCOME =<Rs 3000			NO. OF UNEMPLOYED			NO. OF ILLITERATES			SC/ST HHs			TOTAL SCORE
		LESS THAN 40%	40% OR MORE		LESS THAN 60%	60% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 40%	40% OR MORE		
WEIGHTAGE		60%			15%			15%			10%			
SL NO	SLUM NAME	RANK		SCORE	RANK		SCORE	RANK		SCORE	RANK		SCORE	
10	Industry Area	1		60	1		15		2	30	1		10	115
11	Devi Mandir area	1		60	1		15	1		15	1		10	100
12	Prashanti School Area	1		60	1		15	1		15	1		10	100
13	Zero Point	1		60		2	30	1		15		2	20	125
14	New Buds school area	1		60	1		15	1		15	1		10	100
15	Fountain area	1		60	1		15	1		15	1		10	100

MAP 23: SLUMS BY SOCIO ECONOMIC VULNERABILITY MATRIX

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 61: SLUMS BY VULNERABILITY MATRIX CODES

Sl No.	NAME OF SLUM	HOUSING		INFRASTRUCTURE		SOCIO ECONOMIC		FINAL CODE
		SCORE	RANGE CODE	SCORE	RANGE CODE	SCORE	RANGE CODE	
1	Masjid Line	160	2	145	2	115	1	221
2	Rail Ghar	160	2	145	2	115	1	221
3	Water reservoir gate area	200	3	160	2	110	1	321
4	Church area	140	2	150	2	115	1	221
5	Gairigaon	140	2	160	2	125	1	221
6	Sai Mandir area	140	2	170	3	115	1	231
7	Chalisay	140	2	145	2	125	1	221
8	Sr. Sec. School Area	160	2	165	2	115	1	221
9	Tamang Gumpa area	160	2	160	2	110	1	221
10	Industry Area	160	2	170	3	115	1	231
11	Devi Mandir area	160	2	155	2	100	1	221
12	Prashanti School Area	160	2	145	2	100	1	221
13	Zero Point	160	2	155	2	125	1	221
14	New Buds school area	160	2	145	2	100	1	221
15	Fountain area	160	2	150	2	100	1	221

3.6.2. RESULT OF 3X3X3 VULNERABILITY MATRIX ANALYSIS

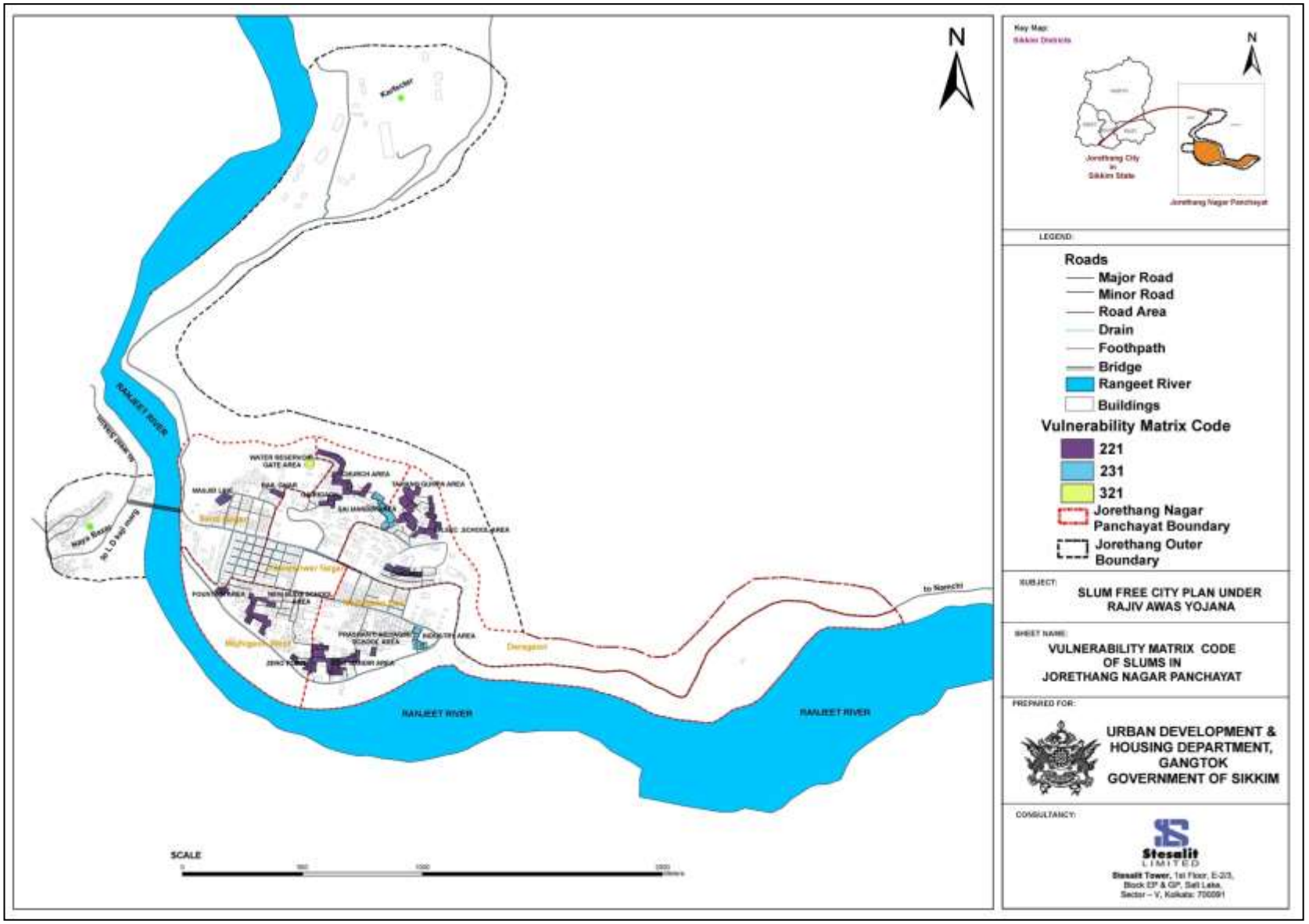
The slums as per the result of 3X3X3 Matrix is given in Table below. Slums in Jorethang have been graded into 3 types of matrix codes namely, 221, 231 and 321 as a result of the vulnerability matrix.

TABLE 62: RESULT OF 3X3X3 MATRIX ANALYSES

SL NO	CODES	NO. OF SLUMS	INFERENCE	PRELIMINARY DEVELOPMENT OPTIONS
1	221	**12**	Sound in Socio economic & Medium in others	Partial Infrastructure development with Gap filling housing
2	231	**2**	Medium in Housing, Vulnerable in Infrastructure & Sound in Socio economic	Infrastructure development with Gap filling housing
3	321	**1**	Vulnerable in Housing, Medium in Infrastructure & Sound in Socio economic	Housing & Infrastructure development
TOTAL	**3**	**15**		

These vulnerability matrix codes along with the Land ownership status, tenability, and tenure status and population density will determine the various development options for the slums.

MAP 24: SLUMS BY VULNERABILITY MATRIX CODE



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

4. PRIORITIZATION AND IMPLEMENTATION PHASING

The priority of Implementation of Slums has been done based on criteria's as mentioned below:

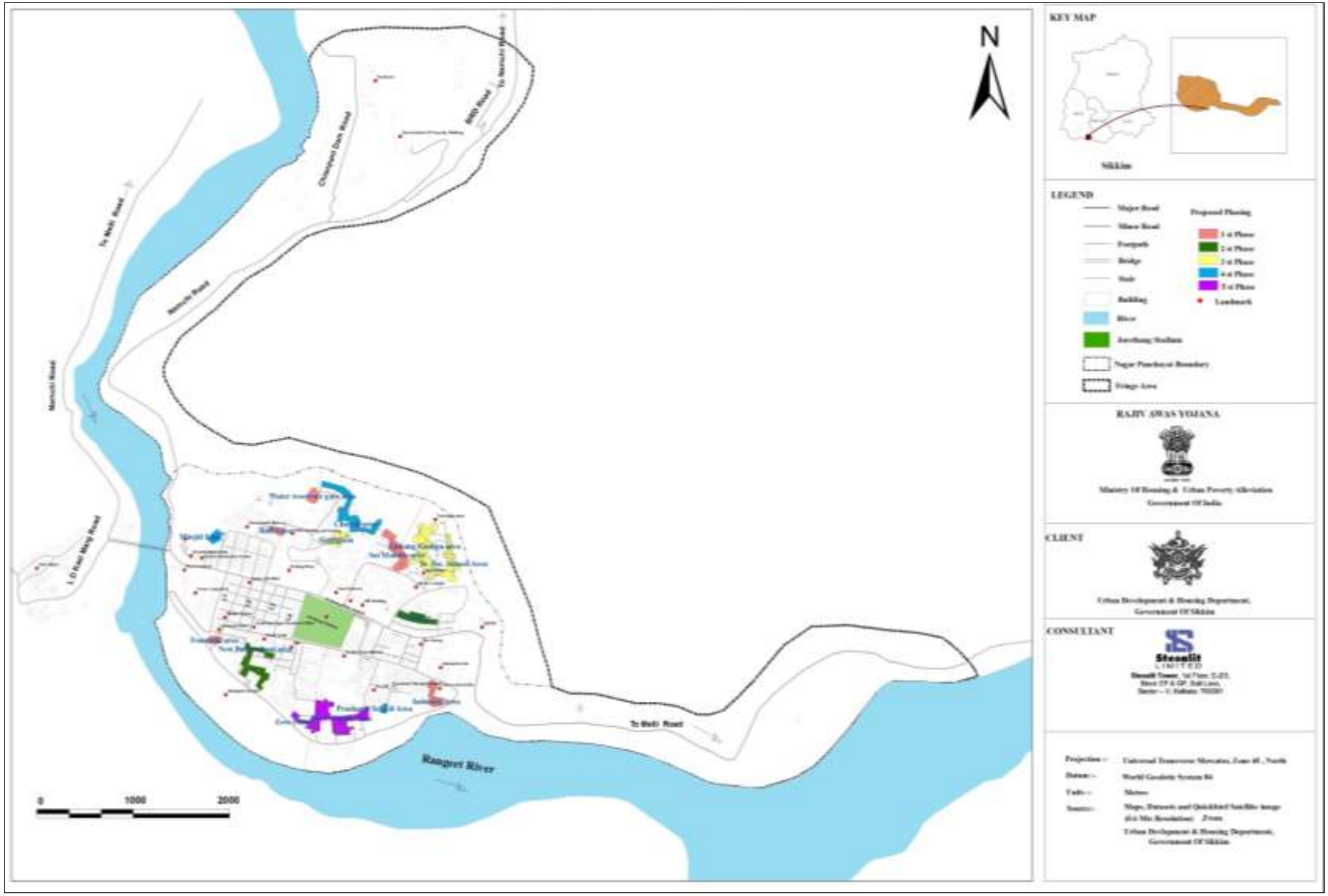
- **Tenure Status of Households in Slum** – Slums with high percentage of households with predominantly In-secured Tenure are more vulnerable and hence require immediate intervention. Therefore these slums have been given more priority in Phasing than the slums with semi secured and secured households.
- **Land Ownership of Slums –** Slums on Public land has been given more priority than slums on Private land and Slums with mixed land ownership.
- **3X3X3 Vulnerability Matrix –** Priority of implementation on the basis of vulnerability as obtained from the Matrix based on Housing condition, Infrastructure condition and socio economic condition.
- **Willingness of Slum Community –** Willingness study has been conducted through Focus Group Discussions in all the slums.
- **Existence of trunk infrastructure:** Areas near existing trunk infrastructure with spare capacity received priority, since investments will be more cost effective.

Prioritization for implementation of SFCPOA has been done on the basis of the above mentioned criteria in **Table below**. Development has been phased in five phases (year wise) with implementation period of 2 years for each phase which would run concurrently and hence overlap. The Proposed Phasing plan is as follows: 5 slums in 1st phase (2014-2015), 2 slums in 2nd phase (2015-2016), 3 slums in 3rd phase (2016-2017), 3 slums in the 4th phase (2017-2018) and 2 slums to be taken up in the final 5th phase (2018-2019).

TABLE 63: PRIORITIZATION OF SLUMS & IMPLEMENTATION PHASING

SL NO	NAME OF SLUM	MATRIX CODE	LAND OWNERSHIP	TENURE STATUS	PROPOSED PHASING
1	Masjid Line	221	TRUST	SECURE	4th PHASE
2	Rail Ghar	221	PRIVATE	SECURE	1st PHASE
3	Water reservoir gate area	321	PRIVATE+ PUBLIC	SEMI-SECURE	1st PHASE
4	Church area	221	PRIVATE	SECURE	4th PHASE
5	Gairigaon	221	PRIVATE	SECURE	3rd PHASE
6	Sai Mandir area	231	PRIVATE	SECURE	1st PHASE
7	Chalisay	221	PUBLIC	SECURE	2nd PHASE
8	Sr. Sec. School Area	221	PRIVATE	SECURE	3rd PHASE
9	Tamang Gumpa area	221	PRIVATE	SECURE	3rd PHASE
10	Industry Area	231	PRIVATE	SECURE	1st PHASE
11	Devi mandir area	221	PRIVATE	SECURE	5th PHASE
12	Prashanti School Area	221	PRIVATE	SECURE	4th PHASE
13	Zero Point	221	PRIVATE	SECURE	5th PHASE
14	New Buds school area	221	PRIVATE	SECURE	2nd PHASE
15	Fountain area	221	PRIVATE	SECURE	1st PHASE

MAP 25: SLUM WISE PHASING OF IMPLEMENTATION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

5. STRATEGIES AND DEVELOPMENT OPTIONS

5.1. CURATIVE STRATEGY

5.1.1. AIM

The Strategies aim at provision of basic amenities and security of tenure to the slum households thereby leading to overall development of the slums community.

5.1.2. OBJECTIVES

In order to achieve the above mentioned Aim, the following objectives have been framed:

- Access to Land Tenure Rights or Property Rights
- Reduction of Poverty
- Improvement of Shelter
- Access to Basic services and
- Inclusion of Pro-poor Urban Development strategies in Town Planning Regulations as an integral part of it and Integration of the same with the Planning system

Therefore based on the spatial analysis and situation assessment as done above, a participatory process has been undertaken with slum communities in the form of Focus Group Discussions within the slum to identify the possible development strategies and options.

Based on the existing scenario of slums in Jorethang, it has been found that all the 15 slums are tenable which means they can be developed in-situ i.e. on their existing site and from Matrix analysis it has been found that the condition of Housing and Infrastructure of the slum households are moderate to vulnerable while socio economic condition of the slum households are good. Hence In-situ Upgradation and In-situ Redevelopment strategies have been proposed for physical development of the slums in Jorethang, the strategies are as follows:

- **In situ Slum Upgradation and Improvement strategy:** Providing adequate infrastructure in the slums where residents have themselves constructed incremental housing, along with facilitation of housing unit upgradation, to support incremental housing.
- **Slum Redevelopment strategy:** In-situ redevelopment of the entire slum after demolition of the existing built structures in case of poor condition of housing stock and lack of basic amenities. The pucca incremental houses within the slums to be retained by facilitating housing unit up-gradation and provision of adequate infrastructure.

5.1.3. IN-SITU UPGRADATION STRATEGY

The In situ Upgradation and Improvement strategy has been proposed for tenable slums and the tenable households of the partially tenable slums which have high percentage of Pucca housing stock with poor or medium condition of Infrastructure. There are 12 slums with total number of 256 households which needs to be upgraded and improved. In-situ improvement of slums will include upgradation of basic infrastructure within the slums along with Gap filling for Kutcha houses and upgradation of Incremental housing i.e. Semi pucca housing in terms of roofing and flooring etc. In case of Gap filling the carpet area of dwelling unit will be 25sqm.

Slum Upgradation and Improvement will thus consist of Gap filling of Kutcha and Incremental housing which will be Beneficiary led construction in which Beneficiaries will be entitled for subsidized loans under Rajiv Rin Yojana to build Pucca housing. The model for development will be as follows:

- House should be a pucca one of 25 sqm with permanent walls and permanent roofing and with walls constructed with cement mortar
- Type design and technical specifications to be prescribed by the ULB & ULB to train masons & ensure availability of material according to design
- Application forms for consent of beneficiaries to be filled up by the ULB
- Technical supervision mandatory at foundation & roof laying stage
- Home loan with Central Government interest subsidy 5% p.a. on interest to EWS/LIG persons for acquisition/ construction of house
- Installments from Central and State government to be released stage wise on completion of Foundation, Plinth and Casting of roof slab at the rate of 30%, 20% and 50% of the total cost of Housing.

5.1.4. IN-SITU REDEVELOPMENT STRATEGY

The In situ Redevelopment strategy has been proposed for the tenable slums which have high percentage of Kutcha and Semi pucca housing stock and Infrastructure in moderate to vulnerable condition. There are 3 slums with total number of 34 households which needs redevelopment.

This Development option includes provision of transit housing to accommodate the displaced beneficiaries throughout the tenure of building new blocks. The transit housing can be planned in-situ or ex-situ depending upon the availability of land for a slum and the displacement can be phased cyclically in order to achieve efficiency in movement. The carpet area of dwelling unit has been proposed as 25sqm.

The proposed development option by slums is given in Table below and the same is shown in Map below.

TABLE 64: SLUM WISE PROPOSED DEVELOPMENT OPTION

Sl No	NAME OF SLUM	MATRIX CODE	LAND OWNERSHIP	POPULATION DENSITY	LAND VALUE	TENABILITY	PROPOSED OPTION
1	Masjid Line	221	TRUST	500-750pph	LOW	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
2	Rail Ghar	221	PRIVATE	<750pph	LOW	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
3	Water reservoir gate area	321	PRIVATE+ PUBLIC	>250pph	LOW	TENABLE	In-Situ Redevelopment
4	Church area	221	PRIVATE	>250pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
5	Gairigaon	221	PRIVATE	250-500pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
6	Sai Mandir area	231	PRIVATE	>250pph	MEDIUM	TENABLE	In-Situ Redevelopment
7	Chalisay	221	PUBLIC	250-500pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
8	Sr. Sec. School Area	221	PRIVATE	250-500pph	HIGH	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
9	Tamang Gumpa area	221	PRIVATE	>250pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
10	Industry Area	231	PRIVATE	500-750pph	MEDIUM	TENABLE	In-Situ Redevelopment
11	Devi mandir area	221	PRIVATE	250-500pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
12	Prashanti School Area	221	PRIVATE	250-500pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
13	Zero Point	221	PRIVATE	<750pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
14	New Buds school area	221	PRIVATE	250-500pph	HIGH	TENABLE	In-Situ Upgradation (Housing+Infrastructure)
15	Fountain area	221	PRIVATE	<750pph	MEDIUM	TENABLE	In-Situ Upgradation (Housing+Infrastructure)

MAP 26: SLUM WISE PROPOSED DEVELOPMENT OPTIONS

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

5.2. PREVENTIVE STRATEGY

The Preventive strategy aims to arrest the formation of slums in future. This involves actions by State Government and Urban Local Bodies (JNP and UD&HD) in the form of statutory and regulatory interventions to be implemented by JNP and UD&HD. The prime objective will be creation of affordable housing and proper disposal of the same to the target groups. The housing need for a period of 20 years has to be assessed to estimate the housing shortage or need of Jorethang city. Therefore in order to cater to this future need appropriate strategies has been proposed as mentioned below:

- **P1- Creation of Affordable housing stock for the urban poor by increasing the supply of housing based on the housing need of EWS and LIG through Public housing schemes.**
- **P2- Creation of Affordable housing stock for the urban poor by increasing the supply of EWS and LIG housing through Public Private Partnership.**
- **P3- Modifications in Town Planning Regulations like**
  - Inclusion of policies related to Urban poor through review and modification of Master Plan or Development Plan.
  - Special Norms and standards for plots and DU Size, Density, FAR, Ground Coverage, Facility Standards and Open space standards
  - Special Building Byelaws for Low income Housing to be formulated.
  - Every new housing project in the city will have reservation of 15% of residential F.A.R or 35% of dwelling units for EWS/LIG whichever is higher with a system of cross subsidisation.
  - Proper formulation and monitoring of the disposal policy of Public Housing Scheme to ensure proper disposal to the target group (EWS and LIG).

5.2.1. ASSESSMENT OF EXISTING HOUSING SHORTAGE, SUPPLY & DEMAND

The rate of growth of population is higher than the rate of supply of housing in Jorethang as a result there is a persisted demand in housing stock especially in the low income bracket of the society. In places like Jorethang the scenario worsened because industrial and commercial activities grew at a much faster pace which attracted people from neighboring areas within the state and neighboring states but failed to provide adequate housing for them. Also the market does not provide for these urban poor who are left with any other option than to form slums.

5.2.2. HOUSING SUPPLY

Jorethang being the business capital of south and west district, majority of population employed in these various Government offices. Sikkim Housing and Development Board, had constructed almost 200 housing units for LIG. But this Board is dysfunctional under present situation and is on the process of revival. Thus the various Housing

supply agencies in Jorethang are PWD, State Government Hospital and UD&HD where, first two organisations provide housing for employees of these public organisations and the last one provides for Social Housing catering to Urban poor. But apart from these employee housings, there is no streamlined supply mechanism of affordable housing for the Urban poor of the city who mainly migrate because of availability of employment opportunities. All these increase the demand for formal housing in the city among the low income category.

5.2.3. HOUSING SHORTAGE ESTIMATION

In order to assess the housing shortage, first the population of the JNP area has been projected. Year 2031 is taken as the horizon year for the projections. The population projections have been done using the Arithmetic Progression method. Increase of population of each decade is calculated & then the average increase in population per decade is calculated by dividing total increase in population with the number of decades considered. As per Table below, the total increase is 7070. Therefore, considering Pn as the population after n decades where the increment in each decade is 3535,

Pn= P1 + n X (3535)

TABLE 65: POPULATION PROJECTION

YEAR	POPULATION	INCREMENT	PROJECTED POPULATION
1991	1939		
2001	2968	1029	
2011	9009	6041	
2021			12544
2031			16079

Housing Shortage is calculated as “Excess of Households over no. of census houses used as residential or residential-cum-other use (absolute shortage) + replacement of kutcha houses + obsolescent houses”. The absolute shortage is nil in JNP area, where the number of household in 2107 (PCA data 2011), and the number of census houses under residential and residential-cum–other use is 2824. The current housing shortage considering replacement of kutcha houses and obsolescent houses has been calculated at 210. (Refer table below and notes on next page) Apart from the current shortage, housing requirement for EWS category of 2505 units by 2031 will also be required to be met. The following table shows the housing requirement till 2031. The basis of calculation is explained in the notes with the table.

TABLE 66: ESTIMATION OF HOUSING REQUIREMENT OF JORETHANG

YEAR	POPULATION	HOUSING STOCK REQUIREMENT @ PROJECTED POP/AVG. HH SIZE	HOUSING REQUIREMENT FOR EWS @ 33% OF TOTAL REQ	SHORTAGE AS ON 2014 (KUTCHA STOCK+OBSOLESCENT HOUSES)
2011	9009	2252	743	210
2021	12544	3136	1098	
2031	16079	4020	1407	

Notes:

- Housing Stock requirement for each decade is calculated as (projected pop/avg. HH size)
- Average HH size for the period 2011-2021 is taken as 4.28 (avg. HH size as per census 2011 data)
- Average HH size from 2021 to 2031 is taken as 4.0. Average HH size is reduced based on the trend. As avg. HH size reduced from 4.64 in 2001 to 4.28 in 2011
- Shortage of housing stock in 2014 is calculated as sum of replacement stock towards (1) replacement of kuccha houses and (2) replacement of obsolescent houses (assume to be 1.705% of the total stock.)
- No. of Kuccha Houses is the sum of census houses used as residence and residence-cum other use with material of roof and wall as (a) grass/thatch/bamboo (b)plastic/polythene (c) mud / unburnt brick (figure taken from census 2011 housing data.
- Obsolescent houses is calculated @ 1.705% of the total stock estimated from the no. of "dilapidated' census houses used as 'residence and residence cum other use' based on census figure of urban areas in South District, Sikkim (census 2011 data)
- Stock requirement for EWS category is calculated @ of 33% and not @ of 13% which is the current proportion of people living in slums in Jorethang since there may be EWS HHs not living in slums. Excluding this category for future assessment of housing stock requirement may imply under assessment.
- There is no absolute shortage in Housing Units in Jorethang as per Census 2011 data when defined as excess of HHs over no. of census houses used as 'residential and residential-cum other use'. No. of HHs is taken to be 210 as per Primary Census Abstract, Census 2011.
- EWS category is taken as 33% of the total HHs based on TG-12 observation that one third of the total HHs in urban areas are EWS category.
- Additional stock requirement figures shown in Column B and C do not include the housing shortage as on 2013. The same is shown separately in column D.
- Additional housing stock requirement from the year 2015 onwards also includes replacement requirement towards obsolescent houses calculated @ of 2% of the current stock)

5.2.4. ASCERTAINING CONSTRAINTS IN THE RENTAL HOUSING MARKET

The National Urban Housing and Habitat Policy 2007 promotes rental housing especially for the poor who cannot afford to pay the entire price of a house by providing them access to reasonably good housing on rental ownership basis. The overarching objective being to provide access to adequate housing that is affordable to the poor and assures security of tenure.

The current housing market in Jorethang clearly indicates an overwhelming presence of rental housing market albeit in the private sector. The influx of migrant labours from surrounding states created a demand for

affordable housing. In the absence of organized government plans and programmes to this sector, the situation has been exploited by the private owners of housing wherein inadequate and often unsafe dwelling units with limited access to amenities like water and sanitation has been rented out to this category of people. Guided only by the profit motive, the main drawback of the rental housing market of Jorethang as it operates today is that:

- Its inadequate
- Lacks optimum access to amenities
- Unsafe
- Completely disregards the ecological concerns &
- Do not provide security of tenure to the residents

Increasingly, the role of government is being defined as a facilitator and not a provider. Therefore, the private rental market is expected to grow even more. Consequently, to serve the objective towards housing for all the Govt. of Sikkim needs to have a proper regulatory mechanism and institution in place that will streamline the private rental market that will ensure adequate standards and safety norms for the tenants.

Given, the unique situation in Sikkim where access to property rights by non-sikkimese is restricted, to attain the objective of slum free city and housing for all it would be imperative for the State Government to promote Public Rental Housing which may be made available to the poor irrespective of their citizenship status thus assuring access to housing and security of tenure. It is proposed that:

- All rental housing may be proposed short term upto 3 yrs for new migrants who are yet to establish their identity and likely tenure of stay in the state and long term upto 20 years without legal right, on land but right to stay on lease to facilitate financing by banks.
- The DUs shall have the minimum specified space, services and quality standards.
- It is expected that during 3 years, migrant households would have settled into decent employments /occupations with regular incomes and should be able to afford their own LIG or EWS housing. This also ensure housing stock gets revolved to new/poor migrants to the city and shortage is kept to the minimum without having to do any major addition to the existing housing stock.
- Rents in such housing to be kept affordable for the poor

Government initiative in the rental market would require establishment for proper procedure and modalities for implementation of the scheme as well as proper criteria and process for allotment of houses.

6. FORMULATION OF FUTURE SUPPLY OPTIONS AND POLICY REFORMS

6.1. SUPPLY STRATEGIES TO CATER TO FUTURE HOUSING SHORTAGE

Jorethang slums shall be developed through in-situ redevelopment. Some slums in Jorethang where people own the land and have formal property titles or where the government is considering grant of formal property titles and tenable shall be redeveloped in-situ.

6.1.1. HOUSING

i) Property titles if unclear or not having been mutated shall be formalized. For all households on lands that are owned by people but lack legal rights, the title shall be formalized. Formalization of land ownership shall enable to extend legal, and in an equal manner, services into all such settlements and integrate them within the city.

ii) Households without formal property titles on lands or which may be redeveloped or relocated to formal houses. All redeveloped households shall get property rights in the joint names of the wife and the husband in case of family, in the name of the woman in a women-headed house and in the name of the adult male of the house in case of single men.

iii) Pucca houses will be technically supported to connect to formal piped water supplies, construct toilets linked to sewer lines, septic tanks or cluster septic tanks as the case may be, build bathing areas and kitchens, link household waste water to disposal systems (surface and storm water drains) and ensure proper lighting and ventilation. They shall have access to microfinance for this purpose.

iv) **All poor households in the settlements to be redeveloped and accommodated in the new housing in available vacant land with variable subsidy as per their eligibility**. Beneficiaries that meet the criteria shall get access to government subsidies as per city/state guidelines. For others who may not meet the eligibility criteria but who are also living in these slums, Govt. shall provide housing without subsidies but with a repayment plan based on

economic resources. Those with higher incomes in these settlements shall get access to the house without subsidy on hire-purchase basis. Those who may have incomes below the stipulated amount but lack the required documentation, State Govt. shall provide housing on hire-purchase basis or rent and with access to low-cost housing finance from formal banks. Govt.

ix) **Transit Housing shall be created by Government** for all families that shall be affected during the housing development; families whose houses shall be demolished prior to redevelopment or relocation. Provision for Night Shelter may be made to accommodate the Shelter less Persons visiting the city for short term duration (in days)

6.1.2. INFRASTRUCTURE

6.1.2.1. WATER SUPPLY

- Water supply shall be in-house and through legal connections. Households in all settlements to be developed through in-situ redevelopment are to be connected to legal water supply with in-house connections. Water shall be supplied through municipal piped supply connections where the pipeline supplies are available in the communities. In settlements where water supply networks pass close by, last-mile connections shall be made to these networks. Norms for household water supply to these areas shall be as applicable in the rest of the city.

- Decentralized supply systems shall be designed for settlements where networks are missing or far off and where these are unlikely to reach in the coming years under the PHE network expansion plans. These shall include connections to natural springs with storage and treatment systems and small-scale piped networks inside settlements connecting households to the treated water source. Decentralized systems shall be developed in partnership with the communities and with community contributions. These may also be developed as **community entrepreneurship** models.
- **Water supplied to slums shall be of good and reliable quality**. Besides being potable, it shall have appropriate timings and duration of supply to ensure all households get regular and dependable supplies. This shall enable people, especially women, to be more productive. Where water is not potable, communities shall be encouraged to set up community water kiosks that shall filter the water before supplying to homes.
- Efficient Distribution & Management System to address the problem of loss of pressure & precious water with Boosting Pump Stations & introduction of Trunk Mains.

6.1.2.2. SANITATION SERVICES

- The overarching goal of the slum sanitation interventions shall be to ensure that **natural environments of slum areas are protected** and do not get degraded any further. Such environmental protection shall benefit both the natural environment and people.
- **Sanitation services to slums shall be comprehensive and aimed at making Jorethang a healthy and open defecation free city.** These shall include the entire bundle of sanitation services; toilets, waste water management and solid waste disposal.
- Sanitation plans for slums shall be integrated within the Jorethang City Sanitation Plan to ensure the two activities can be fully synergized and there are resources for developing the large trunk systems.
- In the transition period, it is planned to provide **shared or community toilets** in these areas**.** The toilet type shall depend on people's choice, the length of likely stay in the existing settlement before relocation, available spaces in houses, affordability, community willingness to contribute to the development of common systems, etc.

6.1.2.3. DRAINAGE AND WASTE WATER TREATMENT SYSTEMS

- Drains in all slums shall be pucca. These shall also have proper gradients and in all cases linked to outfall points so that waste water can flow out of the community. These shall also improve cleanliness of these areas. Possibility may be explored to cover the drain as much as possible. Precast system and other technological innovation shall be explored for cost-effective, easy construction/maintenance.

- All black and grey water from toilets and household chores shall be channelized to flow into sewage treatment systems where possible or to decentralized/ dedicated systems where main trunk connections are not available or technically possible. This shall ensure treatment and recycling of all grey and black water from slums. It shall also ensure no sewage is discharged into the Jhoras/rivers.

6.1.2.4. SOLID WASTE MANAGEMENT

- **Solid waste collection services shall be extended to all slum and low-income settlements.** This shall include a door-to-door waste collection service operated by the community in partnership with JNP and local level systems for waste management i.e. recycling, composting and disposal of non-biodegradable waste.
- Solid waste collection, recycling and composting shall be planned as livelihood enterprises to enable communities to generate incomes from these activities.
- JNP to augment SWM system through efficient transportation system from source with community partnerships and skilled workers in the field.

6.1.2.5. ROADS AND TRANSPORT

- Road and street network shall be improved by relaying and reconstruction where needed. All kutcha and semi pucca roads shall be upgraded to pucca roads in cement concrete or paved pathways as per PWD norms. The road construction will also include repair/reconstruction of the approach road and upgrading all in slum streets with appropriate sloping to the side drains.
- Relaying or laying of new road/streets will ensure proper leveling so that plinths of existing houses do not sink below road levels causing undue hardship to the poor. In relaying such roads where levels are likely to go higher than houses, dismantling of the old road shall be essential.
- Strengthening of site to site should be adequately strengthened before laying/upgrading a road/pathway with retaining wall or other such measures to avoid degradation and loss of asset.
- Use of Pre-Cast Concrete for walkways and recyclable materials may be considered.
- Transport linkages shall be provided to the nearest possible point. Transport is important for linking people to their livelihoods and improving their productivity. Transport linkages shall be planned such that they connect slums and poor people to their livelihoods in the city and in the industrial areas.

6.1.2.6. POWER SUPPLY AND STREET LIGHTS

- All households in the slums are to get legal power connection with meters. Power Department to ensure slum areas are covered, get access to power supply at the appropriate rates with shorter billing cycles that correspond with people's earning capacities. The department shall create awareness among residents on cost of power and use of electrical appliances. The department shall also set up a complaints redressal

system where poor people shall be able to make complaints in case of faulty/fast meters or billing inaccuracies.

- Street lights where needed or non-functional shall be provided in the slum settlements. Peripheral slums or slums away from the main roads shall be provided street lights along the approach road for safety of commuters at night.

6.1.3. SOCIO-ECONOMIC DEVELOPMENT

6.1.3.1. DEVELOPMENT OF LIVELIHOODS

- Livelihoods for the poor shall be an integral part of this slum free city plan.
- The livelihoods programme shall be based on the Livelihoods Mission of the Government of India. It shall also be comprehensive and linked to the city's economy; tourism, plant nurseries, embroidery etc. to ensure sustainability of incomes. Its particular focus shall be on promoting livelihoods among the poorest and the usually excluded groups within slum communities. Livelihoods shall be promoted through a range of solutions; development of enterprises (micro, small and medium), training in skills for employment with linkages to formal /regular wage employment, investments in product designs and support to access markets and manage business enterprises and access to finance for setting up these livelihoods. Business enterprises could be both conventional such as those promoted under the NULM programme. Urban Resource Centre may be considered to be constructed to accommodate various employment generation activities.
- Spaces shall be earmarked/ developed for people to undertake income generating activities. Towards this end, JNP shall undertake the following efforts;
  - Houses shall be designed so that people can work out of homes and shall have spaces for storage of raw material and finished products, have access to power supply;
  - Spaces shall be earmarked/ created inside slums for fabricating products such as for construction activities or composting pits or recycling non degradable material;
  - Spaces inside slums or nearby shall be earmarked /created for vending such as human skills, shops, stalls, pavements, local markets, etc. and
  - Spaces for vending activities shall also be created in the city.
  - **Vending spaces shall not be made permanent,** so that new vendors to the city/area also get an opportunity to vend in officially earmarked spaces.
  - Possibility may be explored for Urban Forestry & Farming through Community Mobilization for Income Generating Activities.

6.1.3.2. ACCESS TO HEALTH AND EDUCATION SERVICES

- Health and education services shall be planned and delivered in convergence with the concerned departments. The department officials shall jointly review the GIS maps to understand access to municipal schools and health centres and identify service gaps to improve availability and accessibility to slum dwellers.
- At the Ward level, education and health committees shall be set up that shall be responsible for monitoring service delivery quality.

6.1.3.3. PROMOTING ACCESS TO SOCIAL SECURITY

For promoting social security benefits to the marginalized, such as National Old Age Pension, Widows' Pension, Disability Pension and other benefits, it is essential to map all social security benefits available to each category, and map the uptake and access in the area. In such cases, equipping communities with the necessary information and helping them liaise with the concerned authorities is the best way to proceed. A training of local leaders can be organized to train them about social security, available benefits and processes involved. Working as a nominally paid volunteer, the community leader can compile and provide forms to all such cases and guide those regarding nominations and applications and follow up on the outcomes

6.1.3.4. OPTIONS FOR GENERATING HOUSING STOCK FOR NEW MIGRANTS

This approach to housing shall be applicable for housing for new migrants.

i. Self-financed Housing for Rental

Most low-income households in the city own land. Over the plan period they are being supported by the Govt. to incrementally improve their structures and bring in basic services. Further, the Govt. may facilitate those households who may be willing, to also create additional rooms for rental purpose. It shall be mandatory for such rental housing to include a private or shared toilet and in-house water supply to ensure the city stays open defecation free. These rooms shall be built through partly self-financing and partly any subsidies. This shall help generate large quantities of rental stock for new migrants as also create an avenue for poor households to earn income through rent. The Govt. shall through community consultations ensure that rents are kept affordable for the new migrants who are likely to be among the poorest. This effort would help the Govt. address issuance of demand for rental, which alone cannot be tackled by Govt.

ii. Public Private Partnerships with Small Builders

Housing in the low-income segment is usually generated by the small /informal builders apart from the direct construction. These small builders usually operate informally, keeping their profit margins low and building houses that are low-cost and affordable for the poor. Besides building cheaper houses, these small builders usually build fewer units at a time because of their own limited financial capacity. They are thus able to create

housing that may be better distributed within the city enabling the poor to find housing closer to their work areas. Govt.'s role may facilitate the small builder to take up these small projects to create new housing stock.

The State Govt. may promote the development of housing stock for the poor by working with the small builders. Towards this end, Govt. shall restructure its contracting procedures to enable builders with small capital to enter the market and develop housing for the poor.

iii. Public Private Partnerships with Large Builders for Social Housing

The State Govt. shall work with big builders to develop housing for new migrants as well as for slums that may be resettled. The State Govt. shall work with the district authorities to identify lands for such housing projects.

The approach to private sector participation shall be two pronged. For lands within the city that are more expensive, the State Govt. may enter into a public-private partnership with the builder. The State Govt. shall make available the land and the builder shall be responsible for the construction and financing. For lands on outer fringe of the city, the State Govt. may like to undertake the construction using its own finances through hired contractors if no private sector interest is evident.

Finances for the housing projects shall be generated by way of:

- Commercial sale of a part of the plot;
- Commercial sale of houses developed for the high-income segment in the same complex; and/or

The State Govt. shall hire an investment advisor to estimate the land and real estate values of these sites to determine the financial arrangements and share of profits between the State Govt. and the private partner. The State Govt. shall also ensure that all houses developed for the poor under the above projects shall conform to minimum specified space, services and quality standards.

Housing provision in such PPP arrangements shall vary by nature of beneficiaries. Families under resettlement shall be entitled to subsidies as proposed under RAY or State. New migrants shall be required to pay the full cost of housing, appropriately amortized to make it affordable and with housing credit assistance. Flats may be available to these families both on hire-purchase or rent, as per need. Distribution of these flats shall be done in a transparent manner and/or through open lottery.

iv. Housing Cooperatives of Slum Dwellers

Housing Cooperatives of the poor have in other countries, successfully generated housing for poor. Besides generating housing that resonates with the demands of poor families, they are also able to regulate the disposal of such flats and prevent gentrification of areas. The State Govt. shall through its lead NGO facilitate Housing Cooperatives of slum dwellers and enable them to register as Housing Cooperatives and apply for land. Land, as per existing rules for land allotment to such cooperatives, shall be made available to such Housing Cooperatives. The State Govt. shall also make available required technical assistance (architects and engineers) to design and

develop the housing. The State Govt. shall also connect housing cooperatives to get access to finance from the housing finance institutions.

This approach to housing shall be applicable for resettlement housing and housing for new migrants.

6.2. POLICY REFORMS TO FACILITATE FUTURE HOUSING SUPPLY

There are four basic factors essential for achieving a substantial increase in supply of Housing. They are:

i) Land;

ii) Material and Technology;

iii) Finance and

iv) Legislation and Regulations.

The detailed discussion that follows intends to shed some light on each factor.

i. Land

Supply of Urbanized land to the poor should be given the topmost priority and the State must intervene to provide equitable access to Land, since the most disastrous feature of Indian urbanization has been the failure to anticipate the rising demand for urbanized land. It is recommended for change of the urban land tenure system.

ii. Material and Technology

It is recommended for the use of locally available / produced and cost-effective building materials and components. Effective participation would certainly reduce the overall housing costs and housing technology needs to be rationalized and modified for acceleration of housing units production. Development of appropriate technology and project management would be an important technical input to housing. Modular design & coordination offers good possibilities to standardization of materials and components and optimization in design.

iii. Finance

Finance sources need to be finalized as Central Share, State Share, ULB Share, and Beneficiaries Share. Innovative funding methods, Ministry Guidelines like External Commercial Borrowings (ECB) options may also be explored.

iv. Legislation and Regulation

The government intervention is necessary to direct and modify the course of housing development in right direction. One basic strategy is to create the appropriate institutions, both for technical and financial management to increase the supply. The other basic strategy is to amend, modify or formulate relevant laws and

regulations, where necessary to remove constraints to housing activity. It is recommended for changes in laws relating to land, laws relating to administration as well as fiscal laws. Modifications of existing acts may be required for incorporating necessary modifications in the following areas:

i) Land Reforms and Tenure Rights,

ii) Building Bye-laws,

iii) Municipal Council Act and Bye-Laws,

iv) Rent control act

The state of Sikkim & the city of Jorethang do not have the following legislations in effect:

i) Land Reforms and Tenure Rights,

ii) Planning Norms and Standards,

iii) Apartment ownership act.

iv) Co-operative ownership act

v) Development Authority Act,

vi) Zoning Regulations and Development Control Rules,

6.2.1. REFORMS NECESSARY FOR RAY

i) 20-25% Land reservation for EWS & LIG with a system of cross subsidization

ii) Implementation of Rent Control Act.

iii) Enactment of user Charges

iv) To secure Credit for Bank & Financial Institutions

v) To create Rajiv Awas Shelter Fund

6.2.2. STATE LEVEL REFORMS REQUIRED

The following are some of the immediate steps that the Govt. of Sikkim can take to make RAY successful.

1. Implementation of De-centralization measures as envisaged in 74th Constitutional Amendment Act

2. Water Supply Metering-domestic, industrial & commercial.

3. Safeguarding the interests of Weaker Sections of society including the physically challenged and mentally challenged

4. Slum Improvement & Slum up-gradation Policy

5. Introduction of Property Title Certification System in ULBs

6. Community Participation to institutionalize citizen participation

7. Nature of legal entitlement to dwelling space-freehold, leasehold (10 years, 30 years, 90 years, etc.) license, collective & collaborative tenure and condition of lease/tenure

8. Eligibility criteria of slum dweller including treatment of existing renters.

9. Eligibility and entitlement of residential establishments within slum.

10. Introduction of developmental control regulation.

11. Sharing pattern of funding by State/ULB/Beneficiaries

12. Stamp duty and property tax – reduction/exemption for Slum Dwellers

13. Strategy for developing credit linkages including setting up of an intermediating agency.

14. Post occupancy maintenance and management arrangements including facility areas.

15. Maintenance of levy and collection of user charges.

16. Introduction of computerized process of registration.

17. Revision of bye-laws to make rain water harvesting in buildings and adoption of water conservation measures.

18. To ensure availability of vacant land.

19. Availability of loans to private developer for construction of rental unit.

20. Simplification of eligibility norms for beneficiary.

21. Suggested incentive/regulations to be implemented by Govt. of India.

22. Notification of all Slums in due process

6.2.3. DELINEATION OF BOUNDARIES OF SLUMS AND DE-NOTIFICATION OF SLUMS

Owing to implementation of National Slum Development Program, Basic Services for the Urban Poor and other allied programs aimed at bringing the services in slums at par with that of the rest of the city, certain parts of the city were identified as slums by JNP. Due to absence of the mandate of household surveys at that point, such settlements were conveniently delineated as per physical features such as rivers, jhoras, roads etc.

Currently, under RAY, the primary surveys carried out in these slums have made it possible to identify spatially the houses/areas that are resided by poor households. Also, some of these households although living in slums are affluent and certain parts reflected comparatively good condition of houses. So, it is essential for the government to delineate the slum boundaries of the previously identified slums to narrow down the areas to which the benefits of RAY and other such projects should reach and consequently check pilferage of benefits.

Moreover, mechanisms must be in place to de-notify those slums that have, by the way of RAY or any other program, achieved a satisfactory level of housing and other services in order to eliminate chances of duplication of schemes and increasing the chances of other settlements being included into such projects.

6.2.4. INTRODUCTION OF STATE HOUSING AND HABITAT POLICY

A State Urban Housing & Habitat Policy needs to be formulated as per the National Urban Housing & Habitat Policy 2007 by MoHUPA, GoI with adequate provisions for Housing for Urban Poor and Migrant People. The formulation of a state urban housing and habitat policy will provide a vision and a roadmap for the development of housing in the state, and for meeting the housing needs and requirements of the citizens in all urban centres of the state. Several states have adopted a State Housing and Habitat policies, which lays a clear framework for meeting states needs in the context of the National Housing and Habitat Policy, 2007.

6.2.5. SUGGESTED REFORMS IN RENT CONTROL ACT

1. Fixing of economic rent based on the market forces or fixation of standard rent at a specified percentage of cost of construction and value of land in the year of construction.

2. Obligation of tenant to ensure maintenance.

3. Setting up of fast track tribunals for disposal of disputes etc.

4. Provision for contractual or semi-contractual tenancy within the framework of rent control act.

5. Limiting inheritance with specific heirs for a specified period only.

Formulation of Apartment Ownership Act & Cooperative Housing Act

At present, the state does not have any apartment ownership act. As a result, in case of apartments, there is no direct devolution of title to the apartment owner resulting in emergence of a parallel market for these apartments. Enactment of this legislation will help end this practice, and also act as a fillip for group housing projects, including those of affordable housing, in the state.

Similarly, a cooperative housing act is also required for the state to act as impetus for affordable/ cooperative housing projects.

6.2.6. SUGGESTED STATE INITIATIVES

1. Ensuring adequate land availability, reservation of land for EWS/LIG.

2. Development of Incentives to private developers such as reduction in fees for approval.

3. Relaxation in conversion/lay out/building plan approval process for affordable housing development.

4. Promotion of rental housing through promotion of dormitories concept for meeting needs for lower income groups.

5. Regulations are also required for short term lease of land to slum dwellers for slum improvement programmes.

6. Formulation of policies for greater participation of private developers with innovative technology, project financing and delivery.

6.2.7. LAND RELATED ISSUES

The critical issues that need to be tackled to realise the objective of increased supply of developed land and ensure its optimum utilisation are as follows:

a) **Distortions in Land Market:** Land market distortions exist mainly because of various problems which inhibit the supply of land and restrict legal access to land, particularly the poor. Time consuming, unduly cumbersome, and costly procedures related to land registration and permission to develop project in numerous delays often extending over several years. Many a times, the acquisition procedures itself get stalled due to compensation related disputes.

b) **Land Information System:** The urban land records system is completely disjointed. No easily accessible record exists of who owns which piece of property. This complicates the land transaction process and further distorts the land market. An elaborate land information system is absolutely essential not only for helping land transaction process and reducing distortions in the land market but also for achieving optimum utilisation of land. GIS provides a good opportunity in this direction and Government should take this up as a priority area. Remote sensing technique can be quite helpful in collection and updating data regarding the present and the changing land use pattern.

c) **Urban Land Policy:** How to increase the supply of developed land and encourage its conservation are critical concerns related to urban land related policy issue.

d) **Role of Private Sector in Land Development**

e) **Leasehold V/s Freehold Tenure**

f) **Alternatives to Public Acquisition of Land**

g) **Urban Land taxation Policy**

h) **Strengthening Organisations involved in Land Development**

i) **Violations in Building Bye-Laws and Un-authorised Construction**

7. INVESTMENT REQUIREMENTS AND FINANCING PLAN

As the RAY guidelines, the funding pattern for Slum Free City Plan for Jorethang is 80% on Housing and Infrastructure as grant from Central Government, 10% as grant from the State Government on Housing and Infrastructure, 10% to be shared by Urban Local Body on Infrastructure and 10% to be borne by the Beneficiaries on Housing. The actual grants for the various development options will be sanctioned with the individual slum DPR's. The Financial strategy for Slum Free City Plan for Jorethang is based on various proposed development options in the following sub sections.

7.1. ESTIMATION OF INVESTMENT REQUIREMENTS UNDER CURATIVE STRATEGY

7.1.1. IN-SITU UPGRADATION & IMPROVEMENT OF SLUMS

There are 12 slums with total number of 256 households which needs to be upgraded and improved under Slum Free City Plan for Jorethang. The details of Investment calculation is shown in **Table below**. The total cost of In situ upgradation and Improvement is **Rs. 291182322.80** or **Rs 29.12 crores** only with cost of housing is **Rs 4500000** or **Rs 4.5lakhs** only. The phasing of Investment required for In-situ upgradation of existing slums of Jorethang is given below.

TABLE 67: PROPOSED INVESTMENT CALCULATION FOR INSITU UPGRADATION & IMPROVEMENT

INVESTMENT REQUIREMENT FOR **256** HOUSEHOLDS COVERING **1018** SLUM POPULATION UNDER INSITU IMPROVEMENT & UPGRADATION						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs /Unit)	AMOUNT (Rs)
A	**Housing (RCC Frame Structure, CGI Roofing)**					
a	GAP FILLING		HHs	136	450000.00	61200000.00
b	INCREMENTAL		HHs	119	360000	42840000.00
SUB TOTAL A					**Rs**	**104040000.00**
B	**Physical Infrastructure**					
B1	**Road**					
a	Internal Road (CC)	15m/HH	meter	3135	5143	16123305.00
b	Approach Road (CC)	10m/HH	meter	1530	5714	8742420.00
B2	**Water Supply**					
a	Pipelines (25 mm Dia)	3m/HH	meter	663.00	1945	1289535.00
b	Connectivity to Trunk Mains (80 mm Dia)	20m/HH	meter	4420.00	3600	15912000.00
c	Rain Water Harvesting	Per Dwelling unit	D.U.	256	11780	3015680.00
B3	**Drainage/Sewerage**					
a	Sewer Lines (DI Pipes)	10m/HH	meter	2140.00	2000	4280000.00
b	Storm water drain (DU Lines)-Open drains	3m/HH	meter	321.00	25000	8025000.00
c	Connectivity to Trunk Main Drain	10m/HH	meter	1070.00	15000	16050000.00
B4	**Street lighting/Waste Management**					
a	Street lighting (Poles of 2m height)	1 no for every 20 m road (Nos)	No	87	23335	2020426.57
b	Solid waste disposal (Dustbins)	1 no/24 HHs (Nos)	No	11	22857	243808.00
SUB TOTAL B (B1+B2+B3+B4)					**Rs**	**75702174.57**
TOTAL (A+B)					**Rs**	**179742174.57**
C	**Escalation** (@7.5% per year for 8 years-half of RAY period (60%)				**Rs**	**107845304.74**
D	Contingencies	2% of (A+B)			**Rs**	**3594843.49**
TOTAL INVESTMENT (A+B+C+D)=X					**Rs**	**291182322.80**

7.1.2. IN-SITU REDEVELOPMENT OF SLUMS

There are 3 slums with total number of 34 households which needs to be redeveloped under Slum Free City Plan for Jorethang. The details of Investment calculation is shown in Table below. The total cost of In situ redevelopment is **Rs. 129427084.44** or **Rs. 12.94 crores** only with cost of Redeveloping per Household is **Rs. 600000** or **Rs. 6 lakhs** only. The phasing of Investment required for in-situ redevelopment of existing slums of Jorethang is given below in Table.

TABLE 68: PROPOSED INVESTMENT CALCULATION FOR INSITU REDEVELOPMENT

INVESTMENT REQUIREMENT FOR **34** HOUSEHOLDS COVERING **147** SLUM POPULATION UNDER INSITU REDEVELOPMENT						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
A	**Housing (RCC Frame Structure, CGI Roofing)**					
A1	**Dwelling Unit**		HHs	34	600000.00	**20400000.00**
A2	**Transit Accommodation**		No	1	5000000.00	**5000000.00**
SUB TOTAL A (A1+A2)					**Rs**	**25400000.00**
B	**Social Infrastructure**					
B1	**Health**					
a	Multipurpose Hall covering Health	1 no for every 15000 population	No	1	7500000	**7500000**
B2	**Community Facility**					
a	Livelihood/Production Centre & Skill Based Training Centre	1 no for every 5000 population (area 660 sqm)	No	1	4750000	**4750000**
B3	**Landscape**					
a	Garden & Landscaping	3 sqm/person	Sqm	441	750	**330750.00**
SUB TOTAL B (B1+B2+B3)					**Rs**	**12580750.00**
C	**Physical Infrastructure**					
C1	**Site Preparation**					
a	Retaining Wall		meter	150	20000	**3000000**
b	Site Preparation works		Cum	225	100000	**22500000**
C2	**Road**					
a	Internal Road (CC)	15m/HH	meter	510	5143	**2622930**
b	Approach Road (CC)	10m/HH	meter	340	5714	**1942760**
C3	**Water Supply**					
a	Pipelines (25 mm Dia)	3m/HH	meter	102	1945	**198390**
b	Connectivity to Trunk Mains (80 mm Dia)	20m/HH	meter	680	3600	**2448000**
c	Rain Water Harvesting	Per Dwelling unit	D.U.	34	11780	**400520**
C4	**Drainage/Sewerage**					
a	Sewer Lines (DI Pipes)	10m/HH	meter	340	2000	**680000**
b	Storm water drain (DU Lines)-Open drains	3m/HH	meter	102	25000	**2550000**
c	Connectivity to Trunk Main Drain	10m/HH	meter	340	15000	**5100000**
C5	**Street lighting/Waste Management**					

INVESTMENT REQUIREMENT FOR **34** HOUSEHOLDS COVERING **147** SLUM POPULATION UNDER INSITU REDEVELOPMENT						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
a	Street lighting (Poles of 2m height)	1 no for every 20 m road (Nos)	No	19	23335	**437531.25**
b	Solid waste disposal (Dustbins)	1 no/24 HHs (Nos)	No	1	22857	**32380.75**
SUB TOTAL C (C1+C2+C3+C4+C5)					**Rs**	**41912512**
TOTAL INVESTMENT (A+B+C)					**Rs**	**79893262.00**
D	**Escalation** (@7.5% per year for 8 years-half of RAY period (60%)				**Rs**	**47935957.20**
E	Contingencies	2% on (A+B+C)			**Rs**	**1597865.24**
TOTAL INVESTMENT (A+B+C+D+E)=X					**Rs**	**129427084.44**

7.2. Estimation of Investment Required for creation of Affordable Housing Stock

The total number of affordable housing units required for Jorethang city is 953, 1098 and 1407 for 2014, 2021 and 2031 respectively. The proposed cost for creation of affordable housing is **Rs 6519637431.41** or **Rs 651.94 crore** for Jorethang. These housing stocks have been proposed to accommodate the new migrants of lower income category and it can either be rental or dormitories depending upon the demand of low income population of the city.

TABLE 69: PROPOSED INVESTMENT CALCULATION FOR FUTURE AFFORDABLE HOUSING

INVESTMENT REQUIREMENT FOR 3458 AFFORDABLE DWELLING UNITS CREATION						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
A	**Housing (RCC Frame Structure, CGI Roofing)**		HHs	3458	650000.00	**2247700000.00**
B	**Social Infrastructure**					
B1	**Health**					
a	Multipurpose Hall covering Health	1 no for every 15000 population	No	1	7500000	**7500000**
B2	**Community Facility**					
a	Livelihood/Production Centre & Skill Based Training Centre	1 no for every 5000 population (area 660 sqm)	No	1	4750000	**4750000**
B3	**Landscape**					
a	Garden & Landscaping	3 sqm/person	Sqm	51870	750	**38902500.00**
SUB TOTAL B (B1+B2+B3)					**Rs**	**51152500.00**
C	**Physical Infrastructure**					
C1	**Road**					
a	Internal Road (CC)	15m/HH	meter	51870	5143	**266767410**
b	Approach Road (CC)	10m/HH	meter	34580	5714	**197590120**
C2	**Water Supply**					
a	Pipelines (25 mm Dia)	3m/HH	meter	10374	1945	**20177430**

INVESTMENT REQUIREMENT FOR 3458 AFFORDABLE DWELLING UNITS CREATION						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
b	Connectivity to Trunk Mains (80 mm Dia)	20m/HH	meter	69160	3600	**248976000**
c	Rain Water Harvesting	Per Dwelling unit	D.U.	3458	11780	**40735240**
C3	**Drainage/Sewerage**					
a	Sewer Lines (DI Pipes)	10m/HH	meter	34580	2000	**69160000**
b	Storm water drain (DU Lines)-Open drains	3m/HH	meter	10374	25000	**259350000**
c	Connectivity to Trunk Main Drain	10m/HH	meter	34580	15000	**518700000**
C4	**Street lighting/Waste Management**					
a	Street lighting (Poles of 2m height)	1 no for every 20 m road (Nos)	No	4323	23335	**100865537.5**
b	Solid waste disposal (Dustbins)	1 no/24 HHs (Nos)	No	144	22857	**3293312.75**
SUB TOTAL C (C1+C2+C3+C4+C5)					**Rs**	**1725615050**
TOTAL INVESTMENT (A+B+C)					**Rs**	**4024467550.25**
D	**Escalation** (@7.5% per year for 8 years-half of RAY period (60%)				**Rs**	**2414680530.15**
E	Contingencies	2% on (A+B+C)			**Rs**	**80489351.01**
TOTAL INVESTMENT (A+B+C+D+E)=X					**Rs**	**6519637431.41**

7.3. INVESTMENT PHASING PLAN FOR SFCPOA

The details of Investment requirement by various components for SFCPOA in phased wise manner is given below.

TABLE 70: PROPOSED COMPONENT WISE INVESTMENT PHASING FOR SFCPOA

SL NO	PHASING IN YEARS	CURATIVE: COST REQUIREMENT (Rs In Crore)							
		HOUSING (a)	PHYSICAL INFRASTRUCTURE (b)	SOCIAL INFRASTRUCTURE (c)	TOTAL x= (a+b+c)	O&M COST @4%	DPR,PMC, Community Mobilisation @4%	A&S @2%	TOTAL PROJECT COST (W)
1	First	5.48	8.56	2.04	16.08	0.64	0.64	0.32	17.68
2	Second	2.57	2.20	0.00	4.77	0.19	0.19	0.10	5.25
3	Third	2.97	2.59	0.00	5.56	0.22	0.22	0.11	6.11
4	Fourth	2.43	2.06	0.00	4.49	0.18	0.18	0.09	4.94
5	Fifth	4.22	3.64	0.00	7.86	0.31	0.31	0.16	8.65
TOTAL		**17.67**	**19.05**	**2.04**	**38.76**	**1.55**	**1.55**	**0.78**	**42.64**
SL NO	**PHASING IN YEARS**	**PREVENTIVE: COST REQUIREMENT (Rs In Crore)**							
		HOUSING (a)	**PHYSICAL INFRASTRUCTURE (b)**	**SOCIAL INFRASTRUCTURE (c)**	**TOTAL x= (a+b+c)**	**O&M COST @4%**	**DPR,PMC, Community Mobilisation @4%**	**A&S @2%**	**TOTAL PROJECT COST (W')**
1	First	100.35	77.04	2.28	179.68	7.19	7.19	3.59	197.64
2	Second	65.92	50.61	1.50	118.02	4.72	4.72	2.36	129.83
3	Third	65.92	50.61	1.50	118.02	4.72	4.72	2.36	129.83
4	Fourth	65.92	50.61	1.50	118.02	4.72	4.72	2.36	129.83
5	Fifth	66.02	50.69	1.50	118.21	4.73	4.73	2.36	130.03
TOTAL		**364.13**	**279.55**	**8.29**	**651.96**	**26.08**	**26.08**	**13.04**	**717.16**
TOTAL INVESTMENT UNDER SFCPoA FOR JORETHANG= (W+W')= Rs 759.80 crores									

TABLE 71: PROPOSED PHASEWISE FINANCING PLAN FOR SFCPOA OF JORETHANG

SL NO	PHASING IN YEARS	INVESTMENT REQUIREMENT (In Rs Crore)					INVESTMENT REQUIREMENT (In Rs Crore)				
		HOUSING					INFRASTRUCTURE (PHYSICAL+SOCIAL)				
		Central Govt	State Govt	ULB	Beneficiary		Central Govt	State Govt	ULB	Beneficiary	
		80%	10%	0%	10%	TOTAL	80%	10%	10%	0%	TOTAL
1	FIRST	84.66	10.58	0.00	10.58	105.83	71.94	8.99	8.99	0.00	89.93
2	SECOND	54.79	6.85	0.00	6.85	68.49	43.45	5.43	5.43	0.00	54.31
3	THIRD	55.11	6.89	0.00	6.89	68.89	43.76	5.47	5.47	0.00	54.69
4	FOURTH	54.68	6.84	0.00	6.84	68.35	43.33	5.42	5.42	0.00	54.17
5	FIFTH	56.20	7.02	0.00	7.02	70.25	44.66	5.58	5.58	0.00	55.83
TOTAL SHARE		**305.44**	**38.18**	**0.00**	**38.18**	**381.80**	**247.14**	**30.89**	**30.89**	**0.00**	**308.93**

SL NO	PHASING IN YEARS	INVESTMENT REQUIREMENT (In Rs Crore)					INVESTMENT REQUIREMENT (In Rs Crore)				
		O&M COST @4%					DPR, PMC & COMMUNITY MOBILISATION @4%				
		Central Govt	State Govt	ULB	Beneficiary		Central Govt	State Govt	ULB	Beneficiary	
		80%	10%	10%	0%	TOTAL	80%	20%	0%	0%	TOTAL
1	FIRST	6.26	0.78	0.78	0.00	7.83	6.26	1.57	0	0.00	7.83
2	SECOND	3.93	0.49	0.49	0.00	4.91	3.93	0.98	0	0.00	4.91
3	THIRD	3.95	0.49	0.49	0.00	4.94	3.95	0.99	0	0.00	4.94
4	FOURTH	3.92	0.49	0.49	0.00	4.90	3.92	0.98	0	0.00	4.90
5	FIFTH	4.03	0.50	0.50	0.00	5.04	4.03	1.01	0	0.00	5.04
TOTAL SHARE		**22.10**	**2.76**	**2.76**	**0.00**	**27.63**	**22.10**	**5.53**	**0**	**0.00**	**27.63**

SL NO	PHASING IN YEARS	INVESTMENT REQUIREMENT (In Rs Crore)				
		A&S @2%				
		Central Govt	State Govt	ULB	Beneficiary	
		0%	80%	20%	0%	TOTAL
1	FIRST	0	3.13	0.78	0	3.92
2	SECOND	0	1.96	0.49	0	2.46
3	THIRD	0	1.98	0.49	0	2.47
4	FOURTH	0	1.96	0.49	0	2.45
5	FIFTH	0	2.02	0.50	0	2.52
TOTAL SHARE		**0**	**11.05**	**2.76**	**0**	**13.81**

TOTAL PROJECT COST= Rs 759.80 crore

7.4. SUSTAINING RAY INVESTMENTS

Creation of assets, more so for the economically weaker sections of the society, is a means only and not an end towards delivering basic services including housing in a sustained manner. RAY recognizes this aspect and hence emphasizes upon all measures leading to sustenance of the facilities including housing created for the socially and economically disadvantaged sections of people under the programme.

Availability of financial resources needed for not only upkeep of the housing units but also the infrastructure facilities are sine qua non for sustenance of project benefits. The poor sections of the people living in slum settlements may not be in a position to garner enough fiscal strength to address the need of operation and maintenance. The local self-government units or the urban local bodies (ULBs) shall have to extend support to the effect. Now the question arises as to whether the concerned ULBs would have enough fiscal strength to extend such support. This takes us to study the health of municipal finances.

7.4.1. SUSTENANCE OF SLUM DEVELOPMENT & URBAN INFRASTRUCTURE

The finances for slum development shall come from several sources. The total amount to be generated for slum upgrading and development and resource management plan is provided below:

- Internal Earmarking of Funds for RAY in the municipal budget; for slum development.
- Funding from the State Finance Commissions.
- Contribution from a State Revolving Fund; a Revolving Fund has been created at the State level which allows municipalities to borrow from the State. This loan is interest free, unlimited based on a proposal and does not have any time restrictions for spending or refunding.
- Central Govt. subsidy under RAY & matching subsidy/grant for State/ULB/beneficiaries.
- Special grant of North-East States of special non-lapsable grant.
- Other sources.

7.4.2. PUBLIC PRIVATE PARTNERSHIP AS FINANCING MODEL

In the present day context of liberalized and globalized economies, the public sector resources, especially budgetary allocations are increasingly becoming scarce. In many cases, the ULBs have to look for alternative sources of financing. The institutional finances require the ULBs to have a robust fiscal health so that the ability to repay the debts is of high order. Market borrowing is emerging as another option for mobilizing finances, but the same requires the ULBs to be credit rated by the rating agencies. Again, for securing a high credit rating, ULBs shall need to demonstrate a sound fiscal health on sustained basis.

Another route of resource mobilization – be it for creation/up-gradation of infrastructure assets or management of infrastructure facilities – that is becoming increasingly relevant in recent years is the paradigm of Public

Private Partnership (PPP). Besides mobilizing financial resources, the PPP also brings in efficiencies in creation/up-gradation and delivery of urban infrastructure services. Essentially, the project risks are shared between the public sector and private sector agencies under the PPP arrangement and the extent of sharing risks by each party depends on the format of PPP adopted. There is a wide range of options for the PPP arrangement and no particular option can be considered to be appropriate across the board. The suitability of the PPP option depends on the profile of the project in question and a number of parameters of a project are taken into account before deciding on the PPP format. At the broad level, there could be three formats of PPP, namely, Joint Venture (JV) Companies; Build, Operate & Transfer (BOT) or variant thereof; and Management Contracts.

The route of JV Company is resorted to generally in cases of projects in which the expertise of the public sector agencies can be leveraged for the projects and/or there is need for exercising controls over operation of the project owing to its social significance and impacts. In cases of JV Companies, both the public and private sector entities share financial risks, equally usually. The pricing of the products or services are determined by the markets.

For urban infrastructure projects, however, the most commonly used route has been found to be the BOT. The financial risks are generally borne by the private sector entity. One important aspect in this option is the 'concessions' that are extended to the private sector entities. Generally, the concession comes in the form of 'user specific charges' payable by the consumers of services. Under this option of PPP, the assets created get transferred to the public sector agency on expiry of the concession period without any cost. Nevertheless, the public sector agency bears the social risks as delivery of services according to preset standard constitutes the mainstay of these kinds of projects.

The variants of BOT like Build & Transfer (BT), Build, Own, Operate & Transfer (BOOT), Build, Operate, Lease & Transfer (BOLT) and Build, Own & Operate (BOO) are also taken recourse to depending on the nature of the projects. For commercial/real estate projects generally, the model of BOO is resorted to and the land involved is transferred to the private sector entity for too long a period. All financial risks are borne by the private entity and the premium for the land is paid upfront to the public sector agency.

It needs to be appreciated that private sector entities should not come forward to invest in development of public projects without being assured of modest financial returns on investment. While in the commercial/real estate projects, the returns are easier to come by and the private entities are used to doing these kinds of projects even on their own, for the infrastructure projects the returns on investment shall come through the 'concessions' extended. It is therefore imperative to design the concession structure judiciously such that there is a balance between the affordability of the public and the rate of financial return. In case no concession can be made available, the option of 'annuity' payment by the public agency to the private entity may be explored.

The foremost important aspect of PPP once it is decided to take up any project on PPP mode is the selection of private partner. In fact, there is likely to be more than one private party who may be interested to partner with public sector agency for any project. It is thus imperative to adopt a transparent and competitive means for selection of the private partner. Transparency can be achieved by laying down the conditions of bids in details to the extent possible, especially in relation to eligibility and bid evaluation and competitiveness can be realized by inviting bids through insertions in various media.

There is immense scope for enlisting private sector participation in the RAY initiatives as by doing this not only private sector efficiency can be invoked but also some revenue surplus generated such that the same can be leveraged to sustain the benefits of the project by the slum dwellers after the redevelopment. A part of the capital finances can also be secured through PPP initiative under RAY.

Wherever the slums are found to be occupying prime land within city, it is obvious that the economic potential of the land is not exploited. Again, the slums are generally found to be horizontally spread over large chunk of land. In case, by adopting a consultative process involving the slum dwellers by taking help of NGOs/CBOs etc., the consent of slum dwellers for either moving to another site or resettlement at the existing site on multi-storied buildings can be obtained, certain portion of the prime land can be carved out whereon commercial exploitation may be resorted to. In this type of cases, the private sector entities can be attracted to participate. As already mentioned, any revenue surplus that the public bodies like UD&HD and Jorethang Nagar Panchayat could be able to generate, the same could be used as corpus for the slum community for using the same in maintenance of their buildings and infrastructure. As the redevelopment schemes shall be somewhat homogeneous, a panel of private sector entities can be formed on the basis of their capabilities – both technical and financial. Whenever a slum redevelopment project under RAY shall be considered to be taken on PPP mode, competitive bids can be invited from amongst the empanelled entities by limited circulation. This would save on time. Nevertheless, the bidding platform shall need to be judiciously designed.

For PPP initiatives under RAY, the option of JV Company may also be explored, as in this case, the public sector agency shall be able to effectively ensure fulfillment of the objectives of RAY and the slum beneficiaries shall feel more comfortable with the PPP initiatives.

Funds can also be raised from the private sector for implementation of slum upgrading. The scope for private sector engagement in Jorethang is considerable because of its commercial importance and other business potential. This forms transit between Siliguri and Darjeeling. This has begun to change of late. However, because of restriction on land transfer policy and providing right only to Sikkimese, private sector organisations are reluctant to be business partners. But involvement of private partners in development might led to considerable improvement in the city's infrastructure and services.

8. FORMULATION OF CREDIT PLAN

8.1. REVIEW OF ACCESSIBILITY AND AFFORDABILITY OF HOUSING FINANCE FOR URBAN POOR

The average socio-economic profile in slums of Jorethang is given in Tables below. The Table shows that the average monthly income of slum population in Jorethang is Rs 6500 while the average monthly expenditure is Rs 4500.

TABLE 72: INCOME EXPENDITURE ANALYSIS OF SLUM POPULATION

SL NO	CATEGORY	(in Rs.)					Total No.of Households
		<3000	3000-5000	5000-7000	7000-9000	>9000	
1	Average Monthly Income of slum Household	55	62	91	37	45	290
		19%	21%	31%	13%	16%	100%
2	Average Monthly Expenditure of slum Household	80	96	67	31	16	290
		28%	33%	23%	11%	6%	100%

Source: Primary Survey, RAY technical Cell

TABLE 73: DISTRIBUTION OF HOUSEHOLDS BY INDEBTEDNESS STATUS

SL NO	NAME OF SLUM	HHs	INDEBTEDNESS STATUS OF HHs	
			Yes	No
1	Masjid Line	15	0	15
2	Rail Ghar	19	0	19
3	Water reservoir gate area	5	0	5
4	Church area	24	1	23
5	Gairigaon	12	0	12
6	Sai Mandir area	6	0	6
7	Chalisay	19	3	16
8	Sr. Sec. School Area	22	0	22
9	Tamang Gumpa area	20	0	20
10	Industry Area	23	0	23
11	Devi mandir area	48	0	48
12	Prashanti School Area	4	0	4
13	Zero Point	28	1	27
14	New Buds school area	27	0	27
15	Fountain area	18	0	18
TOTAL			**5**	**285**

Source: Primary Survey, RAY technical Cell

It can be inferred that in the mentioned slums, there is positive propensity to save in case of slum dwellers whose income is on higher side. They can save some of amount of income over and above to their expenditure for future use. This gives an indication that slums are able to take financial credit burden for housing purpose. A strong community mobilization in support with NGO/CBO will be needed.

TABLE 74: ASSESSMENT OF AFFORDABILITY OF URBAN POOR TOWARDS HOUSING

SOCIO ECONOMIC STATUS	AMOUNT	REMARKS	% HHs
Avg. Monthly Income	**Rs 6500**		**60**
Avg. min. Monthly Expenditure	**Rs 4500**		**50**
Avg. expenditure on maintenance of house(annually)	**Rs 2500**	Excluding property tax and rent, including repair, maintenance, etc	
AVG. BPL POPULATION IN SLUMS	**29%**	Unable to afford Housing	

Table above provides an interesting scenario that in Jorethang 60% of slum households has an average monthly income of Rs 6500 whereas 50% households has average monthly expenditure of Rs 4500. Thus the affordability of people is an average of **Rs 2500-3000** per monthly towards minimum formal housing. But the affordability varies with slums and hence it has to be ascertained taking into account the socio economic condition of each slum at the stage of DPR preparation.

29% of the average slum **population** in Jorethang is in the **BPL category**, and thus shall clearly require assistance for acquiring formal housing. The remaining population has to be incubated in a way that the financial assistance that shall be provided to them in terms of loans and subsidies can be exploited in a practical and wise manner.

Recommendations of Affordable Housing Task Force, Government of India, 2008

PAREMETER	EWS/LIG
Size of the house	300-600 sqft, carpet area
Cost of the house	Not exceeding 4 times gross HH annual income
EMI/Rent	Not exceeding 30% of gross monthly income

Affordability is generally viewed as a ratio of price/rent of housing to income of household. The ratio differs for different income groups. Lower income groups can afford to pay much less proportion to their income for housing than that of higher income groups. People below Poverty Line namely BPL category, a section of EWS is also falling part of Government's inclusive policy of Affordable Housing. EWS and LIG have been considered under the same group by the Task Force Committee.

Affordable Housing Prices

Price is to be defined not only in terms of purchase price of the house in case of ownership housing but must also include other charges/fees like registration charges, legal fees etc. payable at the time of purchase. Recurring cost like maintenance costs, taxes etc. should also be ideally included. As envisaged, there is direct relationship of income and cost ceiling of the housing unit. Based on capacity to afford EMI and a certain percentage of cost ceilings are fixed as loan ceilings for housing for extending loan to various income groups.

8.2. CREDIT SUPPORT FOR AFFORDABLE HOUSING FOR THE URBAN POOR

The cost of housing is so high compared to what people earn and the households who can save in hand can only afford houses with loans & financing. It is difficult for the EWS/LIG to afford a house without any loans; finance for the housing needs is the required for the EWS/LIG group.

In order to overcome the obstacles for the getting loan from the formal systems, strategies are worked out to make the housing finance reach the needy. Some of the existing schemes of Government of India for credit support for affordable housing for the urban poor which can be tapped are:

Strategy 1: Legalization of Slums Land:

Government legalizes slum land and provides the slum dwellers with tenurial rights they can individually take loans from housing banks to pay for the construction cost of their houses. The slum dwellers will then be able to mortgage their houses against the loan.

Strategy 2: Forming intermediate finance institutions:

As formal institutions hesitate to provide loan to the LIG/EWS /poor households due to their inability to repay and as they fail in providing security for the loan amount. Setting up intermediate finance institutions which facilitate the households in getting loans and linking them with banks makes the formal institutions comfortable in providing loans to these groups.

Strategy 3: Cost reduction strategy:

One way of providing houses to EWS/LIG category is to reducing the cost of housing by using innovative and design construction strategies, which make is unit cost lower and make them affordable to the vulnerable groups.

Strategy 4: *ISHUP and* Rajiv Rinn Yojana (RRY):

As a means of Credit Enablement, the Interest Subsidy Scheme for Housing the Urban Poor (ISHUP), has been dovetailed with RAY, with the existing ceiling of the subsidized loan of 1 lakh, so as to give the option to the State/ULB to release a part of the subsidy for housing as per the guidelines of ISHUP to reduce the cost of the loan taken by the beneficiary to build or purchase his/her house. ISSHUP has now been revamped as RRY. The Scheme envisages the provision of a fixed interest subsidy of 5% (500 basis points) on interest charged on the admissible loan amount to EWS and LIG segments to enable them to buy or construct a new house or for carrying out addition (of a room / kitchen / toilet / bathroom) to the existing building. The scheme will provide an interest subsidy for a maximum amount of Rs.5,00,000 for an EWS individual for a house at least of 21 sq.mts.

maximum loan amount of Rs.8,00,000 for a LIG individual will be admissible. However, subsidy will be given for loan amount up to Rs. 5 lakhs only.

As the emphasis of the strategy is to encourage housing facilitated by credit linkages, review of the implementation of the scheme in the city with the bankers is very important from the point of view of formulating the credit plan as explained in the next section.

Strategy 5: ***Credit Risk Guarantee Fund:***

As a means of Credit enablement, for loans up to 5 lakhs to be availed by EWS/LIG buyers of new homes, with first loss borne by the banks, a Credit Risk Guarantee Fund has been established by the Ministry of Housing and Urban Poverty Alleviation. This is envisaged as a risk mitigation measure to further incentivize and encourage participation by banks.

The fund will cover the housing loans to EWS/LIG borrowers for the purposes of home improvement, construction, acquisition, and purchase of new or second hand dwelling units, involving an amount not exceeding Rs. 5 lakh per loan. The guarantee cover available under the scheme is to the extent of 90% of the sanctioned housing loan amount for a loan amount of up to Rs.2 lakh and 85% for loan amounts above Rs.2 lakh and up to Rs. 5 lakh.

The initial corpus of this fund would be Rs 1200 crores of which Rs 1000 crores would come from the Centre and Rs 200 crores from the State Governments who draw on it, in accordance with their slum population.

Strategy 6: ***Rajiv Awas Yojana Residents Housing Association of the slum dwellers:***

As per RAY guidelines, the State may also consider creating, or enabling, in each slum or city, an Intermediating Agency between the lender and the borrower, which may be a Rajiv Awas Yojana Residents Housing Association of the slum dwellers, or such a housing association in collaboration with a microfinance agency or a joint venture between a municipal or State Housing Board, which will take care of tracking each borrower, and ensuring repayment. In the event of intentional failure to pay the loan, this intermediating agency should also provide help to the lender to foreclose on the mortgage.

Housing shall not be provided completely free to beneficiaries and part of the funding shall therefore be generated through people's contributions. People's contributions shall be both in cash and kind.

People shall contribute a minimum of 12% (10% in case of SC/ST/OBC) as their share for housing. New migrants or non-eligible but poor beneficiaries shall pay the full cost of housing, albeit over a period to time. This will require upfront capital investments by the city, recovered over 20 years with interests.

In addition people could contribute in kind for construction activities such as digging foundations, purchasing water, transporting construction material to home sites, recycling housing material if usable, etc. Many slum families are also into construction work and can be made responsible for construction work under supervision. The costs of these inputs shall be estimated and deducted from the money to be paid to the contractors. This shall reduce the burden of debt on the poor and improve the quality of construction.

Strategy 7: ***Contribution for O&M and other Development Activities:***

Community shall also generate resources for small repairs and maintenance of infrastructure. This process of community participation and contribution may be initiated. People in these slums would collect funds by the lead NGO/such organisation. Households would pay for a door step waste collection system. This shall reduce the O&M requirements at the city level.

8.3. FORMULATION OF AN EFFECTIVE CREDIT PLAN

Poor people shall need access to credit for building up houses, adding toilets, getting water connections, etc. They shall also need finance for setting up and operating business enterprises. The State Nodal Agency for RAY shall, besides providing the housing subsidies, also facilitate access to credit. They shall do so in the following ways:

i. Linkages with formal banking/ housing finance institutions:

The Nodal Agency shall provide lists of beneficiaries to formal banks or housing finance institutions identified. The agency shall organise a consultation between people and finance managers to agree upon apro-poor system for fund disbursement and repayment plans. In the case of housing loans, most people with ownership rights shall have collateral. For other beneficiaries, especially the poor, the SHG or the Nodal Agency shall stand guarantee.

ii. Setting up a Community Credit Fund (CCF): The Nodal Agency shall create a CCF from its housing grant. 25% of the total approved housing subsidy budget for each project shall be forwarded into the CCF and shall be used for extending credit to the poor. DUDA shall invest this amount into bank securities to generate resources for the CCF. CCF shall also be capitalized from private sector housing projects in the city.

CCF shall be a revolving fund and shall be open to all beneficiaries who may want credit. Credit shall be provided on low/affordable interest rates to the poor.

Recommended Guidelines for lending to the poor

1. Simplification of procedure for lending based on only ID proof and slum tenure.
2. Prioritization of slum dwellers for lending
3. TPA between beneficiaries, lenders and intermediary (CBO/NGO/SHG)
4. Encourage the beneficiary for saving.
5. Enhancing the extent of Govt. funding.
6. Special purpose vehicle fund to be provided to SHG against their financial viable proposal.

iii. Strategy for Sustenance Recommended guidelines for lending to the poor:

1. Banks may be given a target for loans to the needy and monitoring will be needed.

2. SHGs may be provided loan from the bank on lower interest rate to encourage more participation or urban poor in such groups.

3. Loan installments release to be done timely.

4. Govt. may release housing loans immediately after houses are complete.

5. Co-operative banks role to be increase channelize housing credit.

6. Housing finance may be routed through federation of SHG.

7. Sensitizing bankers, NGO and SHG on the implementation of housing microfinance.

8. Direct transfer of subsidy under RAY on the basis of Adhaar Card.

9. Govt. of India may establish the credit guarantee fund scheme for low income housing to provide credit guarantee support to collateral free/third party guarantee free individual housing loan upto Rs.5.00 lacs extended by lending institutions for low income housing.

9. INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION OF DEVELOPMENT OPTIONS

9.1. STRATEGY FOR IMPLEMENTATION

i. Project Implementation Agency and Unit

The UD & HD will implement the programme in the initial phases, as the JNP does not have the capacity to do so at the moment. After the devolution of functions to the JNP, they shall take over implementation in the later phases. The implementation agency also needs to coordinate, and work closely with a range of city agencies concerned stakeholders in implementation of the plan. These shall include departments such as electricity, transport, roads, education, health, etc in preparing policies and ensuring effective implementation of the plan. This role will be undertaken by the programme implementation unit (PIU). They shall meet regularly to ensure coordinated implementation of activities. All PIU staff shall require capacity building for implementing SFCP.

ii. Community Based Organizations and Representation

Community Based Organizations shall be organized as part of the slum free city plan implementation process. Further, these shall be federated at a ward level. They shall meet on a regular basis to review the plans and their implementation and discuss/ trouble shoot problems/issues. Representatives of these CBOs or their federations shall be members of the various Task Forces and Ward Committees and shall be part of the discussion on plans in their areas and their implementation strategies.

Community mobilization will be at the core of slum development intervention in Jorethang. The lead NGO will work with pre-organized communities facilitated under the Cities Alliance project and other city or donor supported initiatives in slums, strengthen the existing groups and build their capacities to work in partnership

with Govt. /its agencies in the implementation of slum upgrading activities, mobilize, engage, organize and strengthen similar groups in other settlements for project implementation in a phased manner as proposed above.

In order to ensure participation is real and meaningful, communities shall be engaged in the planning, implementation, monitoring and maintenance of all development activities in their areas. Community groups mobilized may vary by area /need and could include self-help/savings groups, enterprise and livelihood groups, water, toilet and sanitation committees, area welfare associations, construction monitoring committees, etc. Community groups shall also contribute to slum development through labour, money, time, etc. as per requirement/affordability etc.

iii. Ward Committees

At the ward level, it is required to set up Area Sabha and Ward Committees. These Ward/Area Committees shall include representation from all groups in the area including representatives of slum communities, leaders of other neighborhood groups in the area, representatives of commercial /market associations and members of institutional establishments. Area Committees may also co-opt professionals from the area with requisite skills in planning, architecture, environmental improvement, livelihoods promotion, etc. as per need to guide the process of development.

iv. Partnerships and Task Forces

The Govt. shall enter into partnerships with key stakeholders for the successful implementation of the Plan. These partnerships shall be expanded over the Plan period to include all stakeholders. It is required to set up Task Forces on Water Supply, SWM, Urban poverty, Local Economic Development, Sewerage and Drainage, Municipal finance and Taxation, Heritage and tourism, Traffic and Transportation and Urban governance. These Task Forces will be aimed at bringing together all concerned local bodies for joint implementation of development plans. Such convergence is not only efficient but shall ensure that any contradictory policies or rules may be addressed.

The ambit of these Task Forces shall be expanded to include new partners. These shall include representatives of community based organizations, private sector partners, banking and finance institutions, etc. The object shall be to ensure greater coherence in policy and implementation. The Task Forces shall meet on a regular basis to assess progress and discuss key issues and challenges to implementing the Plan.

v. Assessment of Financial Capacity

The state govt. shall receive funds to implement the Plan, especially the housing component which is the most expensive. However, it is expected that this fund shall not be adequate for implementing the Plan. While many agencies, as part of their annual budgets shall be able to contribute resources for development of services.

9.2. PARTICIPATORY PLANNING FOR SLUM DEVELOPMENT

Slum and Ward Development Plans

Communities have begun to come together to address key problems in their settlements; water supply, solid waste disposal, etc. At the time of preparation of DPRs, the agreed slum development plans and proposals shall be further discussed and detailed with the communities. Communities shall prepare an operating plan for implementation that shall include responsibilities of various stakeholders and actors, resource requirements and people's contributions, and a construction and a management plan.

Communities shall be fully involved in the process of implementation to ensure there is transparency. Slum Upgrading Committees shall be organized in the slums who shall work with UD&HD and JNP on the implementation of the plan. This shall include; being part of the process of selection of contractors and for the procurement of materials, understanding the contractual obligations of contractors, contributing to physical works, supervising the construction, troubleshooting etc.

9.3. ROLE & RESPONSIBILITY OF INSTITUTIONS

i. Capacity Building

Considerable capacity creation shall be required at all levels to achieve the vision for a slum free Jorethang to ensure universal entitlements and comprehensive development of all slum households as described above. A detailed /annual capacity building plan shall be prepared for implementing the strategy for slum prevention. At the community level, people shall need to understand the value of organization and of working together to achieve common goals. People will need information so that they can prepare actionable slum development plans and build community consensus on solutions and responsibilities. It would be essential to empower people to negotiate for their entitlements with local governments and various service providers.

ii. Facilitating Agencies

Facilitating agencies such as the lead and smaller NGO(s), the State Designated Agencies shall also need sensitization and skill building. While the NGO field staff will need orientation to the tools and instruments of working with the poor, SUDA/State Designated Agencies teams including the Project Implementation Unit staffs shall have to be sensitized to the problems of poor communities and pro-poor approaches to slum development. A clear and shared vision and roadmap shall be needed so everyone is clear about the programme's goals, objectives and processes.

State Designated Agencies shall with the support of capacity building consultants undertake a **training needs assessment** and prepare an annual plan for staff training. Staff shall be deputed to the various national, state, nodal, technical training institutes for participation in specific training programmes. The Capacity Building Officer shall be responsible for the following activities:

- Regular staff meetings to share experiences from trainings/ ground and to brainstorm on possible /innovative solutions;
- Special sessions of staff with experts to discuss technical problems and solutions;
- In-house orientation training programmes for field staff;
- Experience exchange meetings bringing together various department officials to discuss crosscutting issues; and
- Documentation of success stories and field pilots and sharing these with the staff.

NGO staff shall also need regular orientation. The Lead NGO shall ensure that its staff shall attend at regular intervals training programmes, organized by the Government, other agencies and in-house. They shall also ensure that their staffs participate in various workshops and seminars to improve their understanding of issues and for replicating new and innovative solutions.

iii. Government Stakeholders

Slum development issues cut across various sectors and departments not all of which are mandated to work for the poor or whose staffs have an understanding of the critical issues in slum upgrading. The annual capacity building programme developed by designated State Agency shall on a quarterly basis, bring together all stakeholders for discussions and brainstorming.

Finance and Administrative Staff

Capacity building is critical for staff from the finance and administrative departments to ensure that the existing systems and procedures are in sync with the flexible approaches being proposed under the Plan. Interaction with these officials is also important to understand the viability of some of the proposed solutions. State Designated Agency shall organise regular meetings with finance and admin officers to brainstorm on implementation challenges.

iv. Other Actors

Apart from the approach and strategy described above, new stakeholders under the capacity building plan shall include the;

- Private sector, both the small and big builders;
- Poor households willing to create additional housing units;
- Housing finance institutions;
- Staff of other land owning agencies such as Forest, Defence etc.

These are important stakeholders in future slum prevention. The new actors shall be sensitized to the conditions of the poor and their role in creating new housing for the poor. This shall create a sense of ownership and partnership among the partners.

9.4. RECOMMENDATIONS FOR IMPLEMENTATION OF THE PLAN

The various activities, functions involved and the roles of the respective agencies at the State level, city level, zone/ward level and at the slum level for implementation of SFCP has been proposed in the Table below.

TABLE 75: PROPOSED RESPONSIBILITY MATRIX FOR SFCP

Sl No	Stakeholder	Preparatory Phase	Community Participation	Planning	Implement ation	Reforms	Post Implementation
1	State Govt.	Legislation					
2	SUDA	Funding & Project Monitoring					
3	Town Planning	Policy decision					
4	UD&HD	✓	✓	✓	✓	✓	✓
5	JNP			✓	✓		
6	Building & Housing Department				✓		
7	NGOs	✓	✓		✓		✓
8	Slum Community/ CBOs		✓	✓	✓		✓

CHAPTER 3: SLUM FREE CITY PLAN OF ACTION FOR NAMCHI MUNICIPAL COUNCIL

1. CITY PROFILE

1.1. GENERAL PROFILE

The study area consists of Namchi Municipal Council which is 649.9 hectares. The total area under slums in Namchi is 12.11 hectares which is 2% of the Namchi Municipal Council. The Municipal Council area has five administrative wards with a total population of 12190 and 2733 households as per Census 2011. The Household size is 4.5.

The present gross population density of Namchi is 18.75 pph which is low because of sparse settlement pattern surrounding a central commercial zone. The total slum population of Namchi is 3011 and the total slum household is 788. Thus it can be said that 25% of total Namchi population is slum population with nearly 29% of total households as slum household.

TABLE 76: CITY PROFILE OF NAMCHI

SL. NO.	INDICATOR	
1	**AREA STATEMENT**	
1.1	Municipal Area (Ha)	649.9*
1.2	Fringe Area (Ha)	NA
1.3	Area of Slums (Ha)	12.11 *
2	**NUMBER OF MUNICIPAL WARDS**	**5**
3	**POPULATION & HOUSEHOLDS**	
3.1	Total Population	12190**
3.2	No. of Households	2733**
3.3	Population Density (ppH)	18.75
3.4	Slum Population	3011***
3.5	Slum Household	788***

*Source: GIS Survey, RAY, Stesalit Limited,2014
** Source: Census of India, 2011
*** Source: Primary slum survey, RAY, UD&HD, 2013

1.1.1. LOCATION

MAP 27: LOCATION OF NAMCHI

Source: www.mapsofindia.com

Namchi is the capital of the South district of Sikkim. Namchi is located at 27.17°N 88.35°E. It has an average elevation of 1315 meters (4314 feet). Namchi is situated at an altitude of 1,675 m (5500 feet) above sea level. It is situated at a distance of 92 km from the state capital Gangtok and 90 km from the town of Siliguri, the nearest railhead and airport. Namchi lies off the road between Melli and Jorethang. Namchi is well connected to other towns in Sikkim and West Bengal.

The clean and well-tended town is fast developing into a popular destination where visitors throng in large number for different type of holiday activities. Namchi is becoming a major tourist spot and pilgrimage center. The Namchi monastery,

Ralong monastery and Tedong hill are important Buddhist pilgrimage centers. The world's largest statue (at 118 feet) of the Buddhist Padmasambhava, also known as Guru Rinpoche, the patron saint of Sikkim, is on the Samdruptse hill opposite Namchi. Near the town, Sikkim's sole tea estate- the Temi tea gardens is situated. The tea is marketed by its exotic odour and flavor.

One of the highlights of the town is the football stadium which is under construction- the Baichung stadium built by the Government of Sikkim in honor of its most famous citizen, footballer Baichung Bhutia. Namchi is also the Assembly constituency of the Chief Minister of Sikkim, Shri Pawan Chamling.

FIGURE 30: VIEW OF NAMCHI TOWN



1.1.2. CONNECTIVITY

At present, there are significant multiple road connection between Namchi and other towns, namely Jorethang, Gayzing / Pelling, Gangtok, Rangpo and Melli within Sikkim. This accessibility has put Namchi in a strategic position being a hub in the southwest of Sikkim. However, among all the State classified roads, Namchi's connections are limited to the State Highway and the district road linkages.

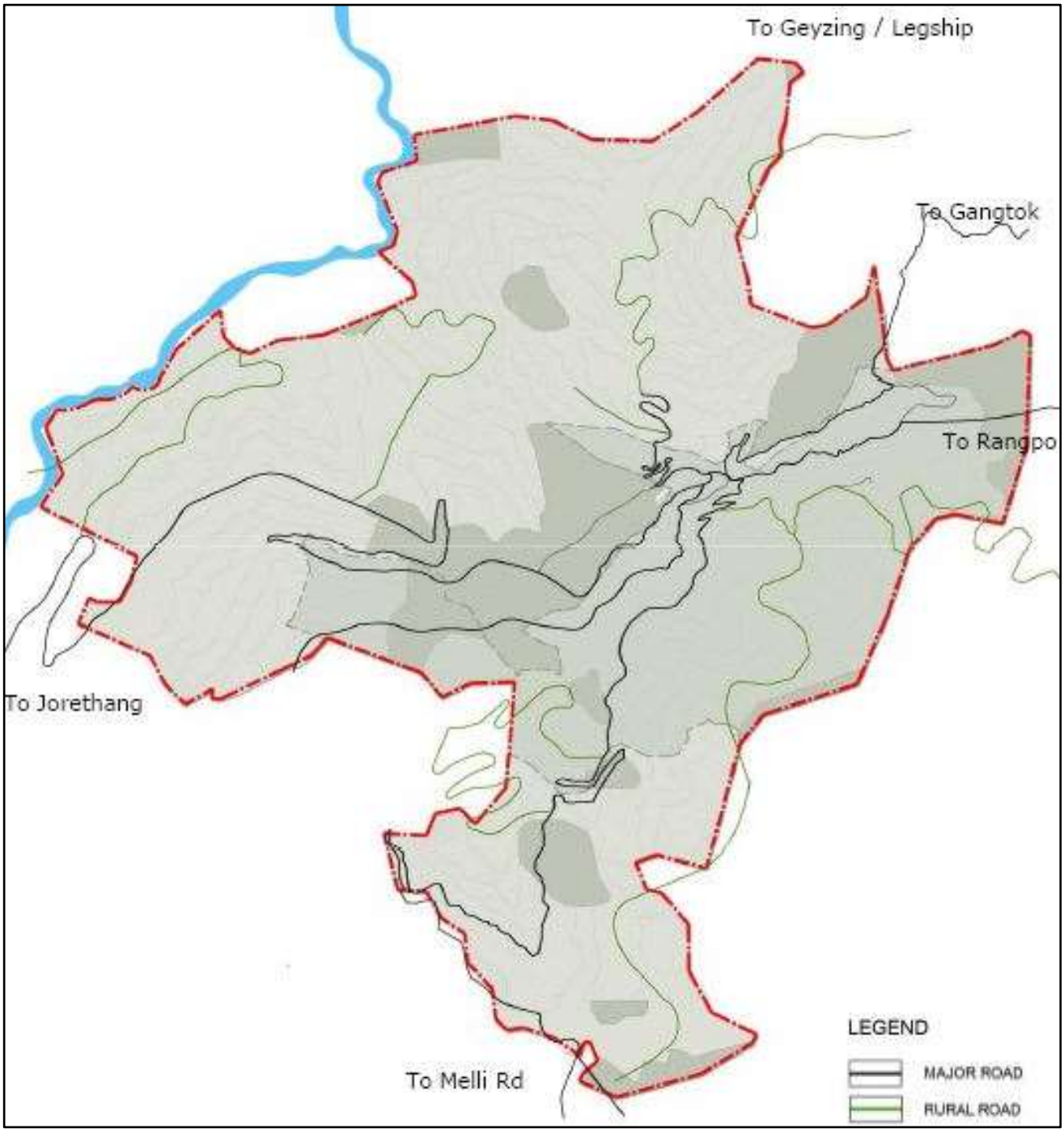
The State Highway links Namchi to Jorethang in the south and Singtam in the east which is then connected to Gangtok via NH31A. From Singtam onwards, the State highway further connects Mangan up in the north. Major district roads nonetheless connect Namchi to Melli in the south, Rangpo in the east and Ravong in the north-west. Despite these existing inter-town connections from Namchi, they are commonly inefficient due to crooked roads and long travelling time. A major re-haul through localized upgrading, straightening or realignment where possible is essential in order to shorten both commuting distance and time.

Other than the State classified roads, there are few rural roads supported by PMGSY that connect to rural villages. These roads are as wide as 12m and are either completed or under construction. The alignments of these roads offer potential future linkages within the future NPA when urban growth expands onto some adjacent rural areas.

Other than roads in land transport, Namchi is constructing ropeway as an alternative mode of connections though at small scale. The ropeway has largely been envisaged to be used as tourism based facility rather than a means of transport. Following the ridges, the ropeway will connect its regional tourist attractions the Rock Garden and Samdruptse in the northeast and the Solopok Dham in the southwest. However, the potential to develop a future network of ropeways connecting key nodes within Namchi could be explored as an alternative and shorter route of commuting. A major upgrading of the ropeway infrastructure will also have to be examined.

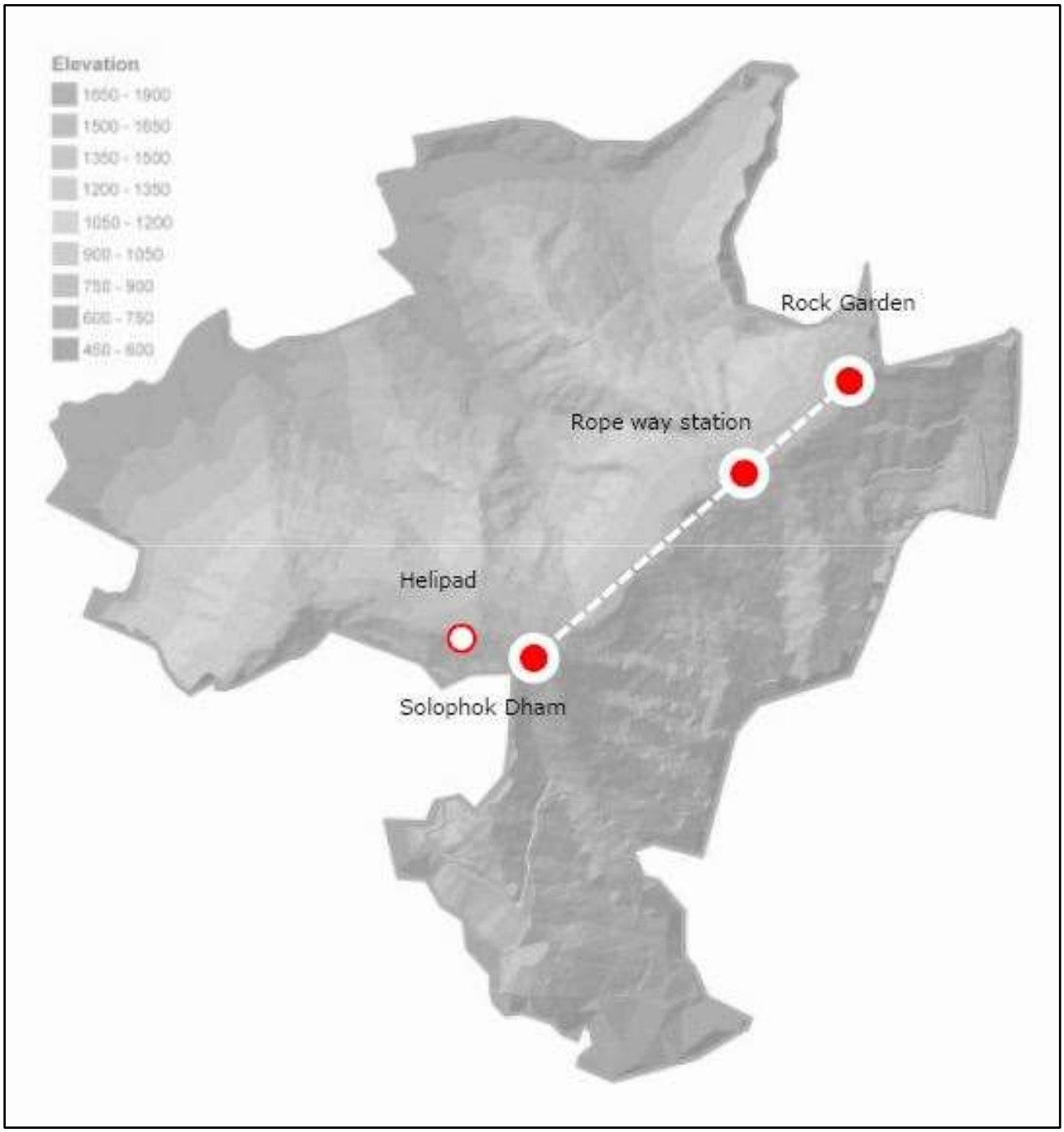
Besides, there is a provision of Helipad in Assangthang, further west of the Solopok site at a distance of 5 km from Namchi, which is still largely a tourism facility for sightseeing. The site offers the most panoramic view of Mt. Kanchanzonga, part of Darjeeling Kalimpong, rolling plains of Bengal and the view of Temi tea garden - the only tea estate in the State. When the helicopter ride is in full service, it can be effectively and efficiently used as another mode of transport for inter-town travel.

FIGURE 31: EXISTING ROAD LINKAGES MAP



Source: Namchi Structure Plan, 2009

FIGURE 32: PROPOSED ROPEWAY LINKAGES



Source: Namchi Structure Plan, 2009

1.1.3. HISTORY

Namchi means 'Sky High' in Bhutia and this town is slowly emerging as an important tourist destination. Historical facts state that the entire state of Sikkim was once under the reign of the Chogyals. In addition, it is also believed that the Chogyals were the main emperors of Sikkim as well as Ladakh. As per legend, it is said that the Sikkimese Princess, Pende Ongmoo, cheated a Sikkimese Chogyal. The supporters of Chogyal after knowing took her life. The place where the princess lost her life is believed to be present day Namchi. It is the headquarter of South Sikkim and is the closest main Sikkim city to Siliguri, which is the gateway to Sikkim. Many old monasteries are located in and around Namchi.

1.1.4. EVOLUTION & GROWTH

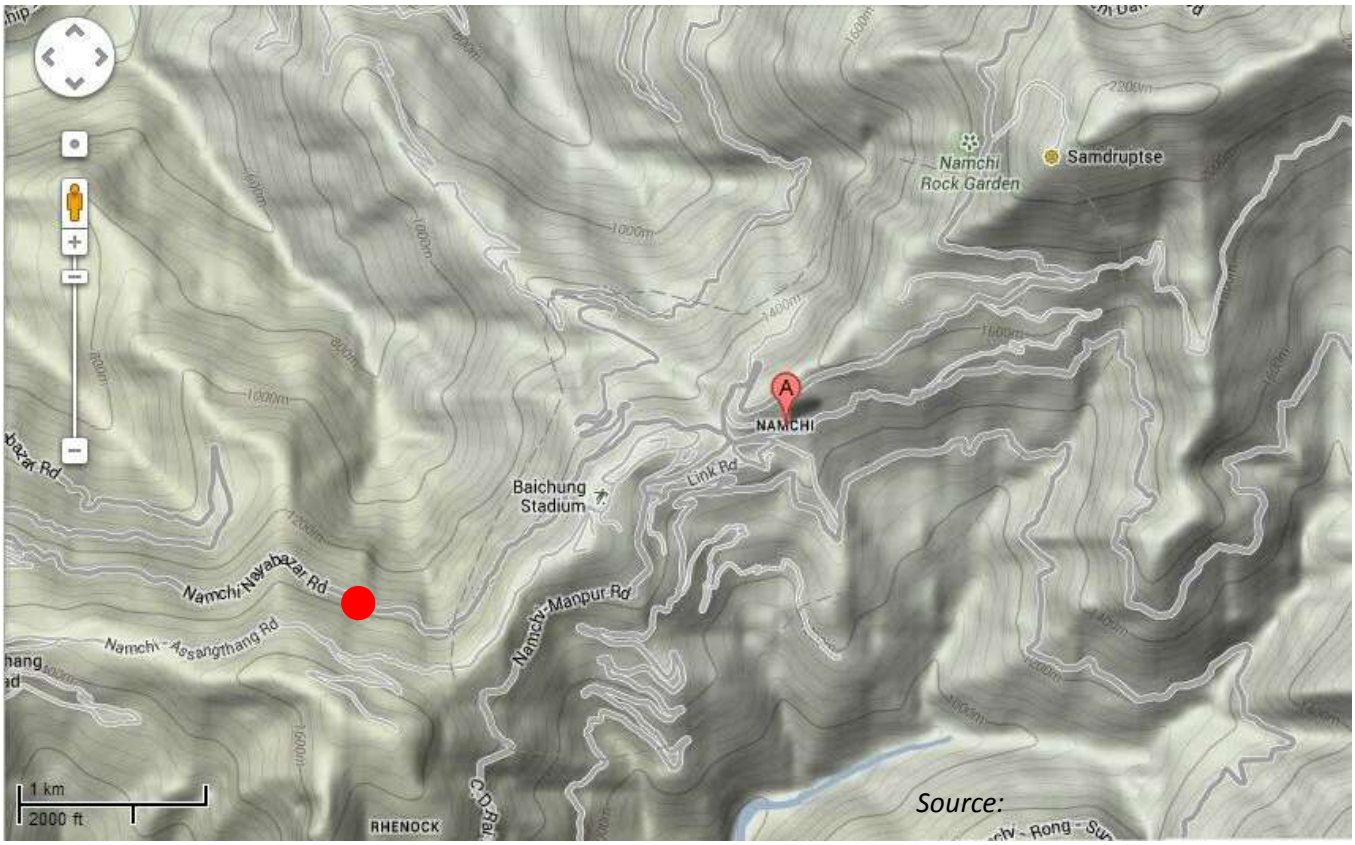
Namchi's urbanization is not apparently seen from the scale of its existing urban area and population base indicated in the Census. But, like the Capital City of Gangtok, urbanization has in fact occurred far beyond the existing urban land boundary and the local government has already initiated an effort to declare a larger Namchi Municipal Area, expecting the future population growth pressure.

Namchi developed as a small settlement on the eastern slopes of a hill; it expanded in north and south direction. Though growth in northern direction is less and towards south is more because of availability of water from Rangit river and the slope on the northern side is steep. Rangit river bounded the growth of settlement on south and western side and steep slopes on north, therefore Namchi town is contained within this physical boundaries.

1.1.5. SOIL & TOPOGRAPHY

Namchi soils occur on steeply sloping low hill of the Himalayan Mountain at an elevation of 1400 m above MSL. Namchi series is a member of fine-loamy, mixed, thermic family of Humic Eutrudepts. Typically, Namchi soils have dark brown, extremely acidic, loam. Thus Namchi soils are fine-loamy in texture. These soils are susceptible to erosion due to steep slope. Major limitations of these soils are steep slope, gravelly substratum, soil erosion. These soils are mostly under forest and terraced cultivation may be done for agriculture.

FIGURE 33: TOPOGRAPHY OF NAMCHI



Source: https://maps.google.co.in

Sikkim is nestled on the lap of Himalaya between 27° 5' N to 20° 9' N latitudes and 87° 59' E to 88° 56' E longitudes, covering 7096 kms, the cross-section of the state measures 100 km from north to south and 60 km from east to west. The topography of Sikkim in south blends with the plain land of West Bengal and gradually gathers height towards the North. The Topography of Namchi town is hilly and the town is perched on the top of the mountain beside Samdruptse hill and Solopok hill and to the south below is river Rangit.

The slope analysis indicates that more than one–third of NPA fall sunder the range of slope above 30 % which in the State Urban Plan is recommended not for habitation. However, in microanalysis, it is realized that such area is already habited and development is possible. Hence, it is proposed that slope up to40% in Namchi may be used for developments, while the steep zone with more than 40% steepness shall still be kept as an environmental conservation zone limiting further development. (Source: *Namchi Structure Plan, 2009*).

1.1.6. CLIMATIC CONDITIONS

Namchi town has a salubrious climate almost throughout the year with pleasant wind and humid atmosphere. This region receives less rainfall in comparison with other parts of the state. The normal annual rainfall observed is 2197 mm and average number of rainy days is 138 per year. The winter season normally lasts for 4 months (that is from November to February) and the rest period is summer. The average maximum temperature recorded is 30 degrees while the average minimum temperature is 20 degrees.

1.2. DEMOGRAPHIC PROFILE

Namchi Municipal Council comprises of seven wards namely Gangyap, Dambudara, Upper Ghurpisey, Lower Ghurpisey, Upper Boomtar, Upper Singithang and Purano Namchi. The total population of the Nagar Panchayat is 12190 and total household are 2733 as per Census 2011. Males constitute 52% of the population and females 48%. .9660 out of total population is Literate and 2530 population is illiterate. Thus Namchi has an average literacy rate of 78%, higher than the national average of 59.5%: male literacy is 81%, and female literacy is 73%. In Namchi, 9% of the population is under 6 years of age.

TABLE 77: POPULATION OF NAMCHI MUNICIPAL COUNCIL

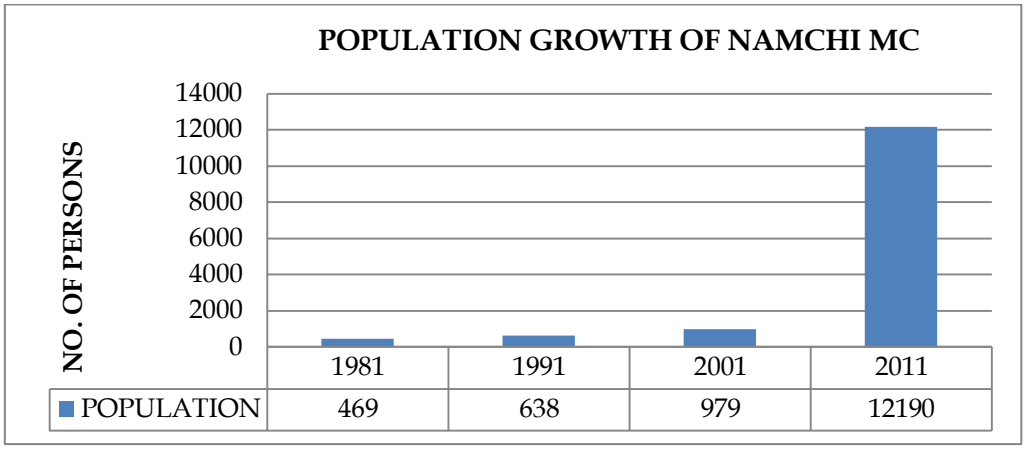
NAME	CIVIC STATUS	WARD NAME	TOTAL POPULATION
Namchi	**Namchi Municipal Council**		**12190**
	Ward 1	Gangyap	2426
	Ward 2	Dambudara	1225
	Ward 3	Upper Ghurpisey	1182
	Ward 4	Lower Ghurpisey	1910
	Ward 5	Upper Boomtar	1505
	Ward 6	Upper Singithang	2814
	Ward 7	Purano Namchi	1128

Source: Census of India, 2011

1.2.1. POPULATION GROWTH

The population of Namchi Municipal Council as per Census 2011 is 12190, while in 2001 the population of the Notified town area was 979. During the period 1971-1981, it has experienced a considerable growth due to the merger of Sikkim with India and subsequent declaration of Namchi as the District Head Quarter. The population growth of the town is given in the Table below. The gigantic leap in the urban population in Census 2011 from Census 2001 is solely attributed to the reorganization of the town boundary for creation of Namchi Municipal Council.

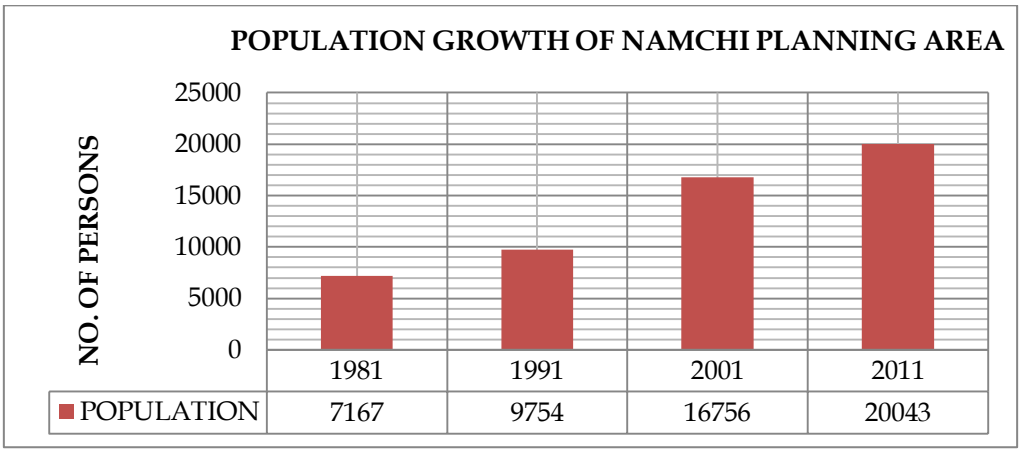
FIGURE 34: POPULATION GROWTH OF NAMCHI MUNICIPAL COUNCIL



Source: District Census Handbook 1981, Census of India 1991, 2001, 2011

The Town has extended to surrounding areas. Taking into account the development trend, Namchi agglomeration consists of 9 adjoining revenue blocks and they are, Assangthang, Gumpa Ghurpisay, Singithang, Boomtar, Mamley, Kamrang, Denchung, Tinzer and Kopchey. The total population of Namchi including these 9 revenue blocks is 20043 as per Census 2011. Namchi being a tourist centre, administrative centre, educational centre and a Health centre of the whole region, floating population also needs special mention.

FIGURE 35: POPULATION OF NAMCHI PLANNING AREA



Source: District Census Handbook 1981, Census of India 1991, 2001, 2011

1.2.2. POPULATION DENSITY

The town area of Namchi is divided into 7 electoral wards, each headed by a ward councilor. The following table shows the population distribution of the wards along with their density.

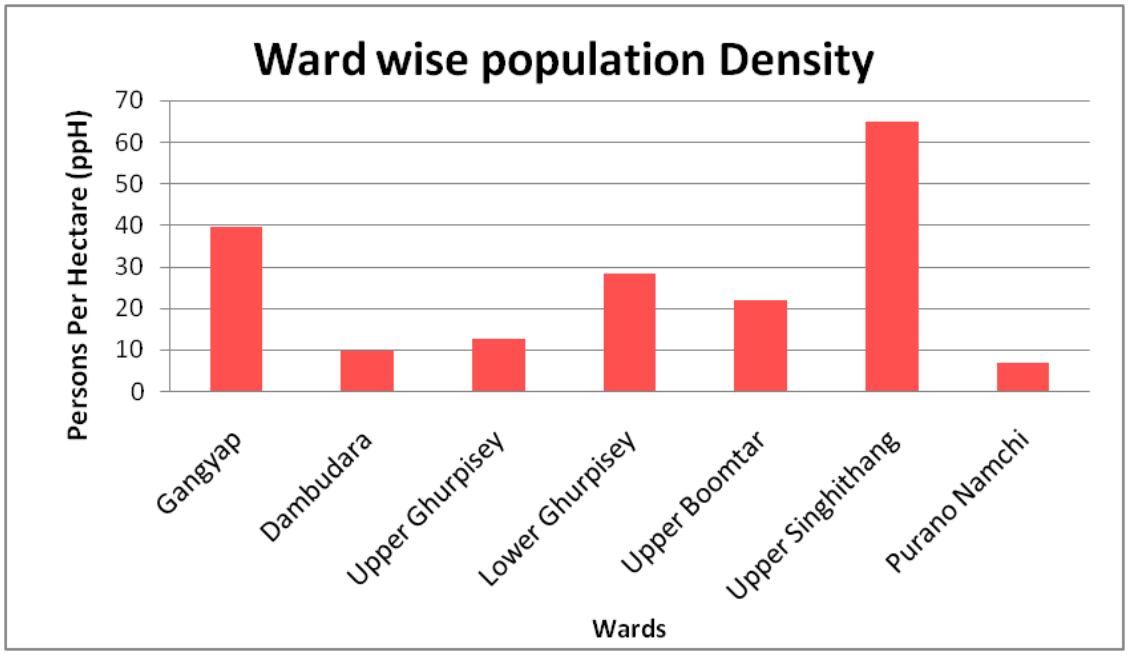
TABLE 78: POPULATION DENSITY OF NAMCHI MUNICIPAL COUNCIL

Name	Civic Status	Ward Name	Total Population	Area	Density
Namchi	**Namchi Municipal Council**		**12190**	**Ha**	**ppH.**
	Ward 1	Gangyap	2426	61.05	**39.74**
	Ward 2	Dambudara	1225	125.09	**9.79**
	Ward 3	Upper Ghurpisey	1182	91.42	**12.93**
	Ward 4	Lower Ghurpisey	1910	67.09	**28.47**
	Ward 5	Upper Boomtar	1505	68.56	**21.95**
	Ward 6	Upper Singithang	2814	43.33	**64.94**
	Ward 7	Purano Namchi	1128	160.98	**7.01**

Source: Census of India, 2011

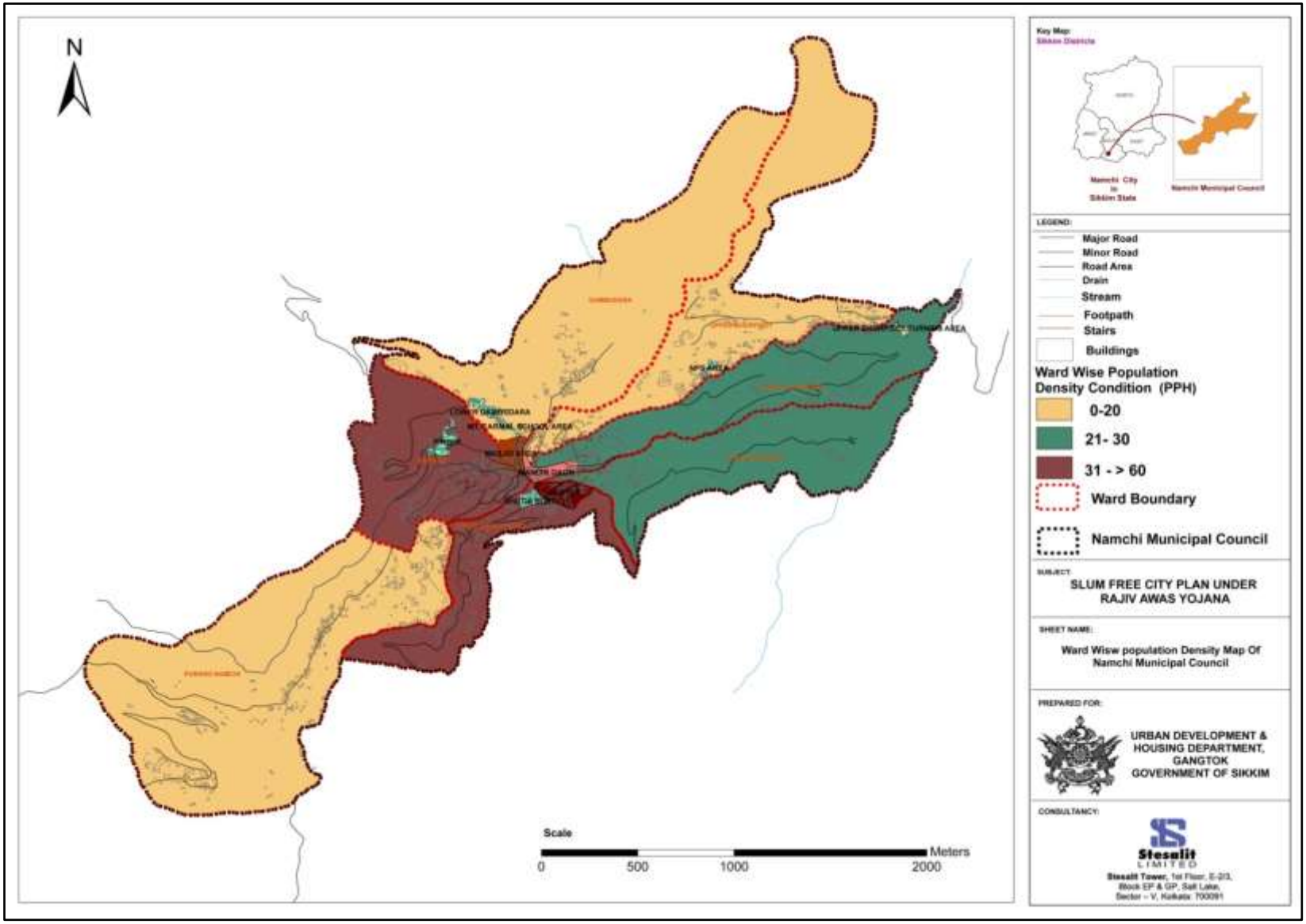
From the above charts it appears that Upper Singithang has the highest population density, followed by Gangyap, Lower Ghurpisey, Upper Boomtar, Upper Ghurpisey, Dambudara and Purano Namchi respectively. Such high density in case of Upper Singithang can be attributed to the fact that there is a heavy shortage to developable land in this ward.

FIGURE 36: WARD WISE POPULATION DENSITY



Source: Census of India, 2011

MAP 28: WARD WISE POPULATION DENSITY MAP OF NAMCHI



Source: Census of India, 2011

1.3. SOCIAL GROUPS

The people are mainly of Nepalese origin. Other ethnic groups include the Lepcha and Bhutia communities. Nepali language is widely spoken by the people. Most of the people of Namchi are Hindus and Buddhists. Languages spoken are Nepali, English and Hindi.

1.4. ECONOMIC PROFILE

The Census 2011 suggests that the work participation rate of the town is 37.56% of which Upper Singithang contributes most number of workers which seems logical from the observation previously that the ward has the highest population and density.

TABLE 79: WORK PARTICIPATION SCENARIO IN NAMCHI

SL NO.	Ward Name		Population	Work Participation			
	Namchi Municipal Council			Total work population	Rate of Participation	Total Workers Male	Total Workers Female
1	Ward 1	Gangyap	2426	781	32.19%	537	244
2	Ward 2	Dambudara	1225	495	40.41%	354	141
3	Ward 3	Upper Ghurpisey	1182	384	32.49%	257	127
4	Ward 4	Lower Ghurpisey	1910	630	32.98%	434	196
5	Ward 5	Upper Boomtar	1505	589	39.14%	383	206
6	Ward 6	Upper Singithang	2814	1237	43.96%	804	433
7	Ward 7	Purano Namchi	1128	463	41.05%	250	213
Total			12190	4579	37.56%	3019	1560

Source: Census of India, 2011

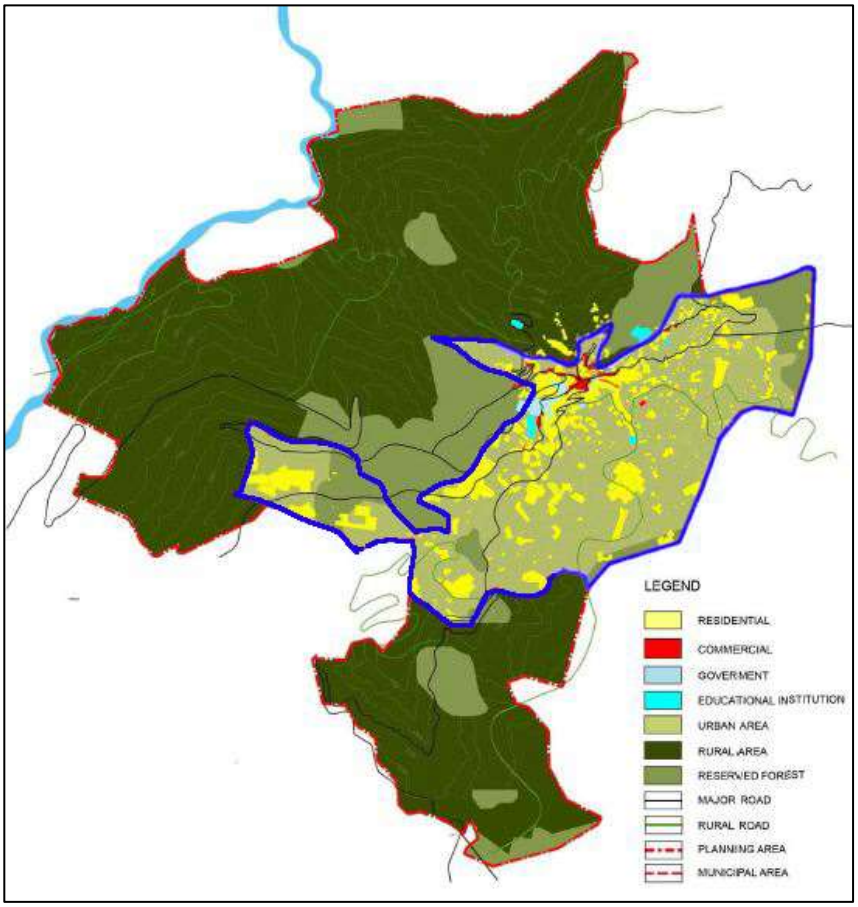
The Census of India, 2011 estimates only 34.12% of total population of Namchi being economically productive (main workers) with agricultural workers being a meager 0.25% of the total population. The marginal workers make 3.49% of the population. While only 2.44% of the population is employed as labors in construction and other works major percentage of 65.88% of the population does are non-workers.

Non-workers by the definition in Census are those who had not worked any time at all in the year preceding the date of enumeration. A man or woman who was engaged primarily in one's own household duties or a boy or a girl who was primarily a student, even if such a person helped in the family economic activity but not as full time worker was not treated as worker. It can be concluded that the young generation or population below the age group of 18 who engage in various works related to tourism and household small scale business constitute the major portion of population in Namchi.

1.5. URBAN LAND

The structure plan for Namchi describes the land use of Namchi Municipal Council area. The most generic and visible land use in the notified Municipal Area is mixed use; most multi-user residential buildings are commonly seen to have retail shops at the ground and semi-basement levels. Almost 90% of land uses within the Municipal Area consist of residential, commercial and institutional uses, out of which residential uses are predominant with 87%. Institutional uses, though accounting for about 1%, include a wide spectrum of uses ranging from civic uses such as police station, fire station, post offices, etc.; religious sites such as monasteries, churches, temples, etc.; health uses such as hospitals, dispensaries, etc. to educational uses such as schools and Colleges, etc. The remaining 11% of area within the Municipal Area is occupied by a part of the Tendong Reserved Forest.

FIGURE 37: LAND USE PLAN OF NAMCHI PLANNING AREA, 2009



Source: Namchi Structure Plan, 2009

No major land use change has taken place over time in the municipal council only percentage of mixed use has increased in the area. As has been proposed in The Structure Plan of Namchi, 2009 Namchi is envisaged to become an urban town on par with Gangtok by 2040 by an agglomeration of the existing Namchi urban area and the surrounding rural areas within the defined future NPA. While a full-fledged development of urban amenities to uphold its status as a major urban town has to be fulfilled, to retain the green environment that is unique to the State is equally important. As shown in the following page, a combination of the various constraints such as reserved forest, land slide zone, steep zones and agricultural land.

Industrial Zone has construed a natural asset of a green conservation zone. This zone pierces through the NPA to soften the future landscape of physical developments.

The green flanges divide the NPA into three developable zones: north, south and west. Each zone will come with basic uses such as residential, commercial, institutional, and industrial uses.

The proposals for the different priorities are detailed below.

Green Conservation Zone:

All the sensitive areas such as reserved forest, land slide zone, steep zones and agricultural land are proposed to be retained to form a green conservation zone.

Residential Precincts:

A number of residential precincts spread evenly across the NPA to form various communities which are close to the activity and employment centers like industrial areas and commercial centers to enable easy reach of residents.

Commercial Nodes with Defined Hierarchy:

The key road junctions with expected high volume of traffic are identified for commercial nodes in order to benefit from the passing trade. They comprise the cross junction of the proposed NH31A, State highways and the ring road. Hierarchy of these commercial nodes is also defined to reflect their different levels of functions.

Institution Node:

To strengthen Namchi's identity as another major institutional node in the State as suggested in the Strategic Urban Plan, the existing institutional activities are capitalized and expanded to become sizable institutional zones. An educational belt including the current Kamrang College is planned to allow more institutions e.g. new university, boarding schools and research institutes. The educational belt can interface with a health care zone inclusive of the existing hospital and a new medical college.

Employment Centers:

While the scale of industrial operations remains small, two potential locations at the northwest and southeast are identified for such use in view of the factors of accessibility and favorable wind directions. The wind direction

in Sikkim is mainly north – south with a slight inclination to east; hence, the western end and the southern tip are favored such that the habited areas are protected from any air pollution. Being at the peripheral locations, both sites are easily accessible from other urban towns at Jorethang and Melli.

Proposal in Residential Uses:

- A broad density guide of 4000 persons / sq km is considered as an approach to achieve a projected population of 135000 (Rounded off from the State Urban Plan).
- The total number of households required to accommodate the expected population is about 27000 units assuming an average household size of 5 persons/ unit.
- The State's average of 20% BPL population is to be provided with public housing having an average unit size of 80 sqm.
- The remaining 80% is allocated for private housing with an average space of 150 sq m per unit. Two housing types consist of multi-storey apartment and low-rise cottage. The existing private housing dwellers are assumed to be occupying 50% of the CBD.
- Other planning parameters such as plot ratio and building height are recommended as below :

FIGURE 38: RECOMMENDATIONS IN RESIDENTIAL USES

Land Use	Building Usage	GPR	Number of Floors
Residential	Private Housing	1.0-2.0	3-6 storey
Residential	Public Housing	2	6 storey
Commercial	CBO+District Centre (Mixed Use)	2.5	6 storey
Commercial	Community Centre	1.5	4 storey
Commercial	Sector Centre	0.5	2 storey
Educational Facilities	College/University	1.5	4 storey
Educational Facilities	Upto SSS	1	3.5 storey
Educational Facilities	Upto PS	0.2	2 storey
Sports and Recreation	Recreational/ Cultural/ District sports centre	1	3.5 storey
Industrial	Light Industry	0.8	2 storey

Source: Namchi Structure Plan, 2009

Proposal in Commercial Uses

3 classes of commercial centers are proposed. Commercial activities in NPA are largely concentrated in the existing urban area occupying approximately 15 Ha of land. Future expansion to meet the proposed size of 44 Ha should start from this established centre in order to capitalize on the existing infrastructure. A total area of

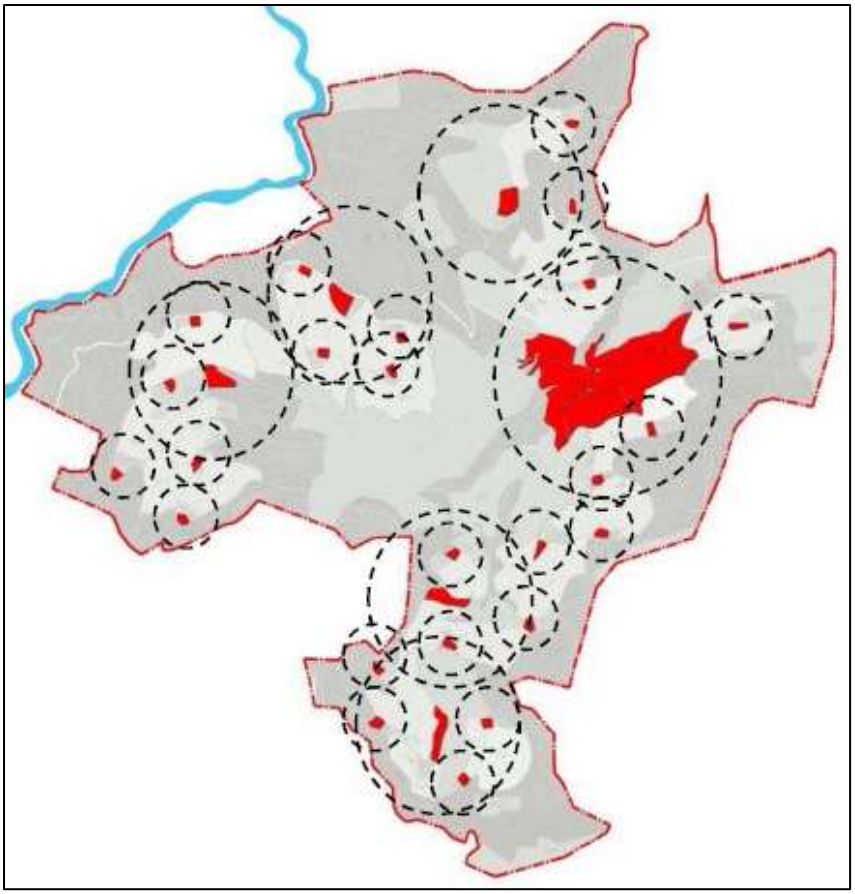
around 150 Ha is therefore proposed as a CBD zone, which may include the district commercial centre and mixed uses offering multiple retail commercial, hotels, arts and culture centers, civic centers, etc.

Each community is proposed to have one community center that provides community level facilities such as grocery store, post offices, clinic, boutique shops and other offices, etc. Sector centers, with an individual catchment of 5000 people, are the lowest hierarchy commercial centre offering convenient store service. The existing four RMCs are able to play this role.

TABLE 80: REQUIRED COMMERCIAL DEVELOPMENT

REQUIRED COMMERCIAL CENTERS	QUANTITY	AREA
District Centre	1	44
Community Centre	5	5
Sector Centre	27	1

FIGURE 39: PROPOSED COMMERCIAL DEVELOPMENT



Source: Namchi Structure Plan, 2009

Proposal in Educational Institutions

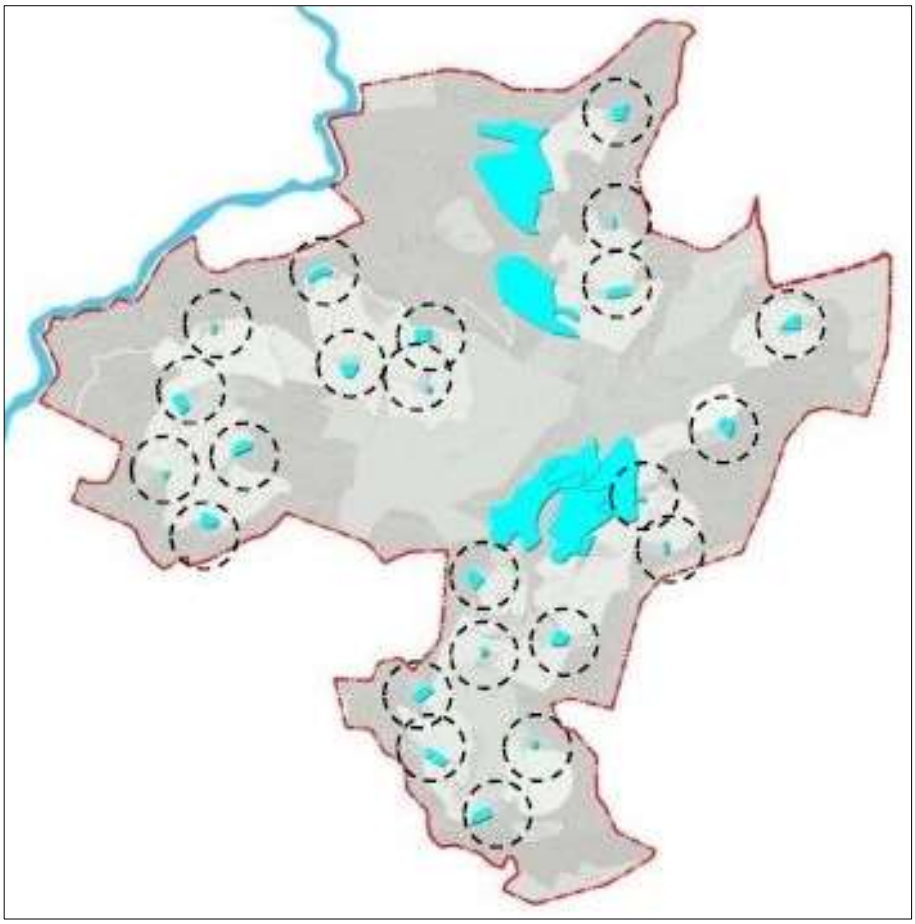
The national approach of providing larger clustered schools is considered here. In addition, about 200 Ha of land is reserved for a new university, tertiary colleges and other research institutes in order to strengthen Namchi as an exporting urban center for education.

All the educational institutions will be sited close to neighborhood parks and playgrounds such that large open space can be shared amongst different groups of users.

TABLE 81: REQUIRED INSTITUTIONAL DEVELOPMENT

REQUIRED EDUCATIONAL INSTITUTES	QUANTITY	AREA
Primary School	27	0.5 Ha
Senior Secondary School	18	2 Ha
Integrated School with Hostel	1	4 Ha
College	1	4 Ha
Research Institute	1	7 Ha
New University	1	60 Ha
Medical College	1	15 Ha
Engineering College	1	60Ha

FIGURE 40: PROPOSED INSTITUTIONAL AREA



Source: Namchi Structure Plan, 2009

Proposal in Social Infrastructure development

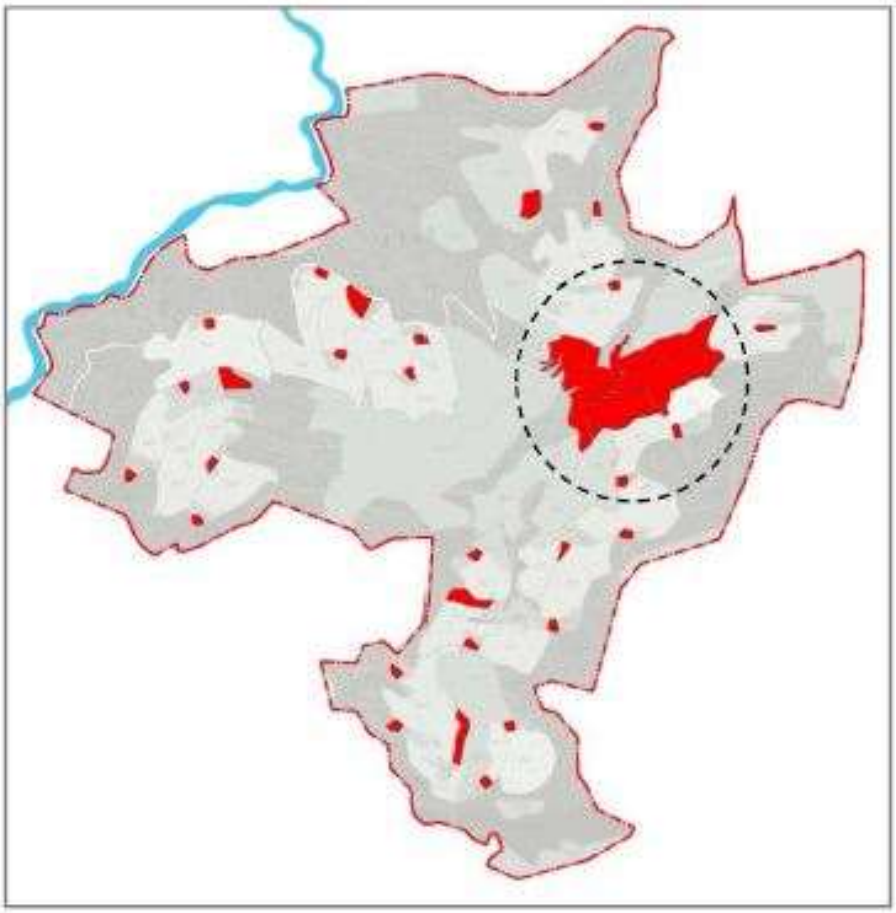
Most of the civic uses such as Police Station, Post Office, Fire Station, museum etc. are all located within the core area. Although most of the required facilities already exist today, their physical conditions require major improvements. One example is that the District Post Office currently housed at the basement of a general

building should be relocated to a new and prominent Civic Zone within the CBD. Though the museum is now under construction, it can be re-grouped and expanded to form an Art Zone within the CBD.

TABLE 82: REQUIRED SOCIAL INFRASTRUCTURE

REQUIRED CIVIC USES	QUANTITY	AREA
Police Station (District HQ)	1	1.2 Ha
District Post Office	1	0.06 Ha
Fire Station (District HQ)	1	1.6 Ha
Museum / Art Gallery	1	2 Ha
Culture / Recreation Centre	1	2 Ha
District Sports Centre	1	8 Ha
Crematorium	1	1 Ha

FIGURE 41: PROPOSED CIVIC INTEGRATED WITHIN COMMERCIAL CENTRE



Source: Namchi Structure Plan, 2009

Proposal in Health Infrastructure

Major health care services such as Intermediate Hospital with a teaching medical school are consolidated within the proposed institutional zone. Other general health care facilities such as Polyclinic, Nursing/ Child Maternity and dispensary are scattered in various commercial centers. The existing PHSCs will have to be upgraded to meet these service requirements.

TABLE 83: HEALTH FACILITIES PROPSED

Required Health Care	Quantity	Area (Ha)
General Hospital	1	6
Specialized Health Care	1	2
Intermediate Hospital	1	4
Polyclinic	1	0.3
Nursing, Child Maternity	3	0.3
Dispensary	9	0.12

Source: Namchi Structure Plan, 2009

FIGURE 43: HOSPITALS LOCATED WITHIN THE INSTITUTIONAL ZONE

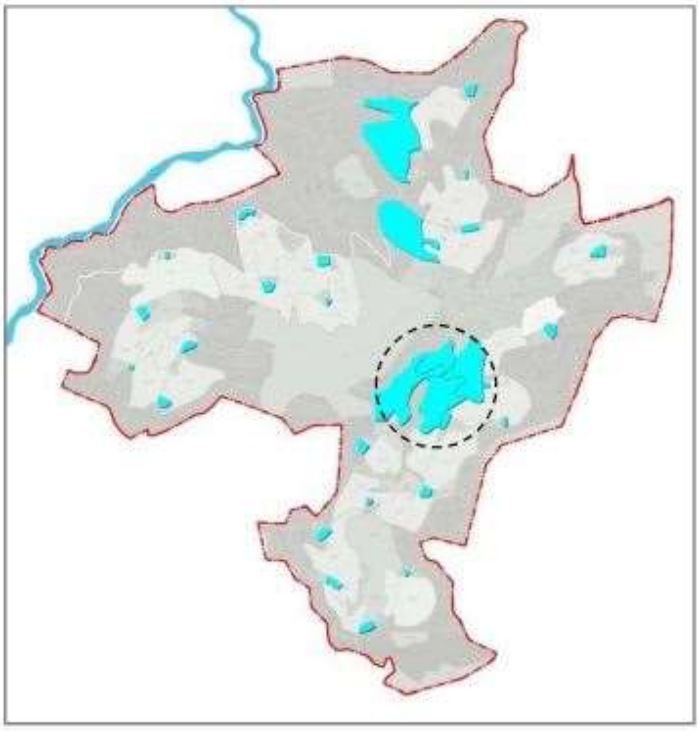
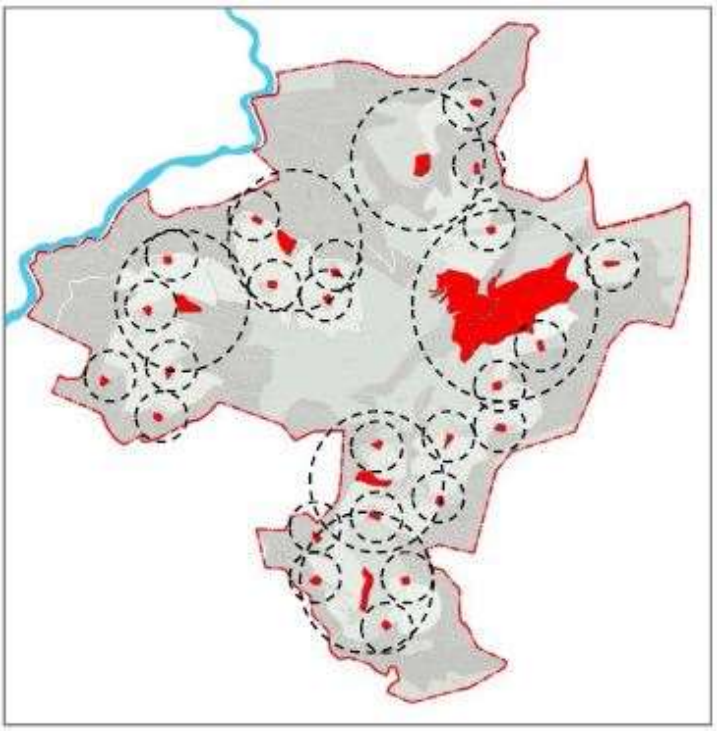


FIGURE42: GENERAL HEALTH FACILITIES WITHIN COMMERCIAL



Source: Namchi Structure Plan, 2009

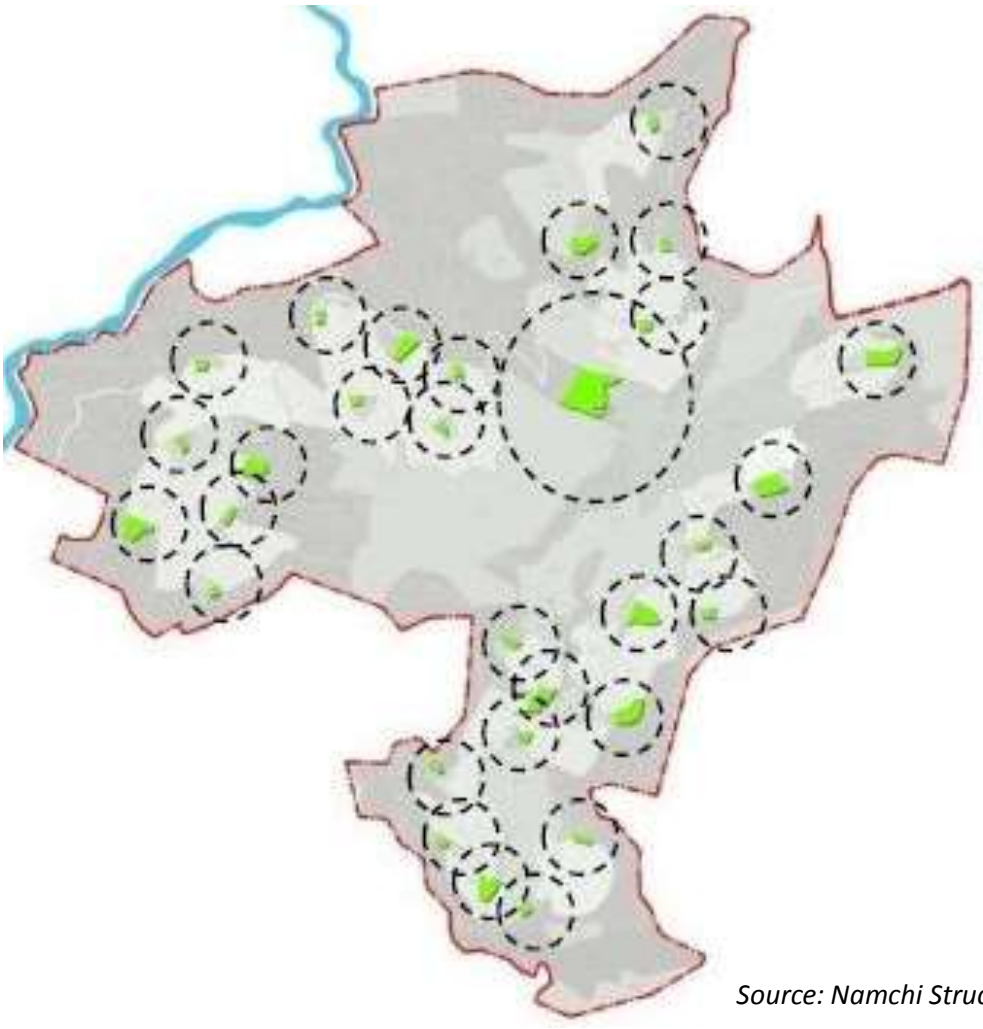
Proposal for Urban Greens

The concept of open space is not new for the market centers in Sikkim. Many mixed residential cum retail uses are commonly seen around an open. It is however observed that such public places in some other towns are misused and occupied by vehicles as parking spaces. In Namchi, this situation is rectified as the central space is undergoing redevelopment to become a pedestrian-friendly central park soon. The concept of integrated public greens such as parks and playgrounds within neighborhoods has yet to widely realize in Namchi. Although the State is rich in natural green, there are fewer usable open spaces that can be secured for outdoor activities or public uses. To strengthen the public green space concept across neighborhoods, the land use plan indicates the proposed network of parks and playgrounds within the NPA.

TABLE 84: REQUIRED URBAN GREEN

REQUIRED URBAN GREEN	QUANTITY	AREA (HA)
District Park	1	4
Neighborhood Park and Play Area	9	3
Residential Play Unit Area	27	1

FIGURE 44: PROPOSED OPEN SPACES



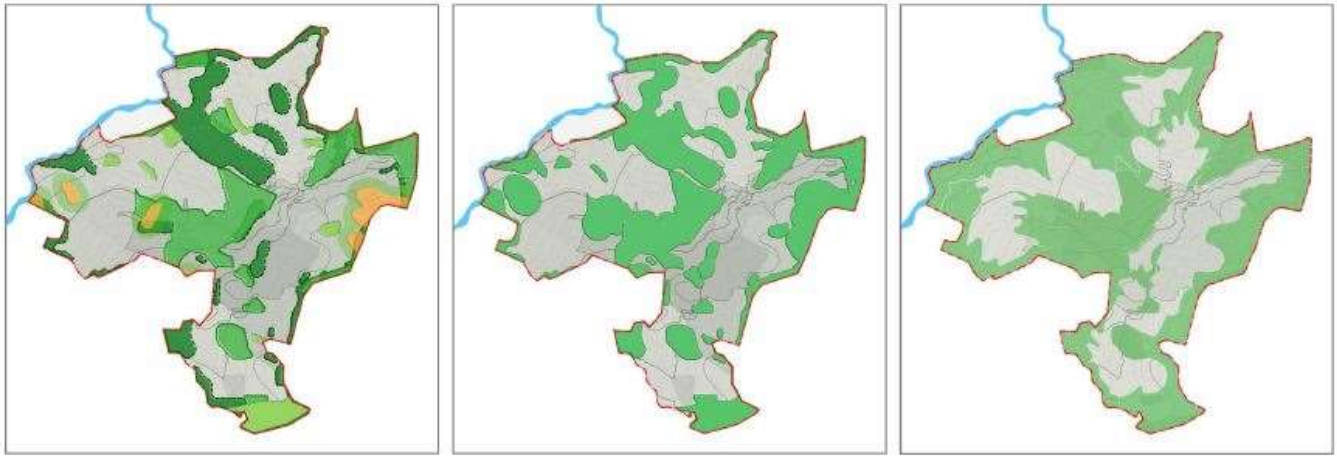
Source: Namchi Structure Plan, 2009

Environmental Green

The "Green State" identity of Sikkim demands a symbiotic development that balances urbanization with nature conservation. All the environmentally sensitive areas, coupled with agricultural land, are recommended to be preserved as Green Conservation Zone, as discussed in the previous Contextual Analysis. This zone shall be prohibited from any urban development, except for small scale tourist attractions such as temples.

To keep urbanization in check within the Namchi planning boundary, a green ring corridor is proposed along the fringe of the NPA to create a green belt of at least 200 meters wide separating rural and urban areas. This green belt sitting on a lower attitude, together with the Reserved Forest on the ridge, is forming a 2-tier green-scape to sandwich and soften the built-up environment of the urban area.

FIGURE 45: GREEN CONSERVATION ZONE AND GREENBELT



Source: Namchi Structure Plan, 2009

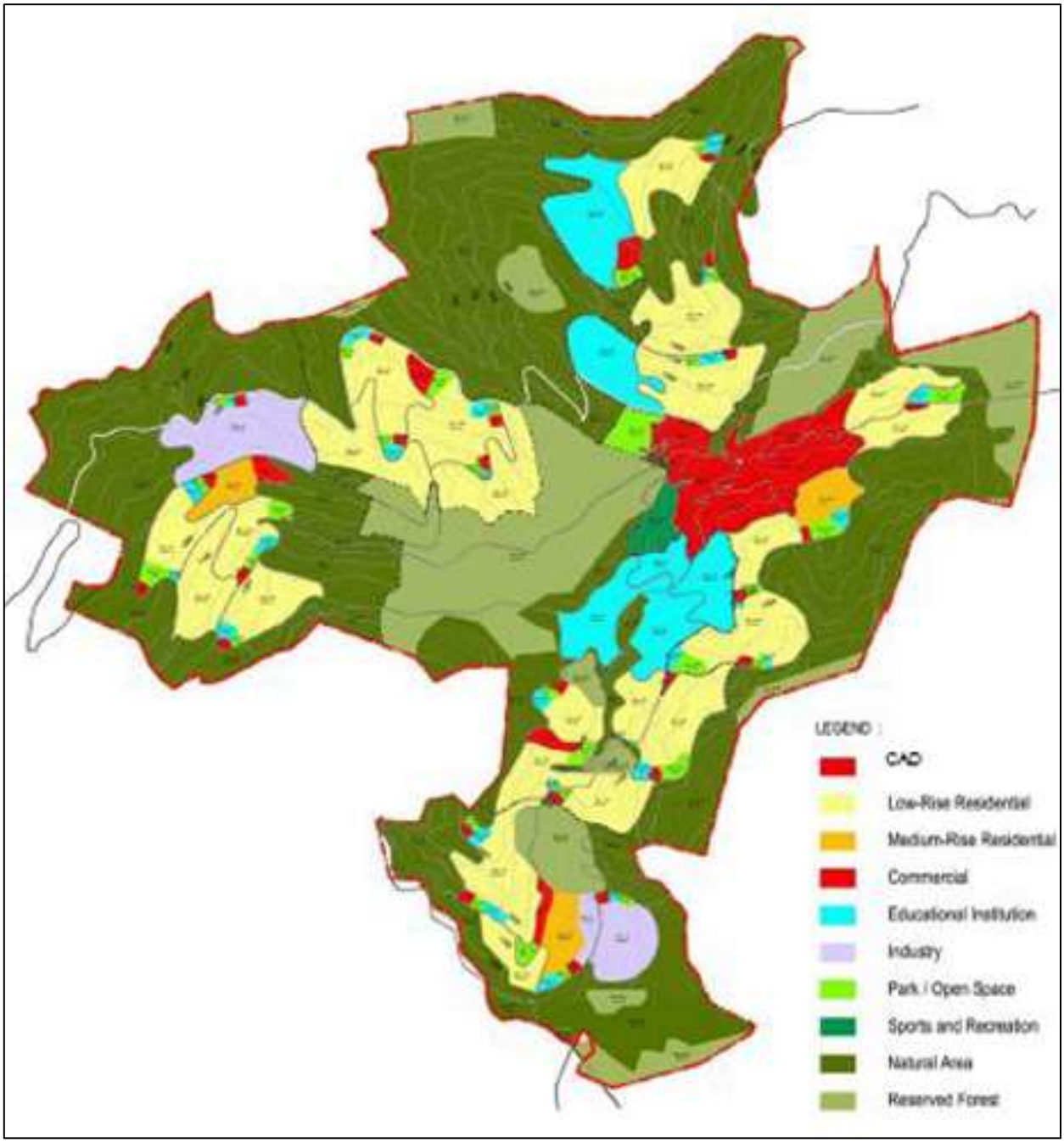
Overall Land Use Proposal

The 2040 Namchi Land use Structure Plan comprise all key land use components. A significant share up to almost 65% of the total land area is reserved for open spaces. Usable public green for parks and gardens accounts for an extra 63 Ha. Residential component inclusive of both private and public housing has the largest share among other land use groups in order to accommodate the projected population of 135,000. Overall, the proposed density within 4000 persons/sqkm is fulfilled. A CBD at the existing centre is expanded to strengthen Namchi's role as a major commercial centre in western Sikkim. Further, a substantial 254 Ha of land is designated for institutional developments in order to create another identity of Namchi as an educational hub.

TABLE 85: PROPOSED LAND USE

LAND USE	AREA (HA)	PERCENT
Residential	769	20.18%
Commercial	166	4.36%
Institutional	254	6.67%
Industrial	105	2.76%
Public Green	63	1.65%
Open Spaces	2453	64.38%

FIGURE46: PROPOSED LAND USE PLAN



Source: Namchi Structure Plan, 2009

1.6. HOUSING SCENARIO

The Namchi Town is developing and expanding rapidly. Lot of development projects is taking place at Namchi. Being a district headquarters and second most important town in Sikkim, there is lot of Government offices. People in South and West district migrate to Namchi for better living. Under this scenario there is a huge demand for housing especially for marginalized section of the society. Thus housing shortage is a predominant phenomenon among the urban poor of Namchi.

1.6.1. HOUSING CHARACTERISTICS

1.6.1.1. HOUSING BY MATERIAL

According to Census 2011, 3479 Census houses are being resided into by 2733 households in Namchi. The number of Census houses is excluding the locked or vacant houses that are found in Namchi. This indicates that the number of Census house per household is more than one which leads to the conclusion that one household owns more than one house in the town.

TABLE 86: HOUSING BY MATERIAL OF STRUCTURE IN NAMCHI

SL NO	YEAR	PUCCA	SEMI PUCCA	KUTCHA	TOTAL
1	1991	86	21	0	107
2	2001	115	45	0	160
3	2011	446	868	45	1359

Source: Census of India, 1991, 2001 & 2011

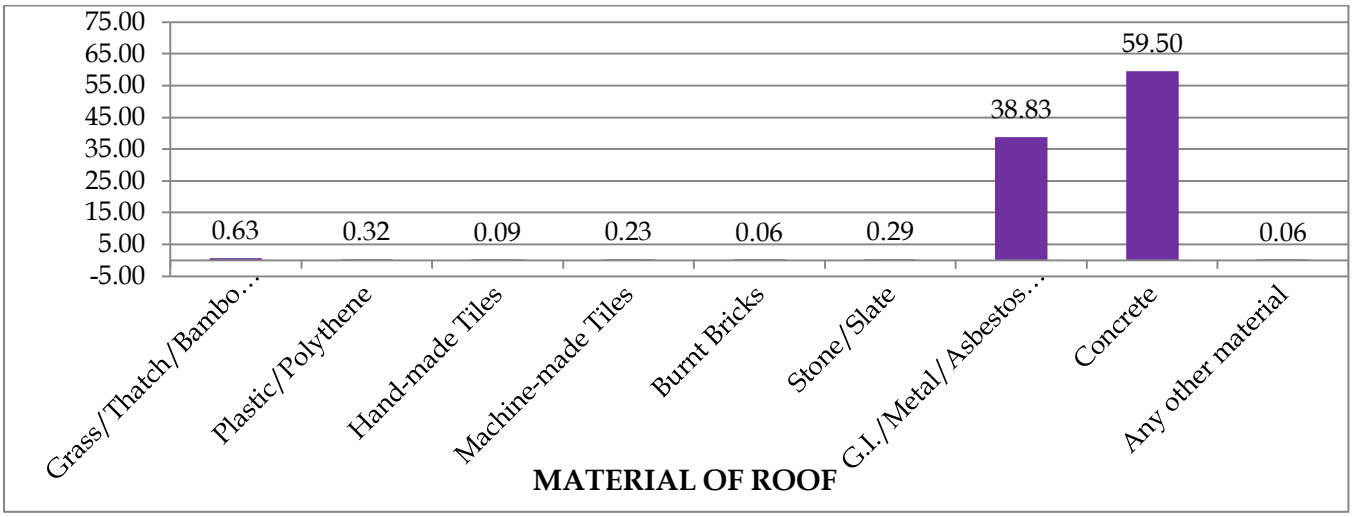
The above table suggests that a very small percentage of dwelling units are kaccha. However, considering the topography of the area, if these dwelling units are located on slopes, they might pose a threat to the people living in them. Hence, it is important to target such houses initially for development. Over the years the number of semi-pucca houses have increased in comparison to the pucca houses which indicates that the formation of low income informal housing is a growing trend in Namchi.

TABLE 87: DISTRIBUTION OF CENSUS HOUSES ACCORDING TO MATERIAL OF ROOF

SL NO	MATERIAL OF ROOF	CENSUS HOUSES	PERCENTAGE
1	Grass/Thatch/Bamboo/Wood/Mud etc.	22	0.63
2	Plastic/Polythene	11	0.32
3	Hand-made Tiles	3	0.09
4	Machine-made Tiles	8	0.23
5	Burnt Bricks	2	0.06
6	Stone/Slate	10	0.29
7	G.I./Metal/Asbestos sheets	1351	38.83
8	Concrete	2070	59.50
9	Any other material	2	0.06
Total No. of Census Houses		**3479**	**100**

Source: Housing Census of India, 2011

FIGURE 47: CENSUS HOUSES BY MATERIAL OF ROOF



Source: Housing Census of India, 2011

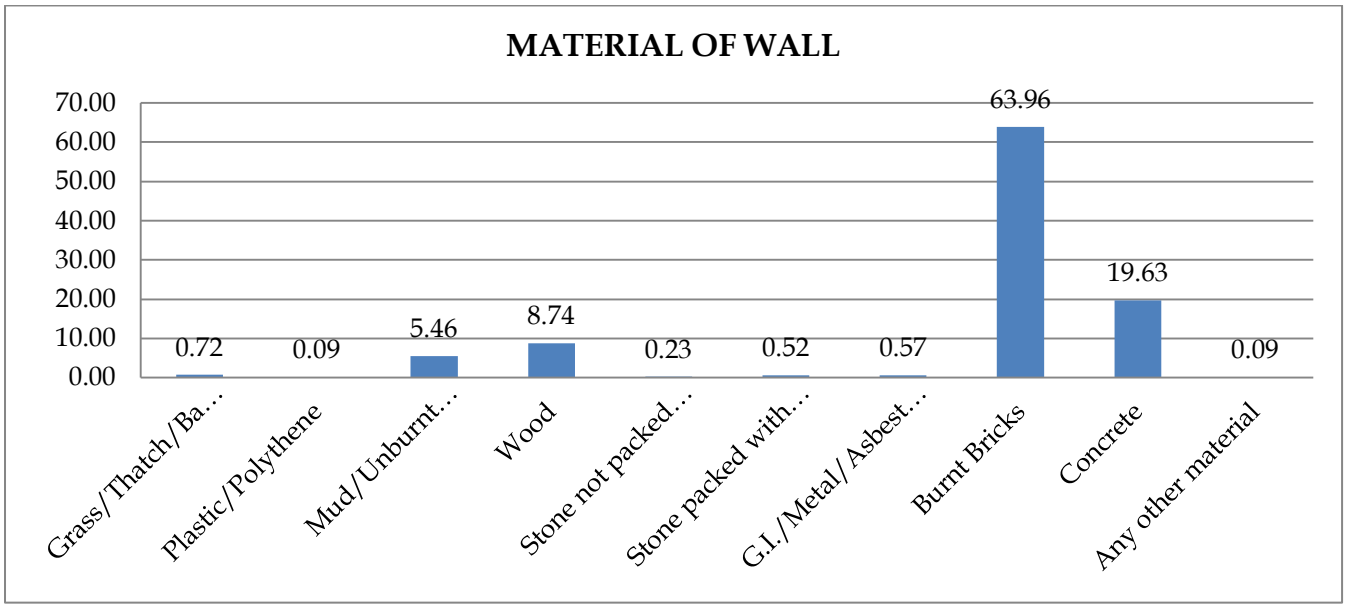
The above chart shows that most of the houses have pucca roof made of concrete. But, a considerable percentage of almost 38.83% have G.I./Metal/Asbestos sheets which should be made into pucca roofs in context of the extreme climatic conditions of Namchi.

TABLE 88: DISTRIBUTION OF CENSUS HOUSES ACCORDING TO MATERIAL OF WALLS

SL NO	MATERIAL OF WALL	CENSUS HOUSES	PERCENTAGE
1	Grass/Thatch/Bamboo/Wood/Mud,etc.	25	0.72
2	Plastic/Polythene	3	0.09
3	Mud/Unburnt Bricks	190	5.46
4	Wood	304	8.74
5	Stone not packed with mortar	8	0.23
6	Stone packed with mortar	18	0.52
7	G.I./Metal/Asbestos sheets	20	0.57
8	Burnt Bricks	2225	63.96
9	Concrete	683	19.63
10	Any other material	3	0.09
TOTAL NO. OF CENSUS HOUSES		**3479**	**100**

Source: Census of India, 2011

FIGURE 48: CENSUS HOUSES BY MATERIAL OF WALL



Source: Census of India, 2011

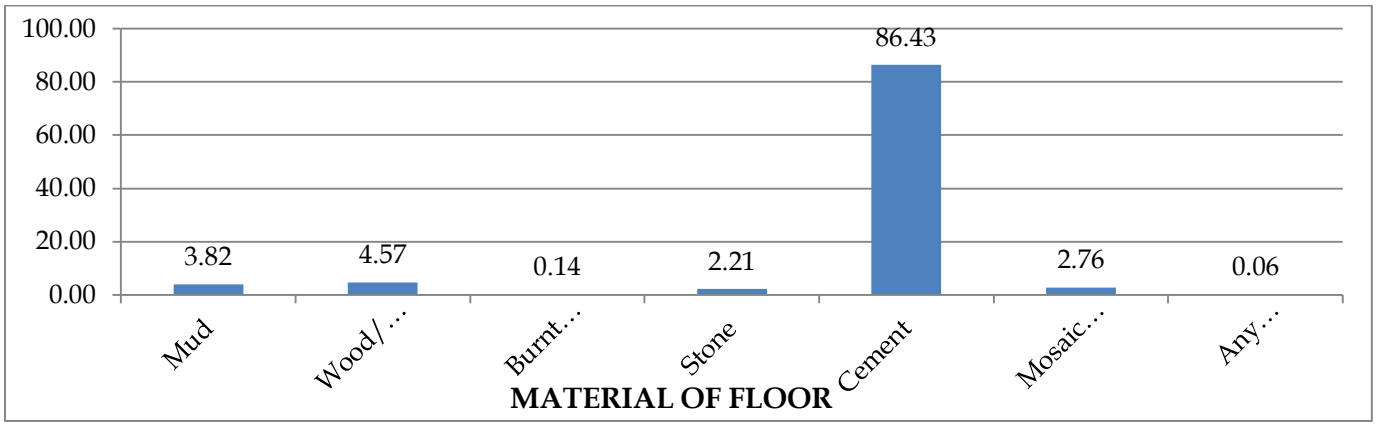
The above charts show that more than 63% of the census houses are constructed with burnt brick walls.

TABLE 89: DISTRIBUTION OF CENSUS HOUSES BY MATERIAL OF FLOOR

SL NO	MATERIAL OF FLOOR	CENSUS HOUSES	PERCENTAGE
1	Mud	133	3.82
2	Wood/bamboo	159	4.57
3	Burnt Bricks	5	0.14
4	Stone	77	2.21
5	Cement	3007	86.43
6	Mosaic/Floor tiles	96	2.76
7	Any other material	2	0.06
TOTAL NO. OF CENSUS HOUSES		**3479**	**100**

Source: Census of India, 2011

FIGURE 49: CENSUS HOUSES BY MATERIAL OF FLOOR



Source: Census of India, 2011

It is observed that almost 86% of the census houses have pucca floor and have predominantly used cement as a flooring material.

TABLE 90:MATERIAL OF WALL & ROOF OF CENSUS HOUSES

MATERIAL OF WALL	TOTAL NO. OF CENSUS HOUSES	NUMBER OF CENSUS HOUSES USED AS RESIDENCE AND RESIDENCE -CUM- OTHER USE	MATERIAL OF ROOF								
			Grass/ Thatch/ Bamboo/ Wood / Mud etc	Plastic /Polythene	Hand-Made Tiles	Machine Made Tiles	Burnt Brick	Stone /Slate	G.I./ Metal/ Asbestos Sheets	Con-crete	Any Other
All material	3479	2611	21	10	3	8	1	8	1142	1416	2
Grass/Thatch/ Bamboo etc.	25	24	0	3	0	1	0	0	20	0	0
Plastic/Polythene	3	3	0	0	0	0	0	0	3	0	0
Mud/Unburnt Bricks	190	179	2	5	0	1	0	3	118	49	1
Wood	304	268	13	0	2	1	0	0	252	0	0
Stone not packed with mortar	8	7	1	0	0	0	0	0	3	3	0
Stone packed with mortar	18	18	0	0	0	0	0	0	18	0	0
G.I./Metal/Asbestos sheet	20	18	0	1	0	0	0	0	15	2	0
Burnt Brick	2225	1547	5	0	1	5	1	3	478	1053	1
Concrete	683	544	0	0	0	0	0	2	233	309	0
Any other	3	3	0	1	0	0	0	0	2	0	0

Source: Census of India, 2011

The analysis of material of roof against material of walls reveals that most of the residential and non-residential census houses in Namchi are made of permanent wall and roofing materials and therefore can be expected to be in a better condition. However, there also exist almost 10% of houses that are made of traditional materials such as wood/timber that might need special attention over the years.

1.6.1.2. HOUSEHOLD SIZE

The present Household size of Namchi is assumed from HH/Population ratio of the 2011 Census as 4.46. There is a steady decrease in HH size over the last two decades which might be attributed to either outmigration of locals to metro cities of India for higher education and employment or it may also be that there has been a trend where young generation of the family have separated and are transformed from joint to nuclear families over the years. Refer Table below.

TABLE 91: TREND IN HH SIZE IN NAMCHI

SL NO	YEAR	POPULATION	NO. OF HH	HH SIZE
1	1991	630	97	6.49
2	2001	979	160	6.12
3	2011	12190	2733	4.46

Source: Census of India, 2011

1.6.1.3. HOUSING BY CONDITION OF STRUCTURE

The trend in condition of houses show that in 2011 there are a few houses which have reached un-livable condition than the last two decades in which there were no dilapidated houses. This shows that in future the houses in Namchi require attention in terms of livability in near future.

TABLE 92: TREND IN CONDITION OF HOUSES

SL NO	YEAR	CONDITION OF CENSUS HOUSES			
		TOTAL	GOOD	LIVABLE	DILAPIDATED
1	1991	107	101	6	0
2	2001	160	146	14	0
3	2011	1359	1141	206	12

Source: Census of India, 2011

1.7. PHYSICAL INFRASTRUCTURE

1.7.1. WATER SUPPLY

There is a severe scarcity of water at Namchi Town as it is located in the leeward side. The average duration of water supply to the town area is only one hour which is very low by any standard. Public Health and Engineering Department supplies water to the major part of Namchi urban agglomeration. But due to less supply of water by PHED, people still use untreated water from seasonal dhara or spring water in the low lying areas. The PHED source of water is at Bermely about 46km from Namchi. The water is well treated before distribution at Ghurpisay. The treatment plant has settling tanks and slow sand filters, with a treatment capacity of 0.8 cum water per sq.m. per hour. The water is chlorinated daily and the treatment plant is cleaned twice in a month and filtering sand is being replaced once a year. The Rural Development Department also has a project to pump water from river Rangit. The first phase of which is complete. After completion whole of Namchi agglomeration will be covered by this scheme.

TABLE 93: DETAILS OF EXISTING PHED WATER SUPPLY SYSTEM OF NAMCHI

SLNO.	PARTICULARS	UNIT(no)	
1	Tanks		
a	Intake Tank at Bermely source I and II 1200 gallon each	2	
b	Main Reservoir at Ghurpisey 5 lakh Gallon	1	
c	Distribution Tanks		
i	1 lakh Gallon	1	
ii	50,000 Gallon	2	
iii	40,000 Gallon	3	
iv	3200 Gallon	6	
2	Water supply to Namchi town per day	4 lakh Gallon	
3	Water supply lines		
	Category	Length(km)	Number
a	6" Dia	46	1
b	6" Dia	3	1
c	4" Dia	1.5	1
d	3" Dia	1	1
e	2" Dia	24	32
f	1.5" Dia	3	2
g	1" Dia	6	2
	Total Household Connection	**950**	

Source: PHED Department

TABLE 94: HOUSEHOLDS BY SOURCE OF WATER

SL NO	TYPE OF WATER SOURCE	HH	PERCENTAGE
1	Tap water	2508	96.17
A	Tap Water from Treated Sources	2384	91.41
B	Tap water from Un-treated Sources	124	4.75
2	Well	0	0.00
A	Covered Well	0	0.00
B	Un-covered Well	0	0.00
3	Hand Pump	0	0.00
4	Tube well/Borehole	0	0.00
5	Spring	95	3.64
6	River/Canal	1	0.04
7	Tank/Pond/Lake	2	0.08
8	Other Sources	2	0.08
	Total No. of Households (Excl. Institutional HHs)	**2608**	**100**

Source: Census of India, 2011

1.7.2. SEWERAGE

Namchi is not covered by any sewerage system. In absence of any sewerage treatment plant, there are no sewerage lines. Each household has its own specific tank and soak pit. With the density of population increasing, there is a need to have a network of sewerage lines to avoid septic tanks and soak pits which could put pressure on the stability of the slopes.

TABLE 95: HOUSEHOLDS BY TYPE OF DRAINAGE CONNECTIVITY FOR WASTEWATER OUTLET

SL NO	DRAINAGE CONNECTIVITY	NUMBER OF HH	PERCENTAGE
1	Closed Drainage	254	21.33
2	Open Drainage	486	40.81
3	No Drainage	451	37.87
	Total No. of Households	**1191**	**100**

Source: Census of India, 2011

The number of Households in Namchi which are connected to soak pits or septic tanks by closed drainage systems is only 21.33%. The rest 40.81% have sewerage outflow but through open drains which gives rise to a number of environmental and health problems. But a major percentage of 37.87% are not connected to any proper network system. This indicates that Namchi is prone to health and environmental issues due to flow of sewerage through open drains or flow into the open.

But sewerage system is under construction under JNNURM with parallel wastewater piping system with treatment partly by central system having 1 STP at central Namchi and partly by decentralized system.

1.7.3. STORM WATER MANAGEMENT

There is no organized system of collection and disposal of storm water in Namchi. The available drains are decreasing in size due to increase of population and development. Open dumping of garbage found in these drains and Jhoras result in choking of the later causing nuisance. Major Jhoras trapping all the drains are:

- Kama Jhora near Kazitar
- Gosh Khann Jhora near Bazar
- Makhan Jhora
- Singithang Jhora
- Kamrang Jhora

1.7.4. SOLID WASTE MANAGEMENT

Namchi town generates about 4 tons of Garbage per day. Due to reasons like lack of sufficient fleet for collection, transfer station, etc only about 60% of the Garbage is collected and disposed. The garbage collection from the inner parts of the town which does not have any road access for garbage vehicle to ply is inefficient. Under present scenario Namchi has only one truck for collection. The collected garbage is transported for disposal at Sipchu landfill site. But a Solid waste management plan has been proposed under Structure Plan for Namchi for effective disposal of solid waste which includes four level collection system, intermediate Transfer stations and then consequent transfer to the landfill site. Augmentation of vehicles has also been proposed with proposal for backpacker bins for collection in inaccessible areas and pick up vans for collection from remaining town area.

1.7.5. SANITATION

Sanitation need of the town has been partially met by construction of public conveniences at various critical locations. Hence there is good access to toilets for the residents and the floating population at large.

TABLE 96: DETAILS OF HOUSEHOLDS BY TYPE OF LATRINE FACILITY

SL NO	ACCESS TO SANITATION	HH	PERCENTAGE
1	Latrine Facility within the premises	2581	98.96
A	Water Closet	2523	96.74
a	Piped sewer system	36	1.38
b	Septic tank	2470	94.71
c	Other Systems	17	0.65
B	Pit Latrine	57	2.19
a	With slab/Ventilated Improved Pit	28	1.07
b	Without slab/Open Pit	29	1.11
C	Other Latrine	1	0.04

SL NO	ACCESS TO SANITATION	HH	PERCENTAGE
a	Night Soil disposed in Open Drains	1	0.04
b	Night Soil removed by Humans	0	0.00
c	Night soil serviced by animals	0	0.00
2	No latrine within premises	27	1.04
a	Public Latrine	0	0.00
b	Open Defecation	27	1.04
Total No. of Households (Excl. Institutional HHs)		2608	100.00

Source: Census of India, 2011

The study of the type of access to sanitation in Namchi reveals that most of the houses have water closets that are access to a network of infrastructure. But the rest need attention in terms of irradiating the basic problems of open defecation and unsafe access to sanitation.

1.7.6. LIGHTING AND ELECTRICITY

The Census 2011 finds that 95.89% households have coverage by power supply. Amongst the rest kerosene oil is a popular fuel used in lighting houses because of the subsidized rates that the Government provides. The use of solar voltaic has not gained popularity. In the RAY provisions could be made of exploring the use of the renewable energy.

TABLE 97: HOUSEHOLDS BY MAIN SOURCE OF LIGHTING

SL NO	SOURCE OF LIGHTING	HH (EXCL. INSTITUTIONAL HHS)	PERCENTAGE
1	Electricity	1142	95.89
2	Kerosene	38	3.19
3	Solar	0	0.00
4	Other oil	7	0.59
5	Any other	0	0.00
6	No Lighting	4	0.34
	Total No. of Households	**1191**	**100**

Source: Census of India, 2011

1.8. SOCIAL INFRASTRUCTURE

1.8.1. EDUCATION FACILITIES

There are good numbers of school and colleges at Namchi, few among them are Namchi Government Senior Secondary School, Namchi Public School, Loyola College, Namchi Government College and various other private schools. Thus the education facilities in the town are adequate.

1.8.2. HEALTH FACILITIES

There is a centralized District level hospital in the heart of the town. This hospital is accessible from all the parts of the town. It is because of this fact that the residents were having a satisfactory health services extended to them.

1.8.3. COMMUNITY FACILITIES

Presently there is a community hall at the heart of the town which is primarily used for organizing various functions, exhibitions etc. It is not used as a gathering place for the micro level societies from the inner part of the town for various purposes is very limited. There is also an indoor stadium to meet the needs of the sportsperson of the town.

1.8.4. STREET LIGHTING

Namchi town has 100 percent coverage by power supply. The street lighting facility along the main market roads and the bazaar area is satisfactory but again it is the inner parts of the town where the street lighting facilities needs extension.

1.8.5. FIRE SAFETY

Namchi town has a Fire station with fleet of vehicles at its disposal.

2. ASSESSMENT OF SLUM SCENARIO IN NAMCHI

After a city level analysis of the housing scenario, shortage and demand, study of the infrastructure in Namchi and brief analysis of the existing institutional framework and policies and programmes for slum improvement, on the basis of the socio-economic and livelihood survey data a comprehensive assessment of the current scenario of the slums in Namchi has been done here. The housing, economic, infrastructure and amenity situation of the slums have been assessed.

2.1. DEFINITION OF SLUM

The slums are defined on the basis of definition of slums per the Sikkim Government Gazette Notification, which is given below as

1. Areas which are generally unfit for human settlement due to subsidence, steep slope, land slide prone etc. but stand occupied generally by people below the poverty line, including relocation of such people in other stable areas and providing them low cost housing including distribution of building materials.

2. Areas which are by reason of dilapidation, overcrowding, faulty arrangements and poor infrastructure of houses, narrowness or faulty arrangements of avenues, streets and setbacks, lack of ventilation or light or any composition of these factors which are detrimental to safety, health and morals/social and hat sheds/tenements requiring standardization and up gradation.
3. All under-serviced settlements, owing to unauthorized occupation of Government land, congested back streets and areas surrounding them, which require introduction of skill development programs, health care, child care programs including adult literacy and, poverty alleviation programs preferably through area-specific community development groups.
4. Any area where the residents or those in the neighborhood are prone to the health hazard due to poor waste management, lack of inadequate or proper infrastructure, public amenities, utilities or conveniences or due to squalid overcrowding, insanitary ad unhygienic conditions etc.
5. Any area where the construction are not regulated in accordance with Sikkim Building Construction regulation 1991.
6. Any area where the sanitation provisions relating to toilet, waste management, drainage, maintenance etc. are not in accordance with Sikkim Sanitation Rules.
7. Area without proper water supply and electricity connection.

2.2. EXISTING SCENARIO

There are 9[8]slums spread across 5 wards of Namchi except the Upper Boomtar and Purano Namchi wards. Of them 5 are non-notified slums and 4 are notified slums. Mt Carmel School, Lower Dambudara, Tinzir and Turning Area are located at the fringes and all are non-notified. The other six slums, Masjid Area and Mandir Gaon spread over two wards, Nps Area, Kazitar and Bhutia Busty are at the core area and all but Nps Area which is a non-notified slum in the core area, are notified. Total number of slum households is 788. The total slum population is estimated to be 3011 out of the total population of 12,190. This means that about 24.70% of the total population is living in slums. In terms of households 28.83% are living in slums. This figure is way above the national average of 17% slum households of the total urban households. (Note: Total number of HHs in Namchi Municipal Area is estimated to be 2733 by Census of India, 2011).Some of the slums have rural characteristics and can be called as urban villages. These slums with predominantly rural characteristics were initially excluded from the list of RAY slums. But it was observed during the reconnaissance survey that these also lack the basic amenities and facilities and are like any other slums. So, they have been included in the List after modification in the definition of slums for preparation of the Slum Free City plan of Action.

[8] Although there are 11 slum categories listed in the tables that follow, there are actually 9 slums in Namchi where Masjid Area and Mandir Gaon each are spread over two wards and these are represented as two slums spread over two wards for ease in the analysis.

TABLE 98: WARDWISE LIST OF SLUMS WITH SLUM NAME & POPULATION

SL NO	WARD NAME	SLUM NAME	POPULATION	HOUSEHOLDS
1	**Dambudara**	Masjid Area	572	141
2		Mt Carmel School	64	23
3		Lower Dambudara	126	30
4	**Gangyap**	Masjid Area	308	76
5		Tinzir	164	40
6	**Lower Ghurpisey**	Mandir Gaon	481	136
7	**Upper Ghurpisey**	Nps Area	46	14
8		Turning Area	35	7
9		Mandir Gaon	21	4
10	**Upper Singithang**	BhutiaBasty	421	92
11		Kazitar	773	225
TOTAL			**3011**	**788**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.3. AREA OF SLUMS

Slums account for 121106.3082 sq. m (12.11062 Ha or 0.12 sq. Km) of area, which is about 1.96% of the total area of Namchi Municipal Corporation (617.52 Ha). In other words, while slums account for only 1.96% of the total area in Namchi, it accounts for 24.70% of the population of Namchi (12,190), implying significantly high residential density in slums compared to the non-slum areas of Namchi.

A detailed analysis of slum size in terms of area is given in the table below.

TABLE 99: SLUM LOCATION AND AREA STATUS

SLNO	WARD NAME	SLUM NAME	SLUM LOCATION	STATUS	AREA (HA)
1	Dambudara	Mt Carmel School	FRINGE AREA	NON NOTIFIED	0.08
2		Masjid Area	CORE AREA	NOTIFIED	1.54
3		Lower Dambudara	FRINGE AREA	NON NOTIFIED	1.10
4	Gangyap	Masjid Area	CORE AREA	NOTIFIED	0.84
5		Tinzir	FRINGE AREA	NON NOTIFIED	1.20
6	Lower Ghurpisey	Mandir Gaon	CORE AREA	NOTIFIED	2.00
7	Upper Ghurpisey	Nps Area	CORE AREA	NON NOTIFIED	0.39
8		Turning Area	FRINGE AREA	NON NOTIFIED	0.376675429
9		Mandir Gaon	CORE AREA	NOTIFIED	0.39
10	Upper Singithang	Kazitar	CORE AREA	NOTIFIED	3.21
11		Bhutia Busty	CORE AREA	NOTIFIED	0.95
Total					**12.11**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.4. LOCATION OF SLUMS

In order to understand the locational dynamics of the slum the location of the slums has been analyzed based on the 'core' or 'fringe' area of Namchi Municipal area. The pattern as derived from the primary survey data

indicates that slums in Namchi tend to be located majorly in the core region containing about 87.08% of the slum population while more in household percentage of 87.31%. The number of slums in Fringe Area is only about12.92% while the percentage slum households are even less, 12.69%.

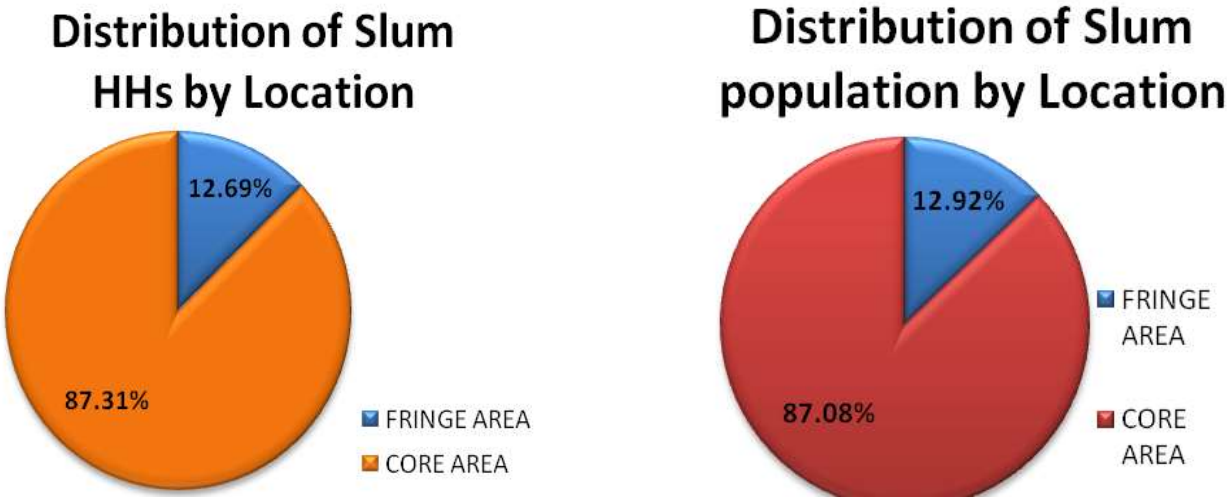
TABLE 100: LOCATION WISE DISTRIBUTION OF SLUM POPULATION AND HOUSEHOLDS

SL NO	SLUM NAME	SLUM LOCATION	POPULATION	HOUSEHOLDS
1	Mt Carmel School	FRINGE AREA	64	23
2	Lower Dambudara	FRINGE AREA	126	30
3	Tinzir	FRINGE AREA	164	40
4	Turning Area	FRINGE AREA	35	7
Total in Slums			389	100
% to Total			12.92%	12.69%
SL NO	**SLUM NAME**	**SLUM LOCATION**	**POPULATION**	**HOUSEHOLDS**
1	Masjid Area	CORE AREA	572	141
2	Masjid Area	CORE AREA	308	76
3	Mandir Gaon	CORE AREA	481	136
4	Nps Area	CORE AREA	46	14
5	Mandir Gaon	CORE AREA	21	4
6	Kazitar	CORE AREA	773	225
7	Bhutia Busty	CORE AREA	421	92
Total in Slums			2622	688
% to Total			87.08%	87.31%

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

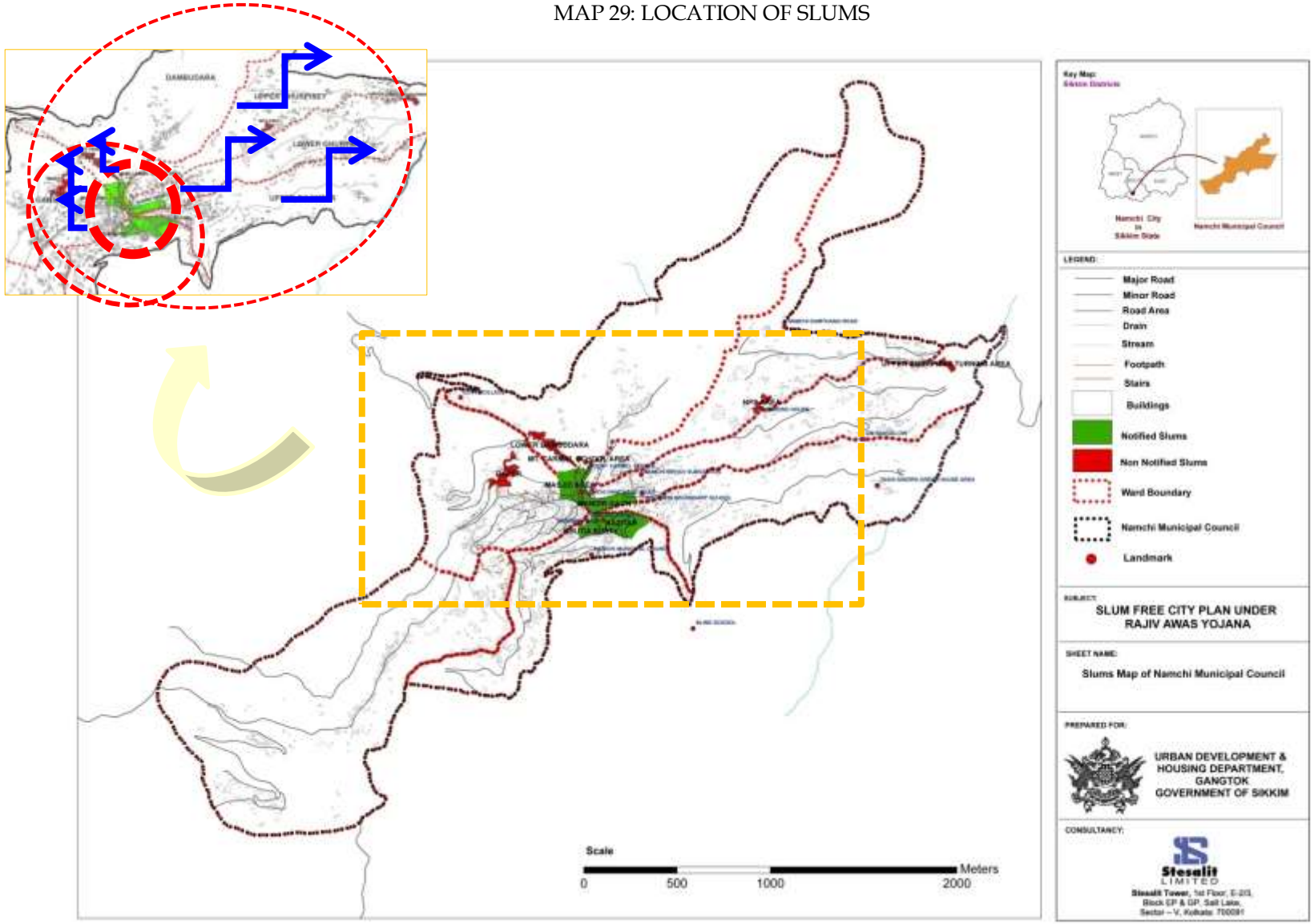
In the figure given below the trend of spatial distribution of the slums over the Namchi Municipal area is given. It shows that while the core has been laden with more number of slums with high population and is concentrated in terms of the distribution, the fringe areas have only patches of development spread over more area.

FIGURE50: LOCATIONAL ANALYSIS OF SLUMS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 29: LOCATION OF SLUMS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

A study of the area occupied by the slums in Namchi with respect to the location reveals that of the total area that the slums have taken up in whole of Namchi 77.15% of the area is located in the core and in a concentrated manner. The rest of the 22.86% is spread at the fringes.

TABLE 101: AREA OF SLUMS ACCORDING TO LOCATION

SL. NO	WARD NAME	SLUM NAME	LOCATION	LEGAL STATUS	AREA (Ha)
1	Dambudara	Masjid Area	CORE AREA	NOTIFIED	1.54
2	Gangyap	Masjid Area	CORE AREA	NOTIFIED	0.84
3	Lower Ghurpisey	Mandir Gaon	CORE AREA	NOTIFIED	2.01
4	Upper Ghurpisey	Mandir Gaon	CORE AREA	NOTIFIED	0.39
5	Upper Singithang	Kazitar	CORE AREA	NOTIFIED	3.22
6	Upper Singithang	Bhutia Busty	CORE AREA	NOTIFIED	0.96
7	Upper Ghurpisey	Nps Area	CORE AREA	NON NOTIFIED	0.39
Total Slum Area					**9.34**
% of Total Slum Area					**77.15**
1	Dambudara	Mt Carmel School area	FRINGE AREA	NON NOTIFIED	0.08
2	Dambudara	Lower Dambudara	FRINGE AREA	NON NOTIFIED	1.11
3	Gangyap	Tinzir	FRINGE AREA	NON NOTIFIED	1.20
4	Upper Ghurpisey	Turning Area	FRINGE AREA	NON NOTIFIED	0.38
Total Slum Area					**2.77**
% of Total Slum Area					**22.86**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5. SOCIAL PROFILE OF SLUMS

2.5.1. POPULATION OF SLUMS

Upper Boomtar and Purano Namchi wards in Namchi Municipal area are devoid of slums. In Dambudara and Upper Ghurpisey wards the maximum percentage of slums are distributed constituting 27.27% of the total number of slums. Among the rest a considerable number are found in Gangyap and Upper Singithang. While Lower Ghurpisey has only one slum making up for 9.09% of the total slums and hence, it can be inferred that Dambudara and upper Ghurpisey are more prone to formation of slums because of their locational factor and the livelihood opportunities they provide.

While the Upper Singithang ward has the highest percentage of slum population residing in only 18.18% of the slums. This shows that this ward is also prone to slum formation in terms of preferences in settling down here.

Dambudara closely follows containing 25.31% of the total slum population. Lower Ghurpisey and Gangyap wards also show a considerable percentage of more than 15% of the slum population residing in their slums.

Dambudara ward has the highest percentage of its ward population as the slum population where it shows that 62.2% of the ward population resides in the slums. This indicates that Dambudara requires special attention in the plan of action to make Namchi slum free. Upper Singithangand Lower Ghurpisey again shows higher percentage of slum population where more than 40% and 25% of the ward population respectively is slum population. The table below shows the figures where Dambudara and Upper Singithang are the most prominent wards in slum formation.

TABLE 102: WARDWISE DISTRIBUTION OF SLUMS & SLUM HHS WITH POPULATION

SL NO	WARD NAME	No of Slums	% to total Slums	Slum Population	% to total Slum population	Population of Ward	% of Slum population to Ward Population
1	Gangyap	2	18.18	472	15.68	2426	19.46
2	Dambudara	3	27.27	762	25.31	1225	62.20
3	Upper Ghurpisey	3	27.27	81	2.69	1182	6.85
4	Lower Ghurpisey	1	9.09	502	16.67	1910	26.28
5	Upper Boomtar	0	0.00	0	0.00	1505	0.00
6	Upper Singithang	2	18.18	1194	39.65	2814	42.43
7	Purano Namchi	0	0.00	0	0.00	1128	0.00
	Total	11	100.00	3011	100.00	12190	24.70

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

Study of the population density in slums show that there are two slums Mt Carmel School area and Bhutia Busty which have densities much higher than the general density in slums of 300 pph. Bhutia Busty is in the core area and the scarcity of land in core city explains the high density of the slum. Among the others Masjid area contained in the two wards of Gangyap and Dambudara also shows higher slum density.

TABLE 103: POPULATION DENSITY IN SLUMS

Sl No	Slum Name	Ward Name	Location	Area in (Ha)	POPULATION	POPULATION DENSITY (PPh)
1	Mandir Gaon	Upper Ghurpisey	CORE AREA	0.39	21	53.85
2	Turning Area	Upper Ghurpisey	FRINGE AREA	0.38	35	92.92
3	Lower Dambudara	Dambudara	FRINGE AREA	1.11	126	113.79
4	Nps Area	Upper Ghurpisey	FRINGE AREA	0.39	46	116.85

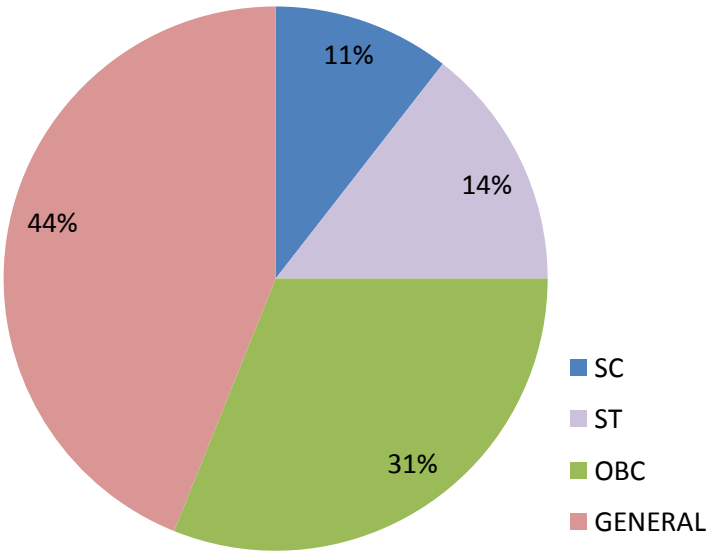
Sl No	Slum Name	Ward Name	Location	Area in (Ha)	POPULATION	POPULATION DENSITY (PPh)
5	Kazitar	Upper Singithang	CORE AREA	3.22	421	130.92
6	Tinzir	Gangyap	FRINGE AREA	1.20	164	136.20
7	Mandir Gaon	Lower Ghurpisey	CORE AREA	2.01	481	239.84
8	Masjid Area	Gangyap	CORE AREA	0.84	308	366.14
9	Masjid Area	Dambudara	CORE AREA	1.54	572	371.34
10	Mt Carmel School	Dambudara	FRINGE AREA	0.08	64	799.70
11	Bhutia Busty	Upper Singithang	CORE AREA	0.96	773	808.60

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5.2. SOCIAL PROFILE

Study of the social profile shows that 44% of the population is in the general category. While there is a high percentage of the minority constituting of 31% of the slum population, population belonging to SC and ST are almost same. **Figure below** presents distribution of slum households by social groups.

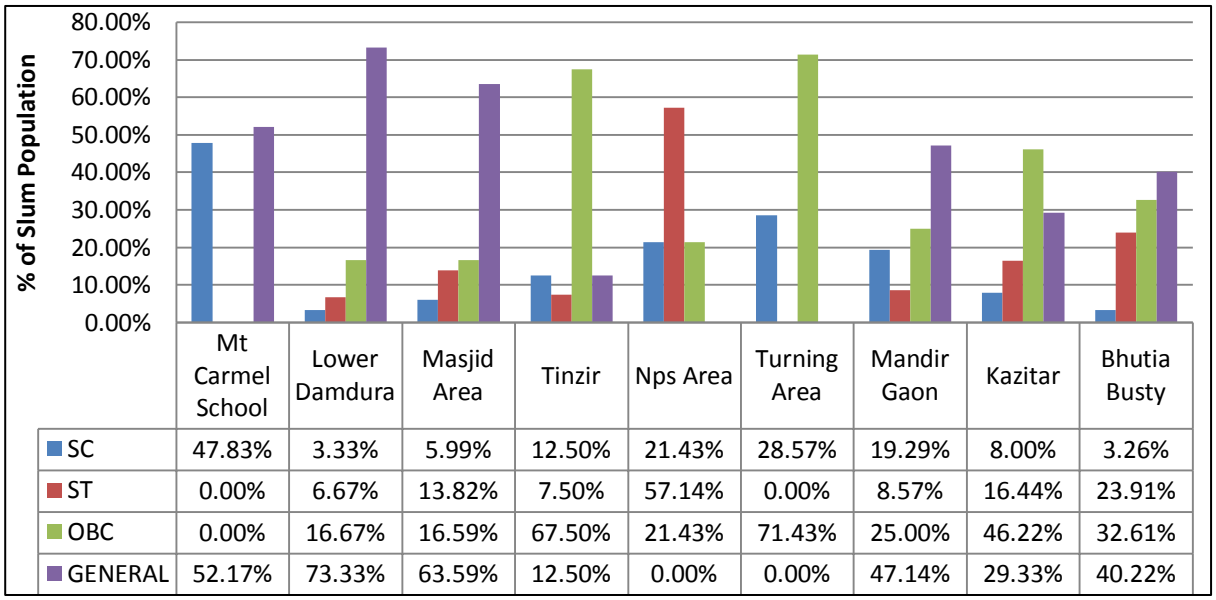
FIGURE 51: DISTRIBUTION OF SLUM HOUSEHOLDS BY SOCIAL GROUPS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

Table below shows that the occurrence of the socially marginalized groups is highest in Turning Area and Tinzir in terms of percentage of the total population of that particular slum. While in Mt. Carmel School slum there is no minority population.

TABLE 104: OCCURRENCE OF SOCIAL GROUPS IN SLUMS



	Mt Carmel School	Lower Damdura	Masjid Area	Tinzir	Nps Area	Turning Area	Mandir Gaon	Kazitar	Bhutia Busty
SC	47.83%	3.33%	5.99%	12.50%	21.43%	28.57%	19.29%	8.00%	3.26%
ST	0.00%	6.67%	13.82%	7.50%	57.14%	0.00%	8.57%	16.44%	23.91%
OBC	0.00%	16.67%	16.59%	67.50%	21.43%	71.43%	25.00%	46.22%	32.61%
GENERAL	52.17%	73.33%	63.59%	12.50%	0.00%	0.00%	47.14%	29.33%	40.22%

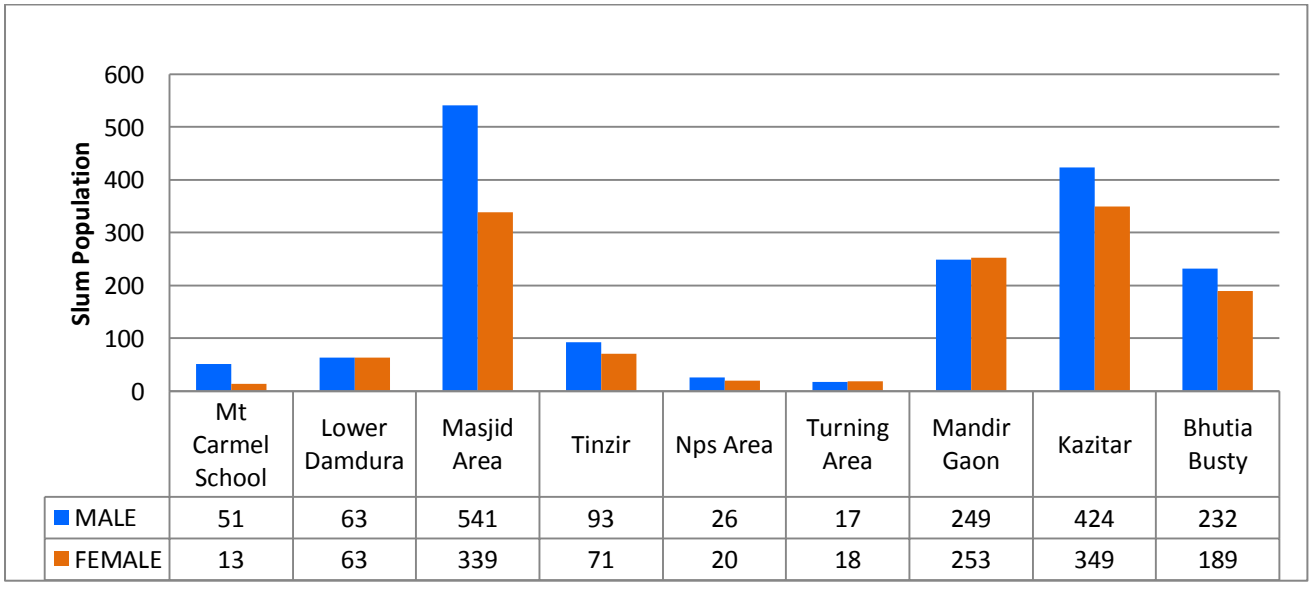
Source: Primary Survey CLTC, RAY, 2014

It is advisable that socially backward groups need to be included in every stage of Plan formulation. As per the outcomes of micro planning during DPR preparation, special financial planning with relaxation in beneficiary contribution for the backward classes in terms of years of payment of EMI may be adopted.

2.5.3. SEX RATIO

The average Sex Ratio of the slums of Namchi is 775 which are lower than the National average of 926 according to Census 2011.

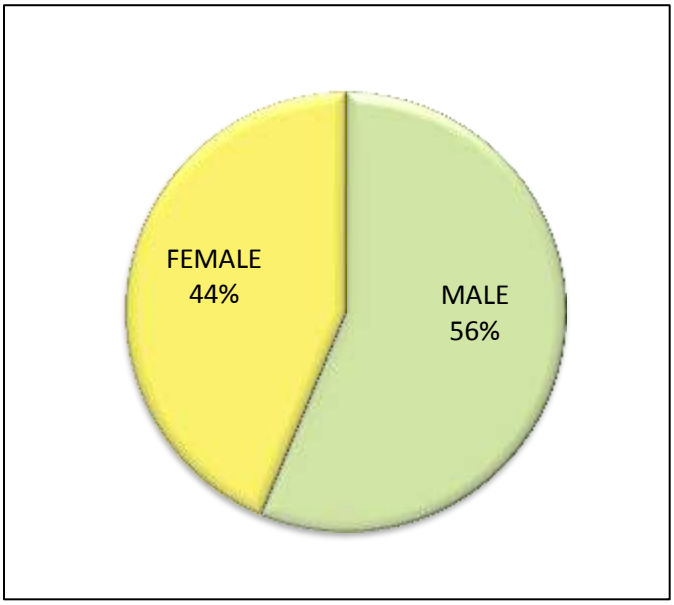
FIGURE 52: SEX RATIO IN SLUMS



	Mt Carmel School	Lower Damdura	Masjid Area	Tinzir	Nps Area	Turning Area	Mandir Gaon	Kazitar	Bhutia Busty
MALE	51	63	541	93	26	17	249	424	232
FEMALE	13	63	339	71	20	18	253	349	189

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE 53: POPULATION BY SEX IN NAMCHI SLUMS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The percentage of male population 56% is much higher than the female population constituting only 44% of the total population. This figure is majorly attributed to the large difference in the number of male and female population in Masjid Area and Mt. Carmel School. The study also reveals that the slums where the percentage of male population is higher than the female population is located at the core areas. While slums like Lower Dambudara and Turning area are located at the fringes. This might be attributed to migration of males to the core area in search of livelihood options and that the kind of job Opportunity present at the core city is attracting more male population than females.

2.5.4. SLUMS BY SIKKIM SUBJECTS

The distribution of slum households by Sikkim State Subject shows that there are no household in the slums of Namchi which are Sikkim subject. This is an interesting finding as this highlights that the entire slum population in Namchi are migrants from neighbouring states because it is the district headquarter providing ample employment opportunities in service sector and tourism sector. Thus strategies need to be formulated by Sikkim Government for providing Tenure rights to these slum dwellers who are residing in the city for almost a decade or even more than that but they cannot own or purchase property in Namchi because of the prevailing Land law.

TABLE 105: SLUMS HOUSEHOLDS BY SIKKIM SUBJECTS IN NAMCHI

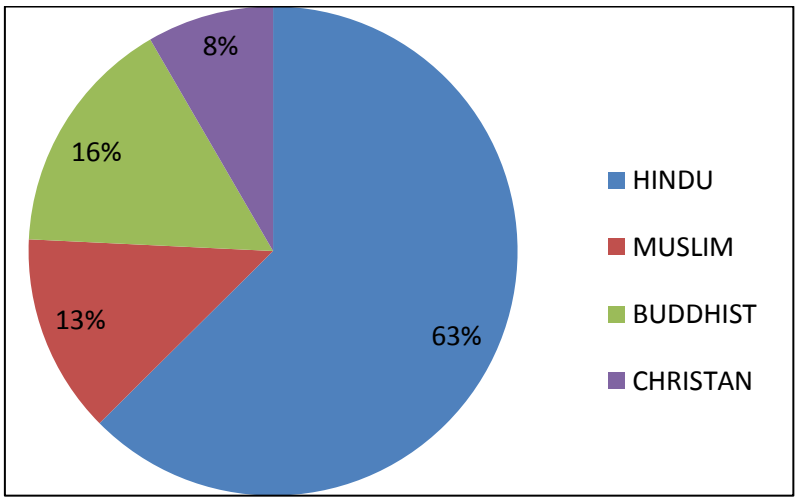
SL NO	SLUM NAME	POPULATION	HH	SIKKIM SUBJECT/COI	
				HH	%
1	Mt Carmel School area	64	23	13	57%
2	Lower Dambudara	126	30	10	33%
3	Masjid Area	880	217	64	29%
4	Tinzir	164	40	35	88%
5	Nps Area	46	14	12	86%
6	Turning Area	35	7	7	100%
7	Mandir Gaon	502	140	74	53%
8	Kazitar	773	225	159	71%
9	Bhutia Busty	421	92	55	60%
TOTAL		**3011**	**788**	**429**	**64%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.5.5. RELIGIOUS GROUPS

A study of the distribution of the slum population by religion has been done and it is found that dominating religious groups are Hindus, Buddhists, Muslims and Christians. Hindu households dominate with 63 per cent of total households.

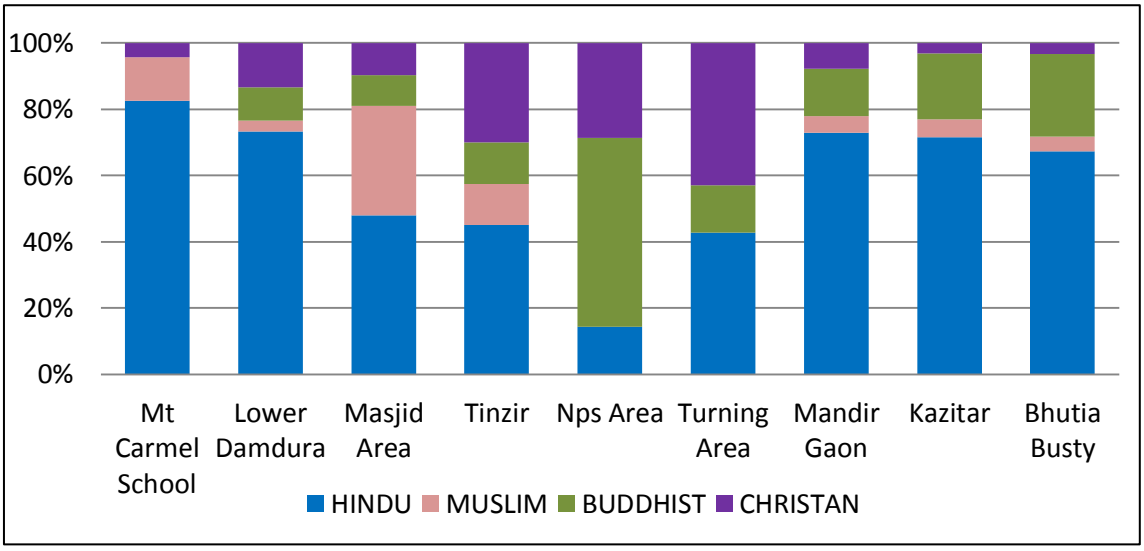
FIGURE 54: SLUM POPULATION BY RELIGION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The study of distribution of the religious groups depicted in the **figure below** reveals that there is non-uniformity in distribution of groups in the slums of Namchi. In most of the slums Hindu population dominates with the highest percentage in Mt. Carmel School slum. While Muslim Community is the minority quite a number of Buddhists are present. Buddhists dominate in NPS Area slum located at the core of the city. Christians are mostly settled at the fringes of the Municipal Area.

FIGURE 55: PATTERN OF DISTRIBUTION OF RELIGIOUS GROUPS IN SLUMS OF NAMCHI



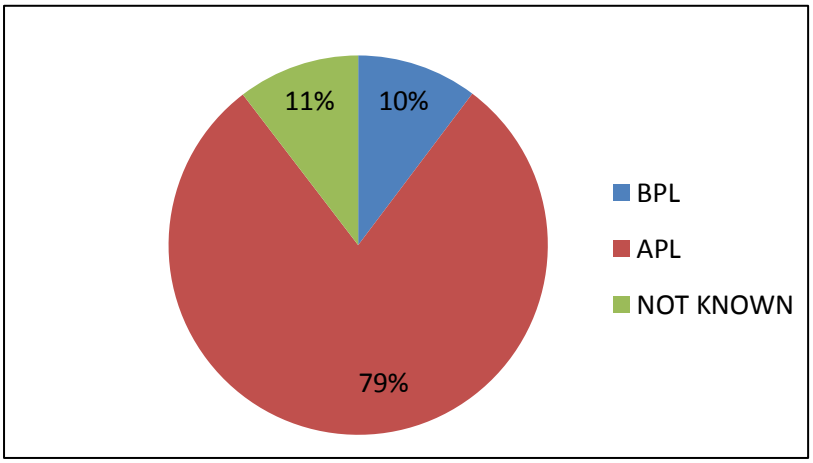
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The diversity in the distribution of religious groups indicates that the people live together in communal harmony in general. This is because there are a large number of migrants from the fringes to the core city who live in harmony. The proposal formulation under RAY needs to be formulated by inclusion of all the religious groups.

2.5.6. POVERTY PROFILE

The poverty profile of some of the households has not been known. From **Figure below** it is evident that the slums have mostly APL population. A major 79% of the population is above the poverty line.

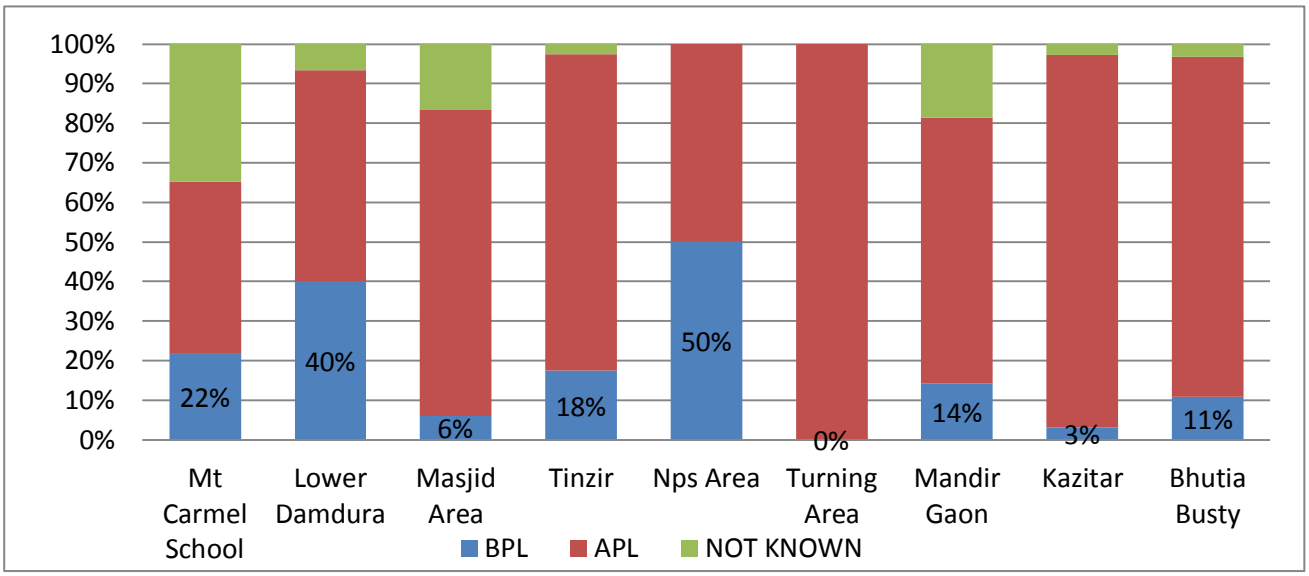
FIGURE 56: BPL HOUSEHOLDS IN SLUMS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The percentage of BPL households in the slums varies largely but in all the slums it is equal to or less than 50%. Highest percentage of slum population is below poverty level in NPS Area slum constituting 50% of the population followed by Lower Dambudara where it is 40%. Turning Area is better as the BPL population percentage is 0 here.

FIGURE 57: DISTRIBUTION OF BPL POPULATION IN THE SLUMS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The study above shows that most of the slums within Namchi irrespective of their location within the city suffer from poverty. Therefore, a strong economic planning for the slum dwellers which will lead to livelihood up-gradation and poverty alleviation needs to be incorporated with spatial planning.

2.5.7. LITERACY RATE

The table below shows that illiteracy is predominant among 7% of the total slum population. It is more prominent among the males which constitute 61% of the total slum population. Only 5 children in all the slums of Namchi are not attending school. This indicates that the need for education has been gaining importance among the slum dwellers.

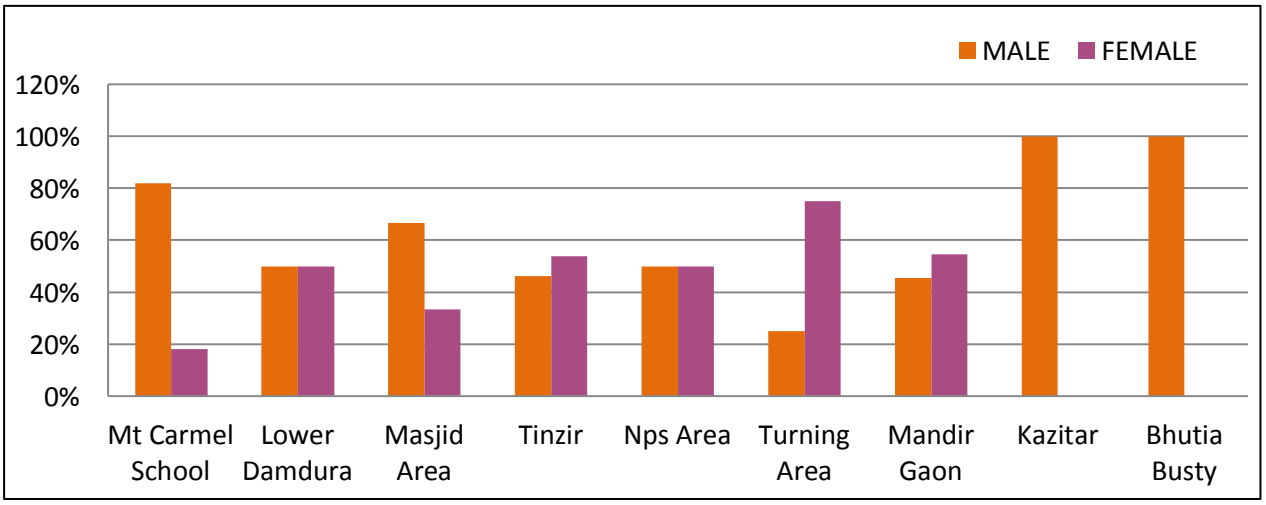
TABLE 106: ILLITERACY IN SLUM POPULATION

SL NO.	SLUM NAME	POP	HH	NO. OF ADULT ILLITERATE			NO. OF CHILDREN NOT ATTENDING SCHOOL		
				MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1	Mt Carmel School	64	23	9	2	11	0	0	0
2	Lower Dambudara	126	30	7	7	14	0	0	0
3	Masjid Area	880	217	72	36	108	2	2	4
4	Tinzir	164	40	12	14	26	0	0	0
5	Nps Area	46	14	1	1	2	0	0	0
6	Turning Area	35	7	2	6	8	0	0	0
7	Mandir Gaon	502	140	15	18	33	1	0	1
8	Kazitar	773	225	7	0	7	0	0	0
9	Bhutia Busty	421	92	4	0	4	0	0	0
TOTAL		3011	788	129	84	213	3	2	5
				61%	39%	7%	60%	40%	0.17%

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The figure below depicts that maximum illiteracy in the slums of the Upper Singithang ward and that too among the males while female literacy rate is 100% which is commendable.

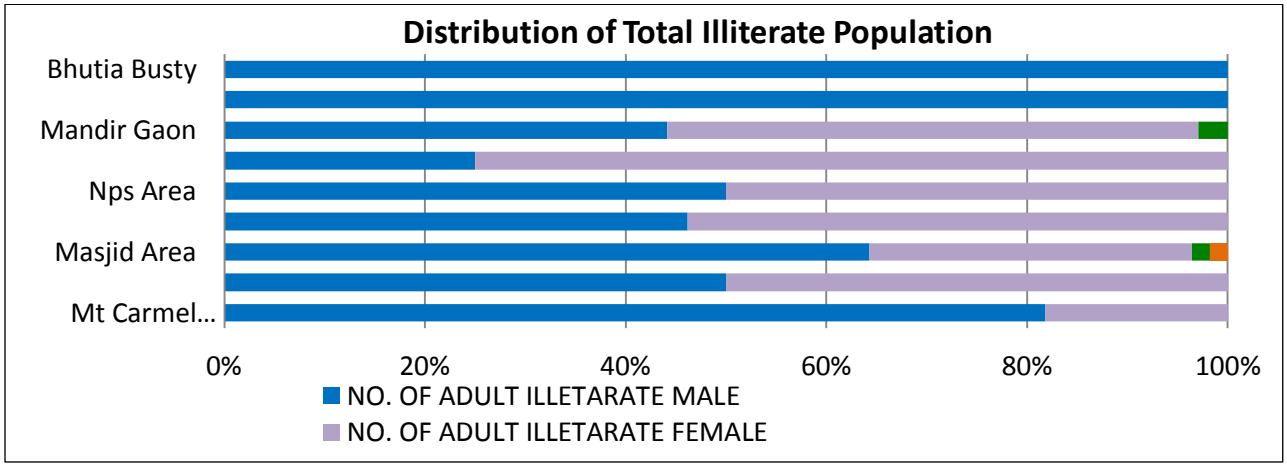
FIGURE 58: ILLITERACY RATE OF SLUM HOUSEHOLDS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

Highest female illiteracy rate is in Turning Area slum. In Masjid Area slum there is highest number of children who do not attend school. Male and Female children in this category are of the same percentage. Also rate of female illiteracy in this slum is also high as shown by the figure above.

FIGURE 59: DISTRIBUTION OF TOTAL ILLITERATE POPULATION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

Literacy rate of the slum population is directly proportional to the availability of educational facilities in close proximity. Hence the slums which do not have schools for girls in their vicinity suffer from poor literacy rate. Therefore educational facilities in general with special attention to amenities for women and girl child need to be provided along with housing, infrastructure and other amenities under RAY and special literacy programs in the form of Night schools and tuition facilities run by NGOs to be incorporated in the Plan.

2.6. MIGRATION

A study of the type of migration shows that 45% of the slum population has been residing in the slums for more than 5 years. While a considerable part of 25% has been residing for three years, people living between 3 to 5 years are quite less making for only 5% of the population. It is also noted that 66% of the migrations take place from rural to urban areas. It indicates that population come to the urban center in search of employment or to work as casual labors at the peak seasons of tourism. Namchi is an important tourist destination in itself and acts as a halt for other tourist destinations because of the availability of quality hotels, shopping stops and other facilities like restaurants etc. There is a considerable requirement of casual labor in the tourism industry and also that the people target tourists for selling handicrafts and merchandize from Siliguri. Mostly migrations take place seasonally constituting 61% of the migrated population. This could be because people migrate to Namchi, the district center during certain parts of the year in search of employment but because of the lack of space to settle down they return to their home after sometime. The higher percentage of seasonal migration indicates that there might be a demand for rental housing to be occupied for short periods and that has to be considered during proposal formulation under SFCPoA.

TABLE 107: MIGRATION SCENARIO IN NAMCHI

SL NO	SLUM NAME	TOTAL POP	TOTAL HHs	NUMBER OF SLUM HOUSEHOLDS										
				No. Of Years Stay			Migrated From		Migration Type		Reason For Migration			
				up to 3	3 to 5	>5	Urban-Urban	Rural-Urban	Permanent	Seasonal	Marriage	Un-employment	Other	Education
1	Mt Carmel School	64	23	3	1	19	8	15	3	20	0	21	2	0
2	Lower Dambudara	126	30	5	1	24	4	26	25	5	2	17	8	3
3	Masjid Area	880	217	86	16	115	133	84	68	149	1	191	13	12
4	Tinzir	164	40	13	1	26	6	34	20	20	0	23	14	3
5	Nps Area	46	14	4	0	10	2	12	7	7	0	7	5	2
6	Turning Area	35	7	4	1	1	5	2	4	3	1	2	4	0
7	Mandir Gaon	502	140	48	13	79	40	100	46	94	11	89	35	5
8	Kazitar	773	225	13	2	15	46	179	88	137	1	183	33	8
9	Bhutia Busty	421	92	22	4	66	20	72	46	46	3	80	6	3
TOTAL		**3011**	**788**	**198**	**39**	**355**	**264**	**524**	**307**	**481**	**19**	**613**	**120**	**36**
				25%	**5%**	**45%**	**34%**	**66%**	**39%**	**61%**	**2%**	**78%**	**15%**	**5%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7. ECONOMIC PROFILE OF SLUMS

2.7.1. WORKING POPULATION

The total number of earning adult population in slums of Namchi is 1228, which is 41% of the total slum population. The percentage of male earning adult is 80% and that of female is 20%, hence a considerable number of female adults are working in Namchi slums.

TABLE 108: SLUMS BY EARNING ADULT POPULATION

SL NO.	SLUM NAME	HHs	POPULATION	NO. OF EARNING ADULTS		
				MALE	FEMALE	TOTAL
1	Mt Carmel School	23	64	43	0	43
2	Lower Dambudara	30	126	31	5	36
3	Masjid Area	217	880	343	41	384
4	Tinzir	40	164	51	6	57
5	Nps Area	14	46	11	4	15
6	Turning Area	7	35	8	2	10
7	Mandir Gaon	140	502	144	53	197
8	Kazitar	225	773	232	96	328
9	Bhutia Busty	92	421	115	43	158
TOTAL		**788**	**3011**	**978**	**250**	**1228**
				80%	**20%**	**41%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7.2. EMPLOYMENT STATUS

The distribution of working population of Namchi slums detailed in the **figure below** show predominance of salaried people with 37% of the total working population followed by Self-employed with 33%. While casual labors form 22% of the working population both Regular wage and engaged in any other type which includes Brokerage etc with 5% and 3% engaged form only a small part of the working population.

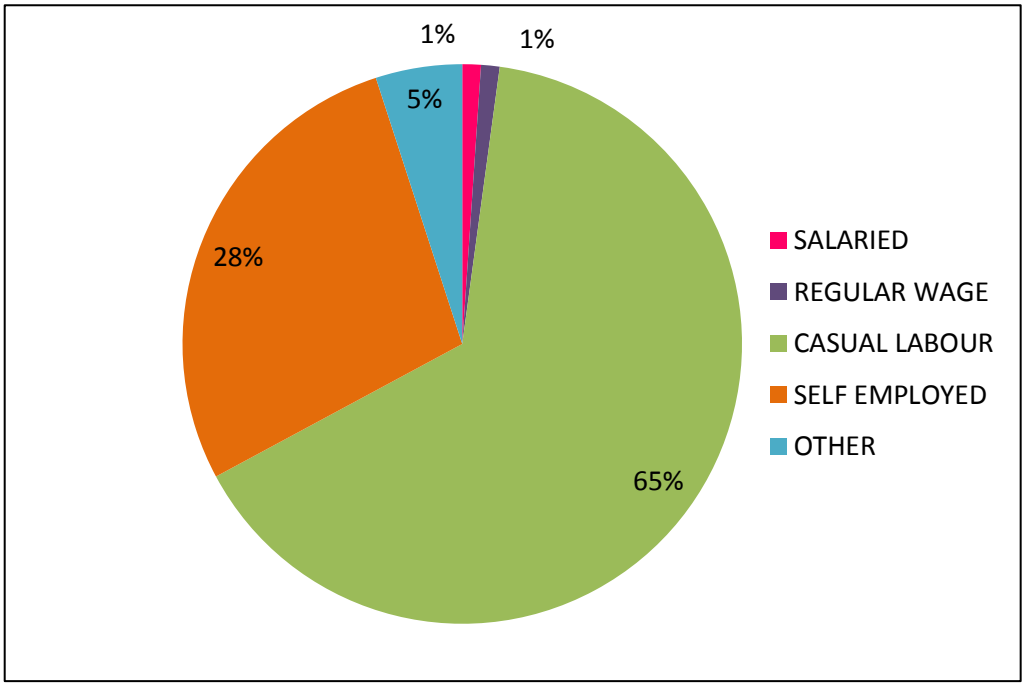
Highest percentage of salaried people are found in Kazitar, Nps Area and Mandir Gaon respectively where salaried population make up for 62%, 47% and 38% of the working slum population respectively which are all situated at the core area of the city. It is evident that people migrate and settle down at the core city due to the employment opportunities presented by Namchi which is a district centre of the state of Sikkim.

The highest percentage of self-employed amongst the working population is noted to reside in Tinzir, Bhutia Busty and Mandir Gaon slums. While the latter two are in the core of the city, Tinzir has good accessibility to the urban center which provides impetus for entrepreneurs to carry out their business. Mostly the self-employed

people engage in tourism related activities for which staying as close to the centre with greater number of hotels and the mall becomes an advantage.

Casual labors form the next highest percentage amongst the working population who migrate from neighboring urban areas of both Sikkim and West Bengal for employment opportunities present in the town due to its strategic location.

FIGURE 60: WORKING POPULATION DISTRIBUTION BY EMPLOYMENT STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 109: SLUMS BY EMPLOYMENT STATUS OF WORKING POPULATION

SL NO	SLUM NAME	TOTAL POPULATION	WORKING POPULATION	EMPLOYMENT STATUS				
				SALARIED	REGULAR WAGE	CASUAL LABOUR	SELF EMPLOYED	OTHER
1	Mt Carmel School	64	43	0	4	34	5	0
2	Lower Dambudara	126	36	10	2	14	7	3
3	Masjid Area	880	384	103	21	130	129	1
4	Tinzir	164	58	8	3	3	37	7
5	Nps Area	46	15	7	0	5	2	1
6	Turning Area	35	10	2	0	8	0	0
7	Mandir Gaon	502	197	74	21	17	79	6
8	Kazitar	773	328	202	8	38	70	10
9	Bhutia Busty	421	158	52	1	24	73	8
TOTAL		3011	1229	458	60	273	402	36
				37%	5%	22%	33%	3%

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7.3. OCCUPATION STRUCTURE

The working population in the slums of Namchi is engaged in different Primary occupation. The skilled Primary occupations found through survey are Artisan, Craftsman, Motor mechanics, Bakery, Driving, Electrician, Health and Paramedics, Office related work, Security work and Tailoring while unskilled jobs include Contract worker, Casual Labor, Construction worker, Hawking or Street vending, Watchman, Industrial worker etc. Secondary occupation which exists is Office work, Retail, Photography etc.

Survey showed 100% of the working population is engaged in Primary occupation and there is no engagement in Secondary occupation. Out of the primary occupation, 76% population is engaged in unskilled jobs and only 24% population does skilled jobs. Thus skill up gradation training for poverty alleviation and livelihood up-gradation will be an integral policy under Slum Free City Plan of Action for Namchi town.

TABLE 110: OCCUPATION STRUCTURE OF THE WORKING POPULATION OF SLUMS

SL NO	SLUM NAME	TOTAL POPULATION	WORKING POPULATION	PRIMARY OCCUPATION		SECONDARY OCCUPATION	
				SKILLED	UNSKILLED	SKILLED	UNSKILLED
1	Mt Carmel School	64	43	29	14	0	0
2	Lower Dambudara	126	36	16	20	0	0
3	Masjid Area	880	384	266	118	0	0
4	Tinzir	164	58	29	29	0	0
5	Nps Area	46	15	7	8	0	0
6	Turning Area	35	10	2	8	0	0
7	Mandir Gaon	502	197	158	39	0	0
8	Kazitar	773	328	288	40	0	0
9	Bhutia Busty	421	158	142	16	0	0
TOTAL		3011	1229	937	292	0	0
				76%	24%	0%	0%

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.7.4. WORK-HOME RELATIONSHIP

The work home relationship of the working population of Namchi slums reveals that the most preferred location for employment is within 0.5km from the place of residence or within the premises of the slum as this helps in saving of time, energy and money on commute thereby yielding more hours of work. This can be established from the following Table, which shows 26% of working population, has their workplace within the slum while 31% has their work areas within 0.5km and 24% within 1km of the slum and the rest 19% of the total have their workplace at a distance between 1km and 5kms.

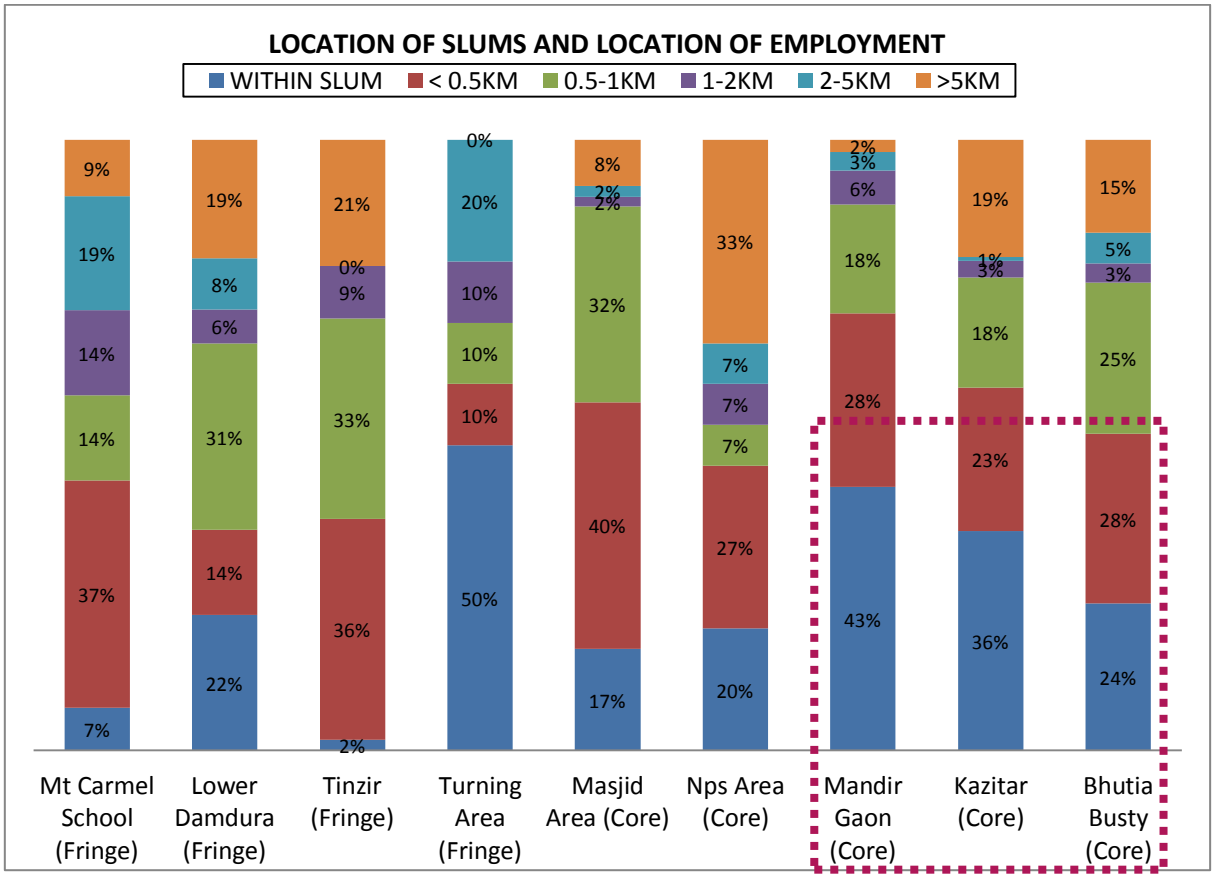
TABLE 111: WORK-HOME RELATIONSHIP OF WORKING POPULATION

SL NO	SLUM NAME	TOTAL POP	WORKING POPULATION	PLACE OF WORK					
				WITHIN SLUM	OUTSIDE SLUM				
					< 0.5	0.5-1	1-2	2-5	>5
1	Mt Carmel School	64	43	3	16	6	6	8	4
2	Lower Dambudara	126	36	8	5	11	2	3	7
3	Masjid Area	880	384	64	155	123	6	7	29
4	Tinzir	164	58	1	21	19	5	0	12
5	Nps Area	46	15	3	4	1	1	1	5
6	Turning Area	35	10	5	1	1	1	2	0
7	Mandir Gaon	502	197	85	56	35	11	6	4
8	Kazitar	773	328	118	77	59	9	2	63
9	Bhutia Busty	421	158	38	44	39	5	8	24
TOTAL		**3011**	**1229**	**325**	**379**	**294**	**46**	**37**	**148**
				26%	**31%**	**24%**	**4%**	**3%**	**12%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

It may also be noted that the highest percentage of the working population finding employment within the slum premises are located in the core area which is the centre for the commercial activities more than the fringes from which people commute to the urban core for work.

FIGURE 61: SLUM POPULATION BY WORK HOME RELATIONSHIP



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

It indicates that the slum dwellers may not prefer relocation as they live in such vicinity to the location of employment with an ease of access and less time consuming which ultimately increases productivity with rise in income generation.

2.7.5. INCOME AND EXPENDITURE PROFILE

Table below shows that only 5% of households have average monthly income less than Rs3000, 7% between Rs3000 and 49999, 14% between Rs5000 and Rs6999, 9% between Rs7000 and Rs8999 and 66% have income more than Rs9000. Thus more than 60% of the households lie in the income bracket of more than Rs 9000, whereas the average monthly household expenditure of less than 50% households is more than Rs 9000.

7% households have average monthly expenditure less than Rs 3000, 16% between Rs 3000 and Rs4999, 19% between Rs5000 and Rs6999, 12% between Rs7000 and Rs8999 and only 47% has expenditure more than Rs 9000. Thus it is evident that income is high and expenditure is comparatively less hence households have saving and capacity to pay for housing. Survey also revealed that households do not have any debt. Therefore, willingness to pay for rental housing and permanent dwellings would be more in slums of Namchi.

TABLE 112: SLUMS BY AVERAGE MONTHLY HOUSEHOLD INCOME & EXPENDITURE

SL NO.	SLUM NAME	POPULATION	HHs	AVERAGE MONTHLY INCOME/HOUSEHOLD (Rs)					AVERAGE MONTHLY EXPENDITURE/HOUSEHOLD (Rs)				
				LESS THAN 3000	3000-4999	5000-6999	7000-8999	9000 & ABOVE	LESS THAN 3000	3000-4999	5000-6999	7000-8999	9000 & ABOVE
1	Mt Carmel School	64	23	0	0	9	1	14	0	7	6	5	5
2	Lower Dambudara	126	30	3	9	9	4	7	5	10	8	4	3
3	Masjid Area	880	217	15	8	18	22	154	16	26	58	30	87
4	Tinzir	164	40	3	11	6	5	15	0	1	3	5	6
5	Nps Area	46	14	0	3	2	3	4	2	3	3	1	3
6	Turning Area	35	7	1	1	2	2	1	1	2	2	1	1
7	Mandir Gaon	502	140	10	17	33	9	71	16	34	22	14	54
8	Kazitar	773	225	5	5	19	16	180	6	20	26	22	151
9	Bhutia Busty	421	92	0	0	10	6	76	1	9	11	9	62
TOTAL		**3011**	**788**	**37**	**54**	**108**	**68**	**521**	**53**	**125**	**146**	**92**	**372**
				5%	**7%**	**14%**	**9%**	**66%**	**6%**	**14%**	**18%**	**12%**	**47%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.8. HOUSING CHARACTERISTICS OF SLUMS

2.8.1. HOUSING SCENARIO

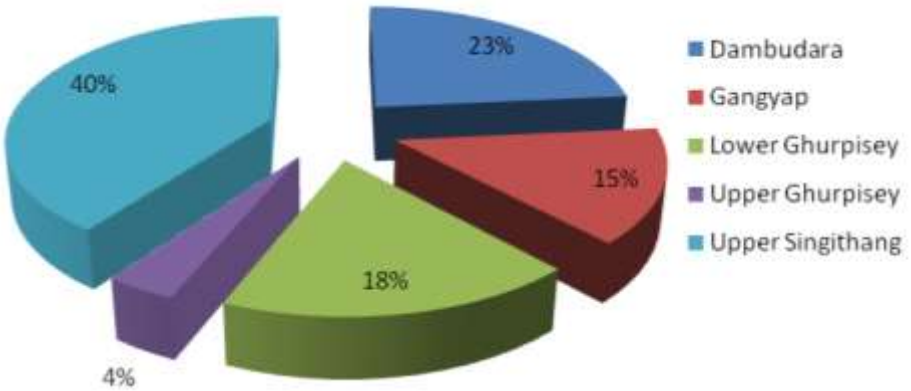
The analysis of housing scenario of the slum shows that the ward Upper Singithang taking up the maximum amount of area among all have the highest average Household density in the slums. This is majorly attributed to the Kazitar slum which houses 225 residents in only 3.22 ha area forming the highest HH density in the slums of 235 ppH. Next in HH density is the Masjid Area slum spread in the wards of Dambudara and Gangyap.

TABLE 113: HOUSING SCENARIO OF NAMCHI SLUMS

SL NO	WARD NAME	SLUM NAME	No. OF HHs	% OF TOTAL HHs	AREA (Ha)	HH DENSITY (HH/Ha)
1	Dambudara	Masjid Area	141	5%	1.54	92
2		Mt Carmel School	23	1%	0.08	15
3		Lower Dambudara	30	1%	1.11	27
Total			194	6%	2.73	71
4	Gangyap	Masjid Area	76	3%	0.84	90
5		Tinzir	40	1%	1.20	33
Total			116	4%	2.05	57
6	Lower Ghurpisey	Mandir Gaon	136	5%	2.01	68
Total			136	5%	2.01	68
7	Upper Ghurpisey	Nps Area	14	0%	0.39	36
8		Turning Area	7	0%	0.38	19
9		Mandir Gaon	4	0%	0.39	10
Total			25	1%	1.16	22
10	Upper Singithang	BhutiaBasty	92	3%	0.96	29
11		Kazitar	225	7%	3.22	235
Total			**317**	**11%**	**3.22**	**99**
Total in Namchi			**788**	**26%**	**11.15**	**71**

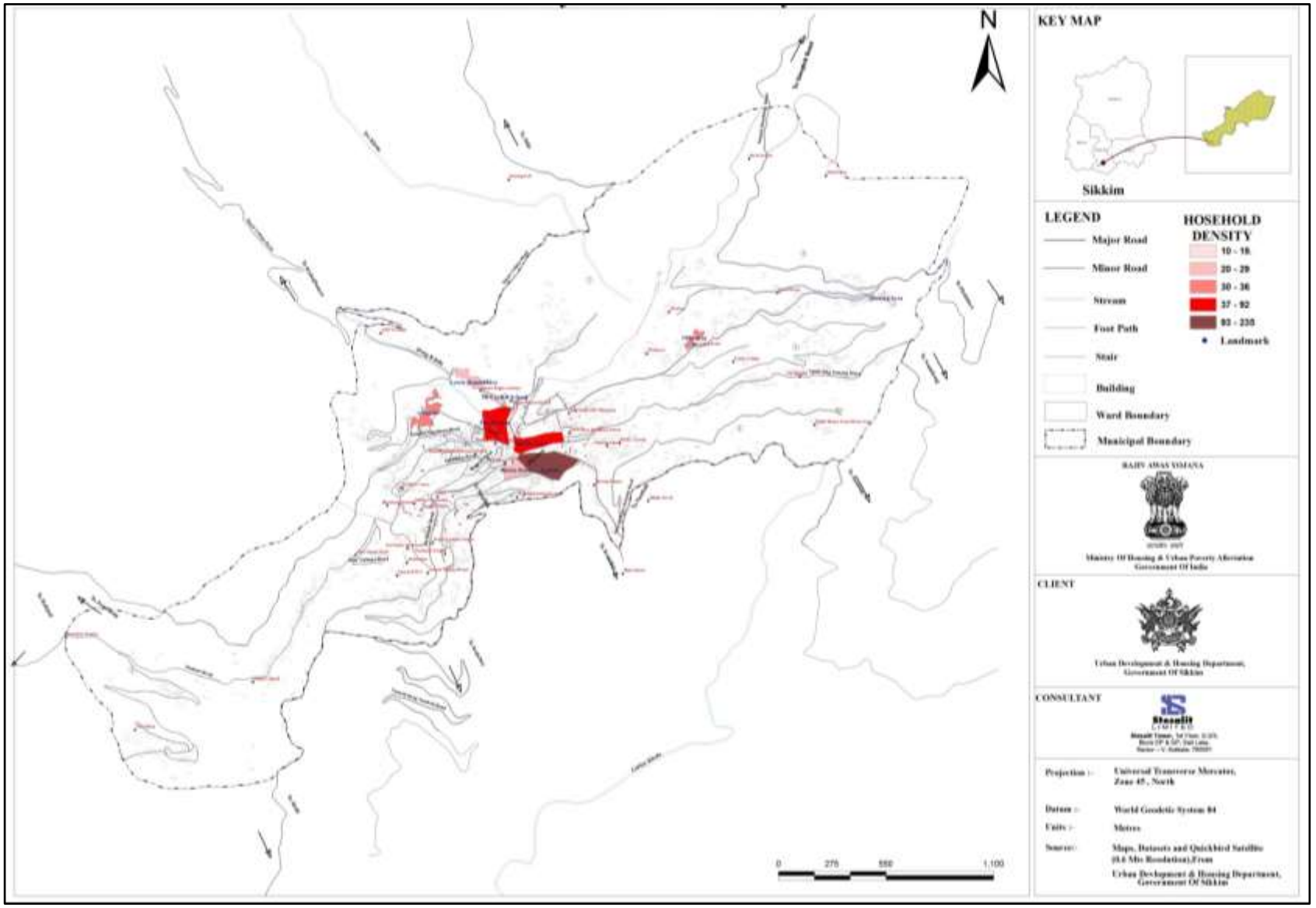
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE 62: WARDWISE PERCENTAGE OF SLUM HOUSEHOLDS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 30: SLUMS BY DWELLING UNIT DENSITY



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.8.2. HOUSING BY STRUCTURE

The housing by structure analysis shows predominance of pucca stock and very little of semi-pucca and kaccha stock in the slums of Namchi. Out of the total slum households, 14% is kaccha stock and 14% is semi pucca stock. Maximum is the pucca housing stock of 72%. Kazitar has 97% of kaccha stock which is the highest followed by Masjid Area with 76%.

TABLE 114: HOUSING BY STRUCTURE OF SLUMS

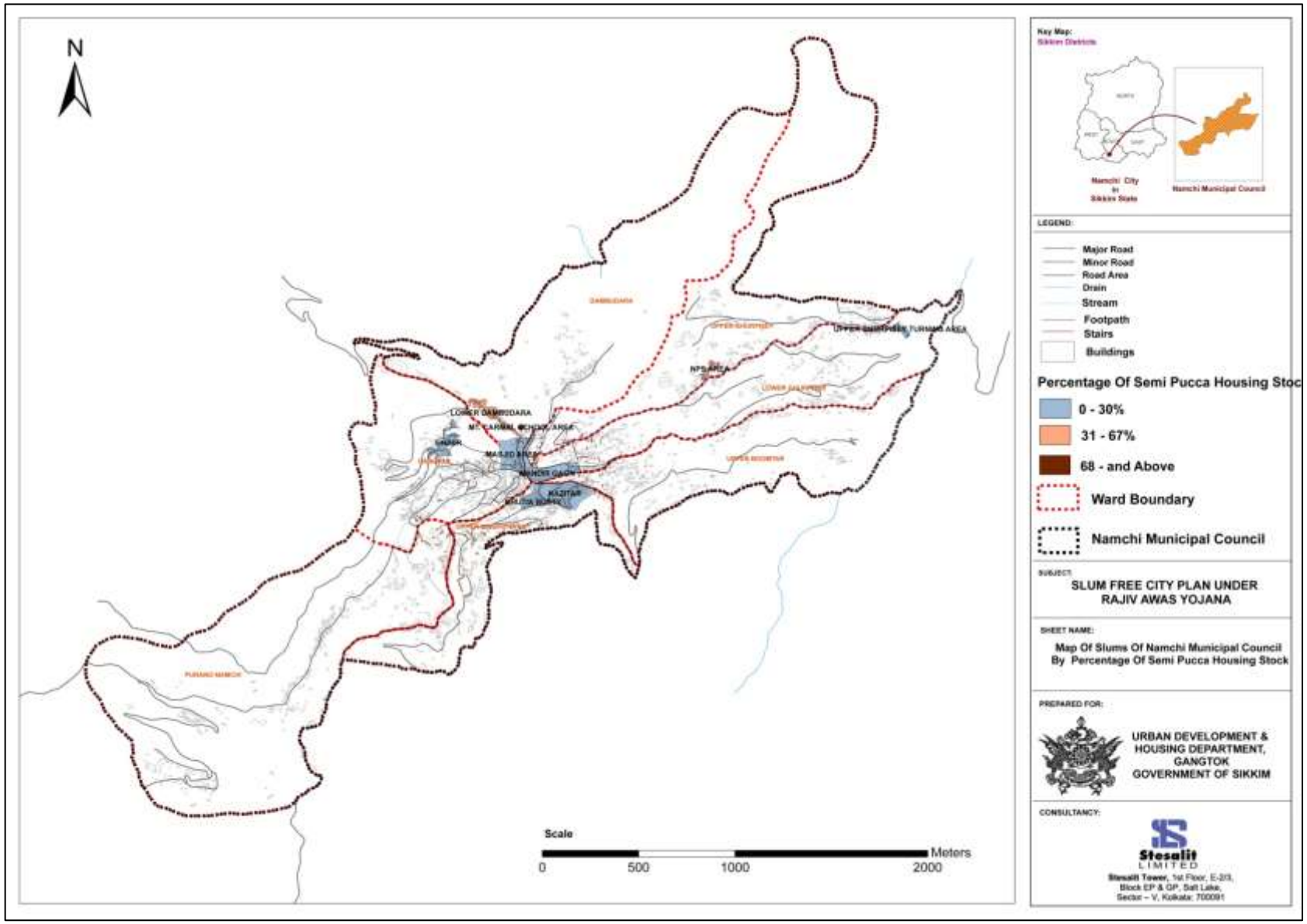
SL NO.	SLUM NAME	POPULATION	HHs	HOUSING STRUCTURE					
				PUCCA		SEMI PUCCA		KUTCHA	
				NO.	%	NO.	%	NO.	%
1	Mt Carmel School	64	23	0	0%	23	100%	0	0%
2	Lower Damdura	126	30	0	0%	16	53%	14	47%
3	Masjid Area	880	217	166	76%	19	9%	32	15%
4	Tinzir	164	40	0	0%	11	28%	29	73%
5	Nps Area	46	12	1	8%	5	42%	6	50%
6	Turning Area	35	7	0	0%	0	0%	7	100%
7	Mandir Gaon	502	140	98	70%	27	19%	15	11%
8	Kazitar	773	225	218	97%	4	2%	3	1%
9	Bhutia Busty	421	92	83	90%	6	7%	3	3%
TOTAL		3011	786	566	72%	111	14%	109	14%

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE 63: SLUMS BY STRUCTURE OF HOUSING STOCK

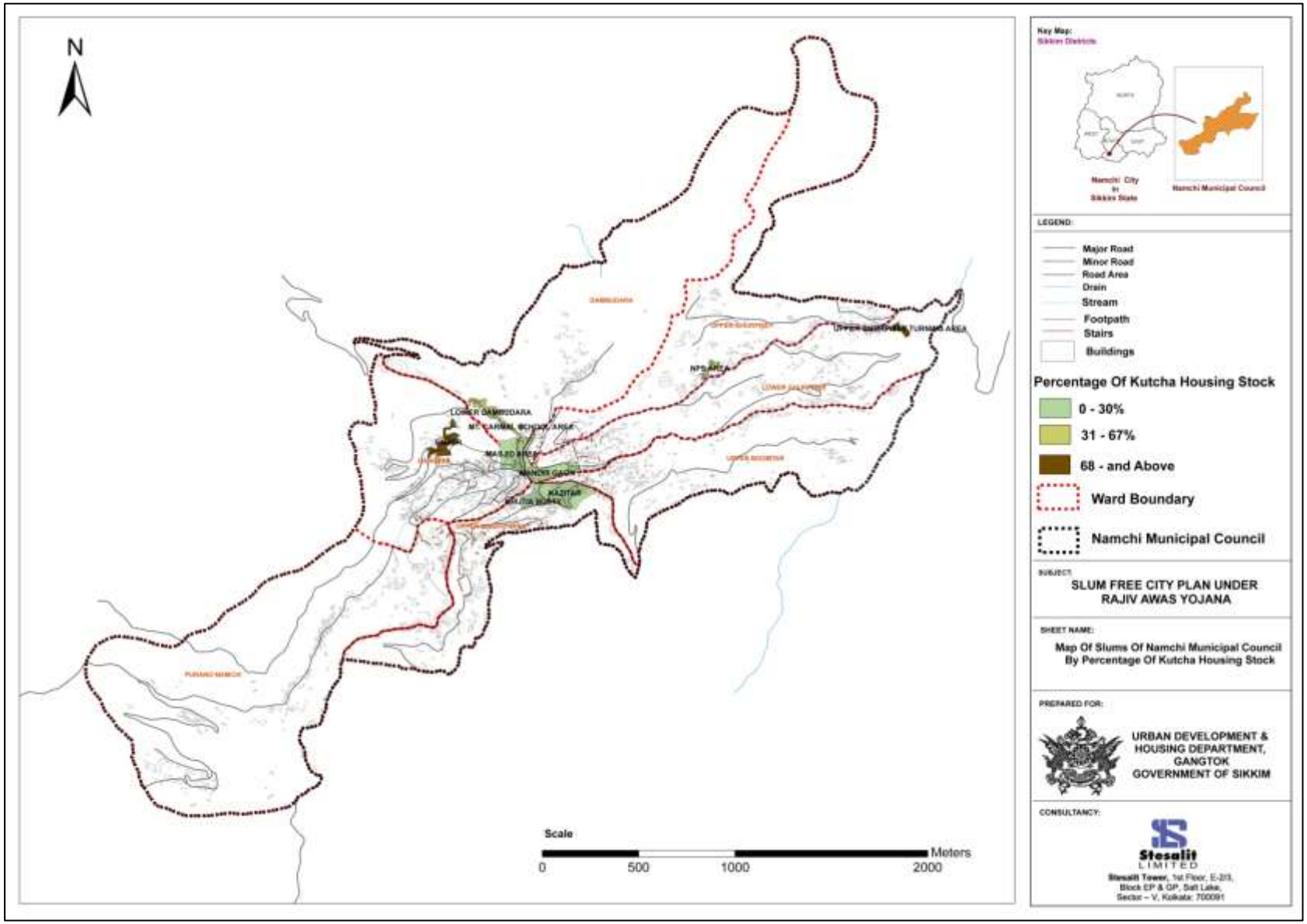
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 31: SLUMS BY PERCENTAGE OF SEMI PUCCA HOUSING STOCK



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 32: SLUMS BY PERCENTAGE OF KUTCHA HOUSING STOCK



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9. SLUMS BY BASIC FACILITIES & AMENITIES

Slum level infrastructure data has been collected by Slum profiling and general slum survey by consultation to slum dwellers. The data has been compiled for assessment of Infrastructure condition of the slums. The following sub sections comprise of detailed data on existing Water Supply, Sanitation, Roads, Drainage, Solid waste disposal and Social amenities and facilities status of the slums.

2.9.1. ACCESS TO DRINKING WATER SUPPLY

The Table below shows 66% slum households has access to individual tap connection, 29% has access to public tap, 5% is dependent on river or spring, none has dependence to Water tanker, and 2% depend on tube wells for supply and 4% on other sources. Mandir Gaon and Kazitar have 96% of the slum Households which have access to individual taps. But out of nine slums five like Mt Carmel School, Lower Dambudara, Tinzir, NPS Area and Turning Area do not have any households with individual tap connection. The supply of piped water is provided by State Public Health Engineering Department (PHED).

Water supply is a prominent problem in the slums as the PHED supplied water is highly insufficient in terms of both duration of supply and quantity of supply in case of common public tap. Slums which are on the fringe are solely dependent on natural spring or river for water since there is no supply of water from PHED.

The Table below shows that 22% slum households receives water for less than 1 hour daily, 26% receives water for 1 to 2 hours daily and none has supply for more than 2 hours while 52% households are devoid of any water supply. These 52% households are the most vulnerable in terms of water supply.

Households which are dependent on sources of water supply outside their premise face tough challenge daily as it requires carrying water from distant source negotiating the slopes of a hilly area. The surveyed data shows, 30% households have their source of water supply at a distance less than 0.5 km, 11% households between 0.5 and 1 km.

TABLE 115: SLUMS BY STATUS OF WATER SUPPLY

SL NO.	SLUM NAME	HHs	DURATION OF PIPED WATER SUPPLY				DISTANCE OF OUTSIDE PREMISE SOURCE				
			LESS THAN 1 Hr	1-2 Hrs	MORE THAN 2 Hrs	NO SUPPLY	LESS THAN 0.5KM	0.5-1 KM	1-2 KMs	2-5 KMs	>5 KMs
1	Mt Carmel School	23	9	0	0	14	23	0	0	0	0
2	Lower Damdura	30	1	0	0	29	29	0	0	0	0
3	Masjid Area	217	21	39	0	157	90	27	0	0	0
4	Tinzir	40	0	0	0	40	40	0	0	0	0
5	Nps Area	12	12	0	0	0	12	0	0	0	0
6	Turning Area	7	1	1	0	5	7	0	0	0	0
7	Mandir Gaon	140	7	7	1	125	5	0	0	0	0
8	Kazitar	225	117	100	0	8	7	0	0	0	1
9	Bhutia Busty	92	6	56	0	30	26	0	0	0	0
TOTAL		**786**	**174**	**203**	**1**	**408**	**239**	**27**	**0**	**0**	**1**
			22%	**26%**	**0%**	**52%**	**30%**	**3%**	**0%**	**0%**	**0%**

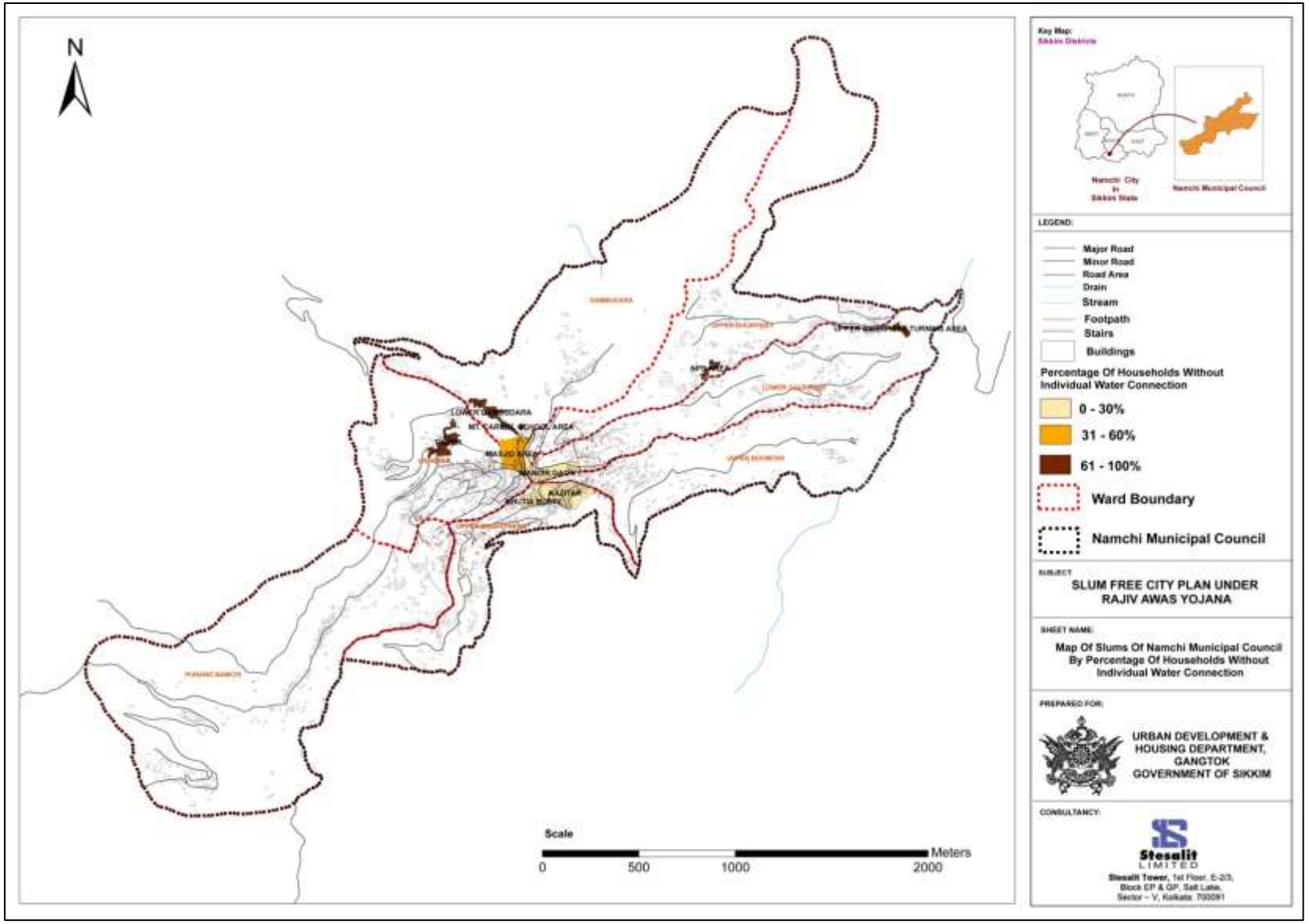
Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 116: SLUMS BY SOURCE OF DRINKING WATER

SL	SLUM NAME	HHs	SOURCE OF DRINKING WATER												% OF HHs w/o INDIVIDUAL CONNECTION
			INDIVIDUAL TAP		PUBLIC TAP		RIVER/ SPRING		WATER TANKER		TUBEWELL/ HANDPUMP		OTHER		
			NO.	%	NO.	%	NO.	%	NO	%	NO.	%	NO	%	
1	Mt Carmel School	23	0	0%	23	100%	0	0%	0	0%	0	0%	0	0%	100%
2	Lower Damdura	30	0	0%	26	87%	2	7%	0	0%	0	0%	2	7%	100%
3	Masjid Area	217	99	46%	117	54%	0	0%	0	0%	0	0%	1	0%	54%
4	Tinzir	40	0	0%	10	25%	30	75%	0	0%	0	0%	0	0%	100%
5	Nps Area	12	0	0%	12	100%	0	0%	0	0%	0	0%	0	0%	100%
6	Turning Area	7	0	0%	3	43%	4	57%	0	0%	0	0%	0	0%	100%
7	Mandir Gaon	140	135	96%	5	4%	0	0%	0	0%	0	0%	0	0%	4%
8	Kazitar	225	217	96%	7	3%	0	0%	0	0%	1	0%	0	0%	4%
9	Bhutia Busty	92	65	71%	25	27%	0	0%	0	0%	1	1%	1	1%	29%
TOTAL		**786**	**516**	66%	**228**	29%	**36**	5%	**0**	0%	**2**	0%	**4**	1%	

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 64: SLUMS BY PERCENTAGE OF HOUSEHOLDS WITHOUT INDIVIDUAL WATER CONNECTION



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.2. ACCESS TO TOILET FACILITY

Primary survey of the slum households show that there is awareness among people regarding safe sanitation practices and none of the total slum households are engaged in Open defecation in Namchi. Analysis of access to toilet facilities reveal 4% has own dry toilet, 13% has own flush latrine with septic tank, 12% has shared dry latrine, 43% has shared flush latrine with septic tank, 1% has community dry latrine and 15% has community flush latrine with septic tank. Thus toilet facility is adequate in most of the slums except for Mt. Carmel School Slum in Dambudara ward.

TABLE 117: SLUMS BY OPEN DEFECATION & TOILET FACILITY

SL NO	SLUM NAME	HHs	OPEN DEFECATION		TOILET FACILITY					
			No. Of HHs	% Of Total HHs	Own Dry Latrine	Own Flush Latrine/Septic Tank	Shared Dry Latrine	Shared Flush Latrine/Septic Tank	Community Dry Latrine	Community Flush Latrine/ Septic Tank
1	Mt Carmel School	23	0	0%	0	0	4	19	0	0
2	Lower Damdura	30	0	0%	7	11	0	12	0	0
3	Masjid Area	217	0	0%	4	46	2	164	1	0
4	Tinzir	40	0	0%	4	8	7	21	0	0
5	Nps Area	12	0	0%	2	7	0	3	0	0
6	Turning Area	7	0	0%	4	1	2	0	0	0
7	Mandir Gaon	140	0	0%	1	38	3	96	0	2
8	Kazitar	225	0	0%	3	43	1	177	0	1
9	Bhutia Busty	92	0	0%	3	21	63	0	0	5
TOTAL		**786**	**0**	**0%**	**28**	**175**	**82**	**492**	**1**	**8**
					4%	**22%**	**10%**	**63%**	**0%**	**1%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.3. ACCESS TO BATHROOM FACILITY

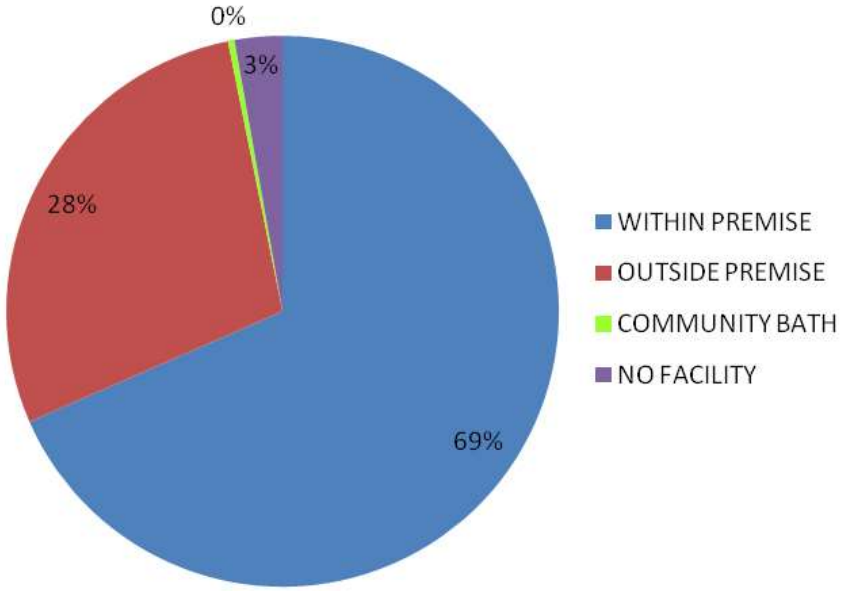
The Table below highlights that while 68% households have Bathroom facility within their premise, 28% households have bathroom facility outside their premises, 1% use community facilities and 3% households do not have any bathroom facility. Therefore, providing sanitation facilities should be a priority in the slums of Namchi.

TABLE 118: SLUMS BY BATHROOM FACILITY

SL	SLUM NAME	HHs	BATHROOM FACILITY			
			WITHIN PREMISE	OUTSIDE PREMISE	COMMUNITY BATH	NO FACILITY
1	Mt Carmel School	23	0	23	0	0
2	Lower Dambudara	30	3	22	0	5
3	Masjid Area	217	118	93	1	5
4	Tinzir	40	0	40	0	0
5	NPS Area	12	2	10	0	0
6	Turning Area	7	0	3	0	4
7	Mandir Gaon	140	135	3	1	1
8	Kazitar	225	213	9	1	2
9	Bhutia Busty	92	67	20	0	5
TOTAL		**786**	**538**	**223**	**3**	**22**
			68%	**28%**	**1%**	**3%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

FIGURE 65: TYPE OF BATHROOM FACILITY AVAILABLE



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.4. ACCESS TO SEWERAGE FACILITY

There is no formal sewerage system in the city as of now. The sewerage system is basically septic tanks connected to the individual toilets.

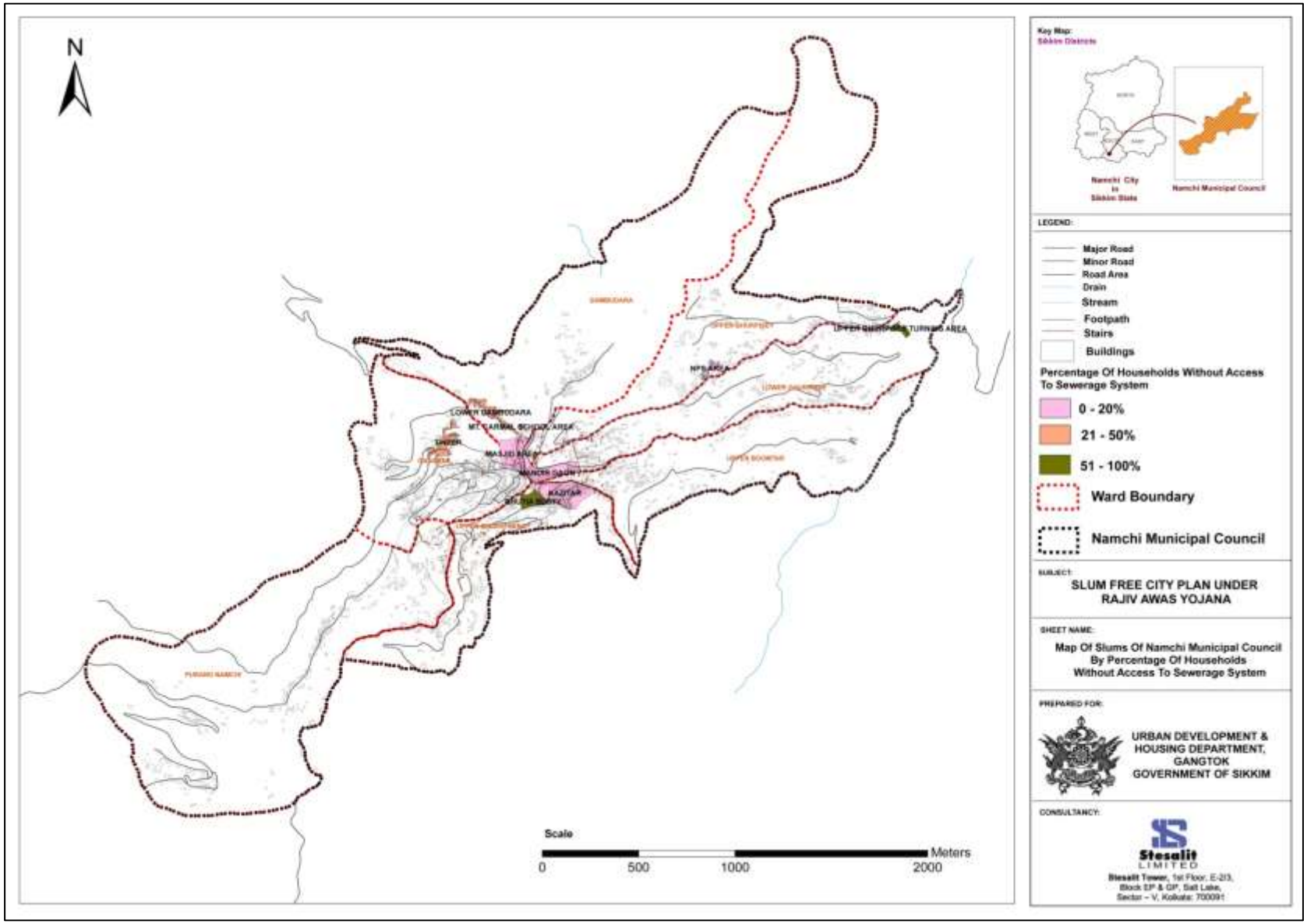
Table below shows that 111 households do not have access to sewerage facilities in Namchi slums where Turning Area has highest number of households of 86% without access to the sewerage system and Bhutia Busty follows with 72% households.

TABLE 119: SLUMS BY ACCESS TO SEWERAGE FACILITY

SL NO.	SLUM NAME	HHs	SEWERAGE FACILITY				
			OWN DRY LATRINE	SHARED DRY LATRINE	COMMUNITY DRY LATRINE	HHs W/O SEWERAGE FACILITY	
						NO.	%
1	Mt Carmel School	23	0	4	0	4	**17%**
2	Lower Damdura	30	7	0	0	7	**23%**
3	Masjid Area	217	4	2	1	7	**3%**
4	Tinzir	40	4	7	0	11	**28%**
5	Nps Area	12	2	0	0	2	**17%**
6	Turning Area	7	4	2	0	6	**86%**
7	Mandir Gaon	140	1	3	0	4	**3%**
8	Kazitar	225	3	1	0	4	**2%**
9	Bhutia Busty	92	3	63	0	66	**72%**
TOTAL		**786**	**28**	**82**	**1**	**111**	**14%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 66: SLUMS BY PERCENTAGE OF HOUSEHOLDS WITHOUT ACCESS TO SEWERAGE SYSTEM



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.5. ACCESS TO ROAD

The road infrastructure condition in slums of Namchi shows that 39% is kaccha road and 61% is pucca thus a serious deficiency of motorable road persists making the slums inaccessible by vehicles like fire tender, ambulance etc.

TABLE 120: SLUMS BY CONDITION OF ROAD

SL NO.	SLUM NAME	HHs	LENGTH OF ROAD (in M)			% OF TOTAL	
			KUTCHA	PUCCA	TOTAL	KUTCHA	PUCCA
1	Mt Carmel School	23	225	0	225	100%	0%
2	Lower Damdura	30	355	832	1187	30%	70%
3	Masjid Area	217	124	593	718	17%	83%
4	Tinzir	40	751	258	1009	74%	26%
5	Nps Area	12	340	128	468	73%	27%
6	Turning Area	7	373	315	688	54%	46%
7	Mandir Gaon	140	0	1093	1093	0%	100%
8	Kazitar	225	0	1228	1228	0%	100%
9	Bhutia Busty	92	0	382	382	0%	100%
TOTAL		**786**	**2168**	**4829**	**6996**	39%	61%

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.6. ACCESS TO DRAINAGE FACILITY

The Table below shows the percentage coverage of drains in the slums of Namchi. Slums namely, Masjid line, Industry area, Chalisay, Prashanti School area and Zero point have good coverage of drains while slums, viz, Fountain area, Sr. Sec. School Area and Tamang Gumpa area have the least coverage of drains.

Proper drainage system is very essential as in absence of planned drainage network, the river Rangit receives all the waste water from the households and is getting polluted at downstream.

TABLE 121: SLUMS BY COVERAGE OF DRAINAGE

SL	SLUM NAME	HHs	% COVERAGE OF DRAINS
1	Mt Carmel School	23	10%
2	Lower Damdura	30	7%
3	Masjid Area	217	7%
4	Tinzir	40	5%
5	NPS Area	12	26%

SL	SLUM NAME	HHs	% COVERAGE OF DRAINS
6	Turning Area	7	5%
7	Mandir Gaon	140	6%
8	Kazitar	225	27%
9	Bhutia Busty	92	30%
TOTAL		**786**	**14%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

2.9.7. STREET LIGHTING

Availability of street lighting facility is seen in the notified slums and the slums adjacent to important roads and market areas in namchi. Thus it can be seen that Masjid Area, Kazitar and Mandir Gaon have street lights. Tinzir slum being dissected by a road has some street lighting. But in the other non-notified slums number of street lights are grossly inadequate. Street lighting is an important element for reduction of criminal activities and other illegal activities. Therefore, provisions need to be made with the safety of the slum dwellers against crime.

TABLE 122: SLUMS BY STREET LIGHT

SL NO.	SLUM NAME	HHs	NO. OF STREET LIGHT
1	Mt Carmel School	23	0
2	Lower Damdura	30	4
3	Masjid Area	217	10
4	Tinzir	40	6
5	Nps Area	12	0
6	Turning Area	7	1
7	Mandir Gaon	140	5
8	Kazitar	225	7
9	Bhutia Busty	92	2
TOTAL		**786**	**35**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3. CATEGORIZATION OF SLUMS IN NAMCHI

3.1. TENABILITY ANALYSIS

The determination of Tenability has been done based on various criteria's such as

- Hazard/Risk zones (Flood, Seismicity and other Environmental Hazards) – based on Studies and Remote sensing spatial information.
- Land Use Constraints – Consistency, Compatibility and Conformity based on Geo referenced Land Use Map of Namchi Structure Plan.
- Land Ownership based on Geo referenced Cadastral Maps and Slum survey on Ownership.

Untenable Slums

The Untenable slums are the ones which are located either in Hazard or Risk zones such as unstable slopes and prone to local flooding and buffer area of Natural Streams or have Land use constraints such as obstruction to extension of Urban infrastructure like roads, railways, airport, bus terminal etc. or falling on Recreational use zones like green areas. In Namchi it is seen, however, that there are slums in areas which have proposed land use to be "Environmental Greens" in which development is restricted. Such slums are also untenable. Jhora are the natural drainage channels of the hills. Any development constraining such due to indiscriminate disposal of domestic garbage may lead to man-made disasters and slums near Jhoras are deemed untenable.

Semi tenable slums

The semi tenable slums are those which have Landuse constraints as per the Structure Plan of Namchi, 2009. These are mainly those slums which fall in

- Existing or Proposed Forest Area
- Existing or Proposed CBD which has a mixed use characteristic of both Commercial and Institutional development
- Location along steep slopes which are not unstable but inaccessible because of the terrain

Though all the semi tenable slums were located on Proposed Non Residential Use, they provide ample opportunity to swapping of Land Use within same zone. Consensus building is required with the Municipal Authorities for formulation of Development Option to moot resolution in regards to semi tenable slums and send request for change of Land Use to State Government.

Tenable slums

And the slum pockets located on existing and proposed residential use zone were categorized as tenable slums and not falling on Hazard or risk zones.

3.1.1. TENABILITY STATUS OF NAMCHI SLUMS

The Tenability status of slums has been derived from the physical location analysis and Surrounding Land use study. The slums' Tenability status by their Ward wise distribution is given in the following Table.

TABLE 123: SLUMS BY TENABILITY STATUS

SL NO	SLUM NAME	POPULA-TION	PHYSICAL LOCATION	PROPOSED LANDUSE*	TENABILITY
1	Mt Carmel School	64	Non hazardous/Non objectionable	Low-Rise Residential	TENABLE
2	Lower Dambudara	126	Non hazardous/Non objectionable	Low-Rise Residential	TENABLE
3	Masjid Area	880	Non hazardous/Non objectionable	Natural Area[9]	SEMI-TENABLE
4	Tinzir	164	Non hazardous/Non objectionable	CBD	SEMI-TENABLE
5	NPS Area	46	Non hazardous/Non objectionable	Reserved Forest	UNTENABLE
6	Turning Area	35	Hazardous/ Objectionable	Steep slope	UNTENABLE
7	Mandir Gaon	502	Non hazardous/Non objectionable	CBD	SEMI-TENABLE
8	Kazitar	773	Non hazardous/Non objectionable	CBD	SEMI-TENABLE
9	Bhutia Busty	421	Non hazardous/Non objectionable	CBD	SEMI-TENABLE
TOTAL		3011	(*PROPOSED LAND USE OF NAMCHI HAS BEEN CONSIDERED FROM NAMCHI STRUCTURE PLAN, 2009)		

Source: Primary survey, 2014, CLTC, Namchi-Jorethang and namchi Structure Plan, 2009

The Table above shows that Masjid area is located in the Land use category Natural Area which is assumed to be same as the Environmental Green as stated in the Namchi Structure Plan, 2009 which makes the slum semi tenable as the landuse can be amended to rehabilitate the existing slum. But, NPS Area is located in the proposed reserved forest category of the Land use proposed in Namchi Structure plan of 2009. Therefore, this slum is also untenable. Thus Relocation and Resettlement policy is required for the identified slums of Namchi.

Apart from this data as has been made available by CLTC-RAY Namchi-Jorethang, observations made during the slum profiling survey regarding the natural characteristics or terrain feature and existing land use of the surrounding area of the slums which has led to the following observations as stated in the table below.

[9] *Assuming that the Land Use category Natural Area is the same as Environmental Green as stated in the Namchi Structure Plan, 2009 which restricts any type of development but since it is not a statutory document hence amendable.*

But according to the observations from the **table above** it is evident that Turning Area slum is located beside a ***Jhora*** which are the natural drainage channels of the hills. Any development constraining the natural drainage of a terrain due to indiscriminate disposal of domestic garbage may lead to man-made disasters and therefore due to its location near a Jhora it becomes Untenable.

That relocation and resettlement has to be proposed for all. But relocation is always the least preferred option especially for the urban poor as they tend to settle down at the areas from where commute to the location of employment is most convenient. Therefore, this has to be discussed at length with the Municipal Council Authorities and UD&HD for formulation of Development Option to moot resolution in regards to semi tenable slums and send request for change of Land Use to State Government[10] formulation of Development Option to moot resolution in regards to semi tenable slums and send request for change of Land Use to State Government[11].

3.1.2. RESULT OF TENABILITY ANALYSIS

Based on the above parameters the tenability status of slums of Namchi reveals that only 2 slums are Tenable, 5 slums are Semi tenable and 2 slums are Untenable. Refer Table below.

TABLE 124: RESULT OF TENABILITY ANALYSIS OF SLUMS

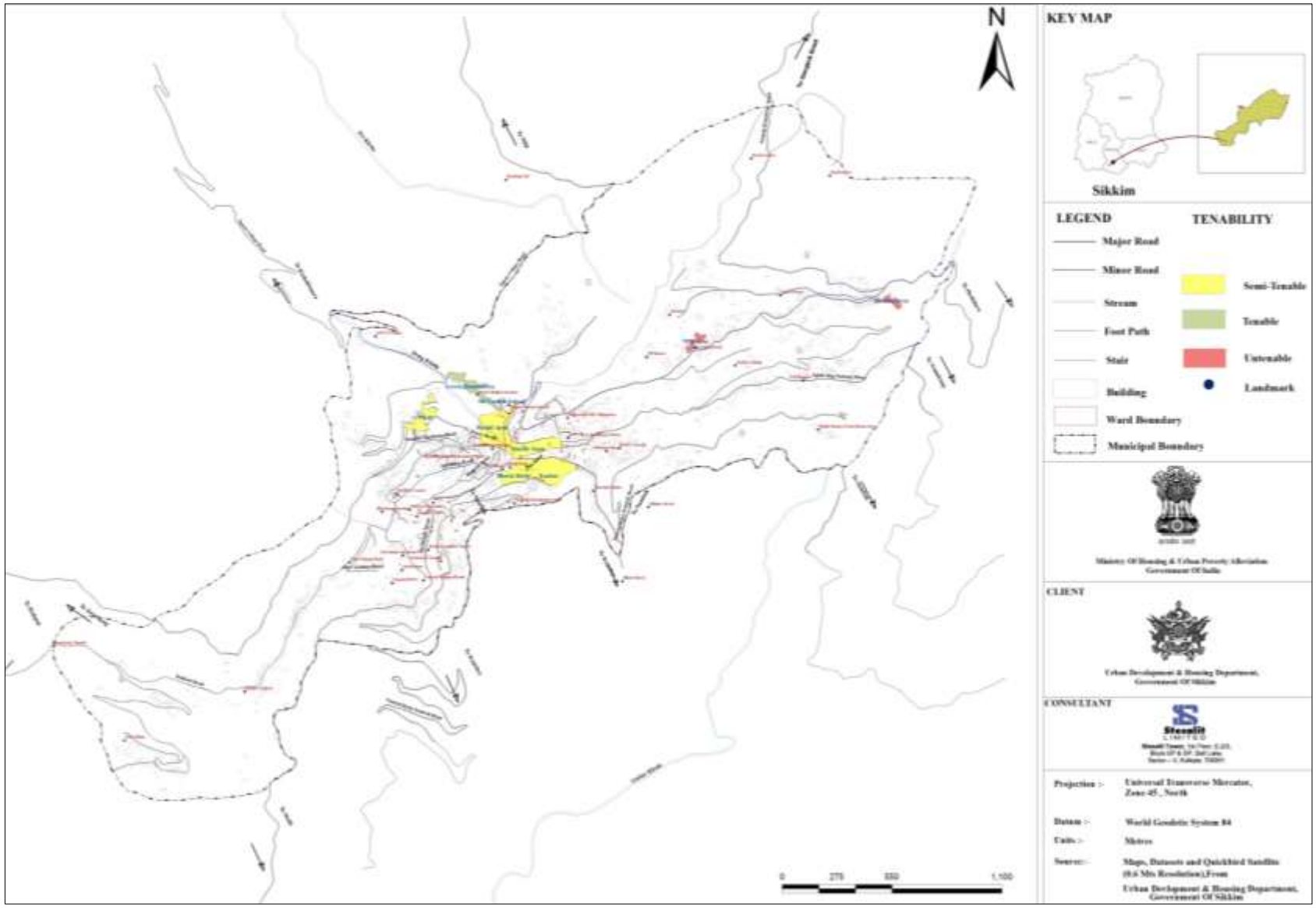
SL NO.	TYPE OF TENABILITY	NO. OF SLUMS	PERCENTAGE
1	Tenable slums	**2**	**22%**
2	Semi tenable slums	**5**	**67%**
3	Untenable slums	**2**	**11%**
Total		**9**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

Thus after discussion with the Authorities concerned, it has been finalized that in Namchi all the semi tenable slums listed in the above table can be considered as Tenable and only two slums NPS area and Turning area to be considered as Untenable.

[10] Also there is no slope analysis available with the Municipal Authorities which speaks about the stability of the slopes. Only the feature of being located on a steep slope may not deem a slum untenable but it needs to be analyzed based on the stability of the slope. This may also deem Mt Carmel School area as an untenable slum.

MAP 33: MAP BY TENABILITY STATUS OF SLUMS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.2. TENURE STATUS ANALYSIS

Tenure Status of slums is an important determinant of its vulnerability in terms of insecurity and instability. Thus the Tenure analysis will help in Prioritizations of slums as the slums with In-secure tenure are the most vulnerable ones and require regularization of tenure immediately.

3.2.1. TENURE STATUS OF NAMCHI SLUMS

The various Tenure typologies observed in Namchi are, Freehold with Possession certificate, Rental, No Legal Right (Encroachment on Private and Public Land) and Other Legal Rights such as unregistered agreements, notaries etc. The distribution of slums as per Tenure status is given in **Table below**, which shows 30% households having possession certificate, 69% rental, 1% with some legal right and less than 1% households having no Legal right.

TABLE 125: SLUMS BY TENURE STATUS

SL NO	SLUM NAME	POP	HH	PROPERTY TENURE STATUS				% OF HHs WITH POSSESSION CERTIFICATE + RENTAL	TENURE CATEGORY
				POSSESSION CERTIFICATE	RENTAL	ENCROACHMENT ON PVT. LAND	OTHERS		
1	Mt Carmel School area	64	23	0	23	0	0	**100%**	**SECURE**
2	Lower Dambudara	126	30	16	12	0	2	**93%**	**SECURE**
3	Masjid Area	880	217	64	152	0	1	**100%**	**SECURE**
4	Tinzir	164	40	15	25	0	0	**100%**	**SECURE**
5	Nps Area	46	12	6	6	0	0	**100%**	**SECURE**
6	Turning Area	35	7	3	0	0	4	**43%**	**SEMI-SECURE**
7	Mandir Gaon	502	140	48	92	0	0	**100%**	**SECURE**
8	Kazitar	773	225	47	177	1	0	**100%**	**SECURE**
9	Bhutia Busty	421	92	36	56	0	0	**100%**	**SECURE**
TOTAL		**3011**	**786**	**235**	**543**	**1**	**7**		
				30%	**69%**	**0.13%**	**1%**		

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.2.2. RESULT OF TENURE ANALYSIS

From the result of Slum household survey, based on all these Tenure typologies the slums have been broadly classified into three categories such as

- **Slums with more than 60% HHs having Possession Certificate+ Rental: Predominantly Secure Tenure**
- **Slums with 31%-60% HHs having Possession Certificate+ Rental: Predominantly Semi Secure Tenure**
- **Slums with 0-30% HHs having Possession Certificate+ Rental: Predominantly In-Secure Tenure**

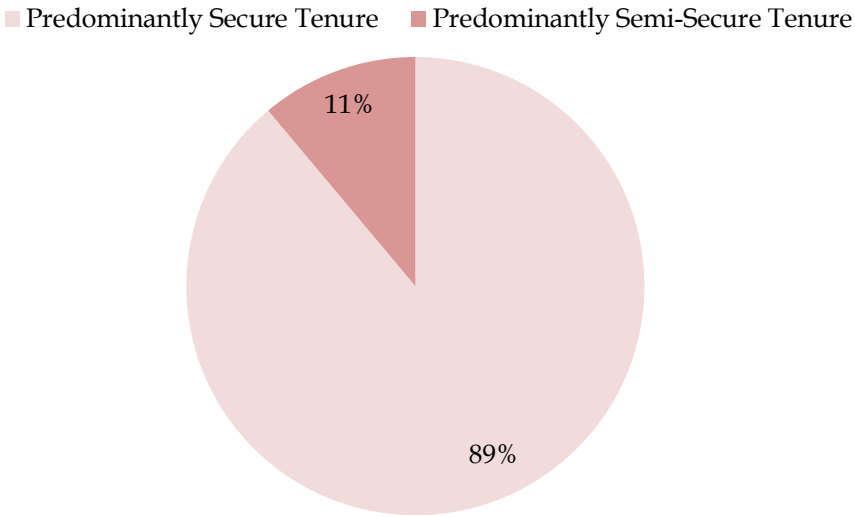
The analysis shows that **89%** of the slums have predominantly **Secure** tenure whereas **11%** slums have predominantly **Semi secure** tenure. Refer **Table below**.

TABLE 126: RESULT OF TENURE ANALYSIS

SL NO.	TENURE STATUS ANALYSIS	NO. OF SLUMS	PERCENTAGE
1	Predominantly Secure Tenure	**8**	**89%**
2	Predominantly Semi-Secure Tenure	**1**	**11%**
3	Predominantly In-Secure	**0**	**0%**
TOTAL		**9**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

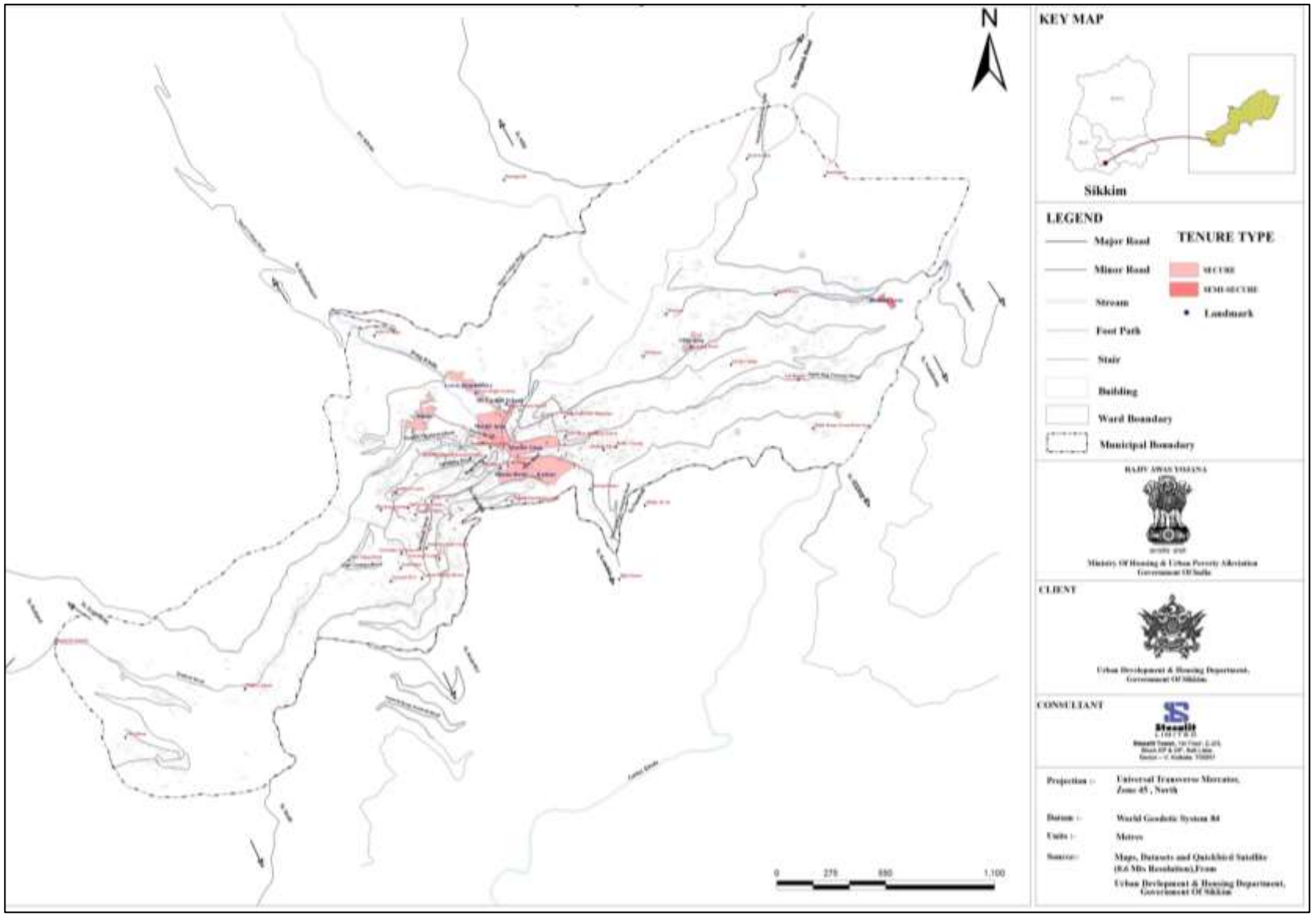
FIGURE 67: SLUMS BY TENURE STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The Tenure status analysis of Namchi slums show that secure category of Tenure is present in considerable portions.

MAP 34: MAP OF SLUMS BY TENURE STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.3. LAND OWNERSHIP ANALYSIS

Slum land ownership is an important factor in determining the probability, possibility and feasibility of Development to be proposed under Slum Free City Plan of Action for Namchi.

3.3.1. LAND OWNERSHIP STATUS OF NAMCHI SLUMS

The Land Ownership status of slums shows the various type of Land Holding pattern. The various types of Land Ownership of slums as observed in Namchi are:

- Public Land
- Private owned Land
- Partly Government and Partly Private and
- Partly Private owned and Partly Trust Land.

The following **Table** shows the slums as per their typology of Land Ownership. It has been found that almost all slums of Namchi are on Private land with only one slum on public land and 2 slums are on mixed ownership of land.

TABLE 127: LAND OWNERSHIP ANALYSIS OF SLUMS

SL NO	SLUM NAME	POPULATION	HOUSEHOLD	LAND OWNERSHIP	OWNERSHIP CATEGORY
1	Mt Carmel School area	64	23	Private	PRIVATE
2	Lower Damdura	126	30	Private	PRIVATE
3	Masjid Area	880	217	Private + Trust	MIXED
4	Tinzir	164	40	Private	PRIVATE
5	Nps Area	46	14	Private	PRIVATE
6	Turning Area	35	7	Private	PRIVATE
7	Mandir Gaon	502	140	Private	PRIVATE
8	Kazitar	773	225	Government	PUBLIC
9	Bhutia Busty	421	92	Government + Private	MIXED
TOTAL		3011	788	The land under the ownership of the trust is called Waqf land.	

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.3.2. RESULT OF LAND OWNERSHIP ANALYSIS

Therefore the Landownership has been categorized as:

- Mixed Ownership
- Private
- Public

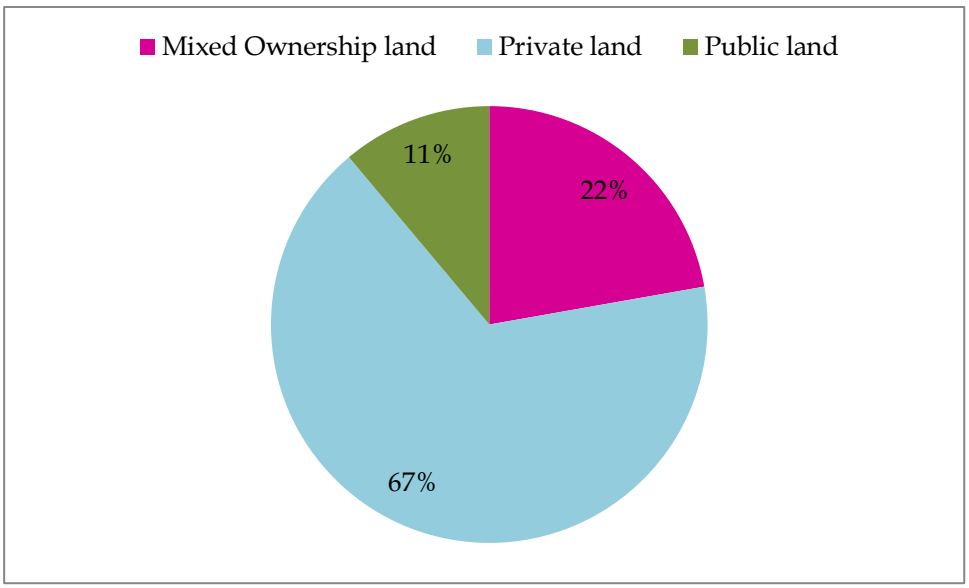
The analysis shows that **11%** of the slums are on **Public land** whereas **22%** slums are on **Mixed Ownership** and **67% slums** are on **Private land**. Refer **Table below**.

TABLE 128: RESULT OF LAND OWNERSHIP ANALYSIS

SL NO	LAND OWNERSHIP ANALYSIS	NO. OF SLUMS	PERCENTAGE
1	Mixed Ownership land	**2**	**22%**
2	Private land	**6**	**67%**
3	Public land	**1**	**11%**
TOTAL		**9**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

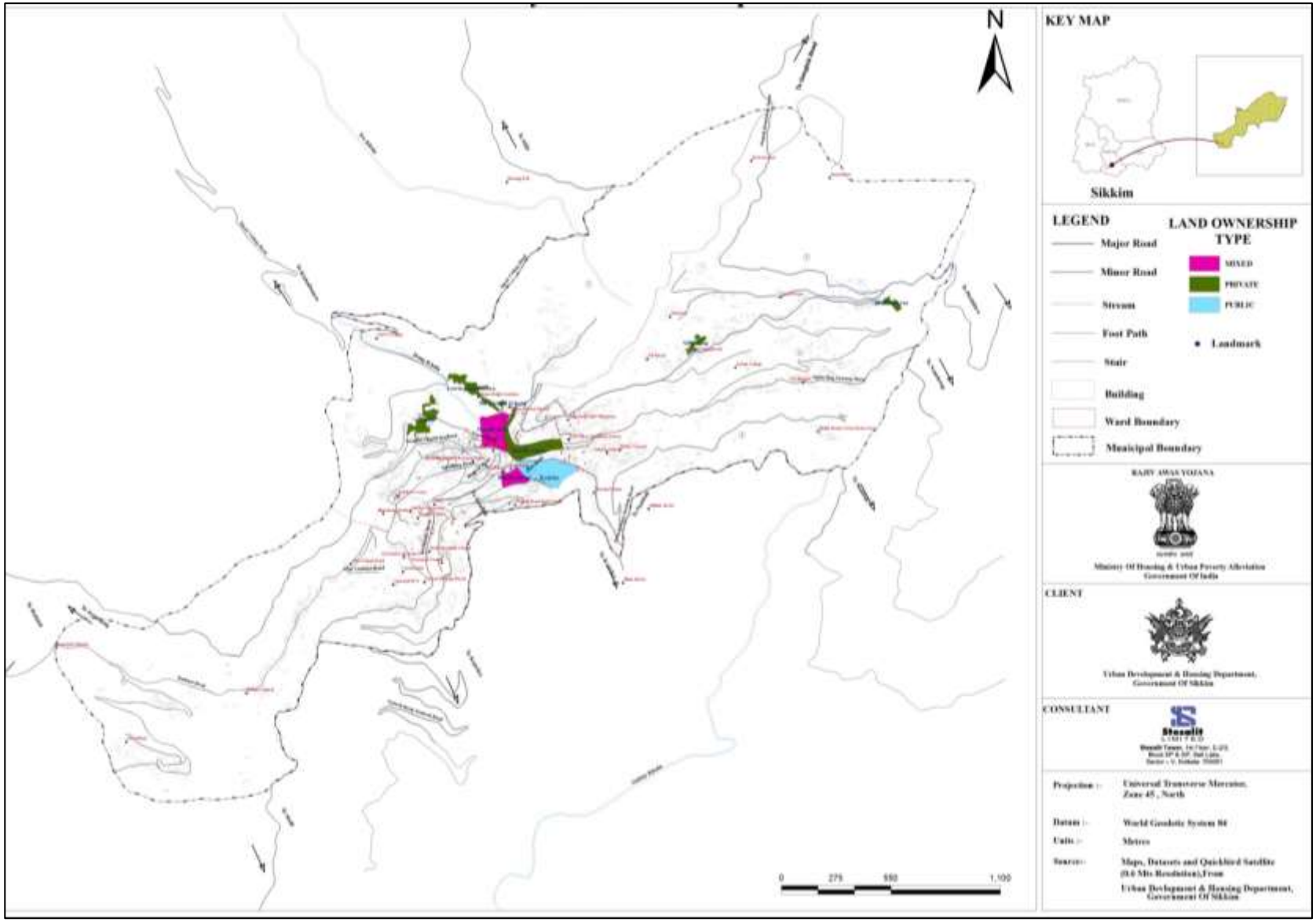
FIGURE 68: RESULT OF LAND OWNERSHIP ANALYSIS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

It has been observed from the Land Ownership Analysis that more than 65% of slums are located on Private land thus it might lead to complications while development either due to Land title issues or willingness of the landowner for development, hence extensive consultation with the landowners are required for decision making.

MAP 35: SLUMS BY LAND OWNERSHIP STATUS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.4. POPULATION DENSITY ANALYSIS

The population density of slums are dependent on two major factors, namely, age and location within the town also plays an important factor as it provides livelihood opportunities to the slum dwellers. Low density slums are generally located in the fringe areas while the slums with high population density are those which are commonly in the city core.

3.4.1. POPULATION DENSITY STATUS OF NAMCHI SLUMS

The Population Density of Namchi slums have been classified into 4 regular class intervals ranging from below 250 pph to above 750 pph. Table below shows the population density wise distribution of Slums. The various Population Densities of slums have been divided into four class intervals with the following ranges are mentioned below:

- **Upto 250pph**
- **250pph-500pph**
- **500pph-750pph**
- **750pph and above**

TABLE 129: POPULATION DENSITY STATUS OF SLUMS

SL NO	WARD NAME	SLUM NAME	AREA IN (HA)	POPULATION	POPULATION DENSITY (PPH)	CATEGORY OF DENSITY
1	Dambudara	Mt Carmel School Area	0.08	64	800	<750pph
2	Dambudara	Lower Dambudara	1.11	126	114	>250pph
3	Dambudara and Gangyap	Masjid Area	2.38	880	370	250-500pph
4	Gangyap	Tinzir	1.2	164	136	>250pph
5	Upper and Lower Ghurpisey	Mandir Gaon	2.4	502	209	>250pph
6	Upper Ghurpisey	Nps Area	0.39	46	117	>250pph
7	Upper Ghurpisey	Turning Area	0.38	35	93	>250pph
8	Upper Singithang	Bhutia Busty	0.96	773	809	<750pph
9	Upper Singithang	Kazitar	3.22	421	131	>250pph

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.4.2. RESULT OF POPULATION DENSITY ANALYSIS

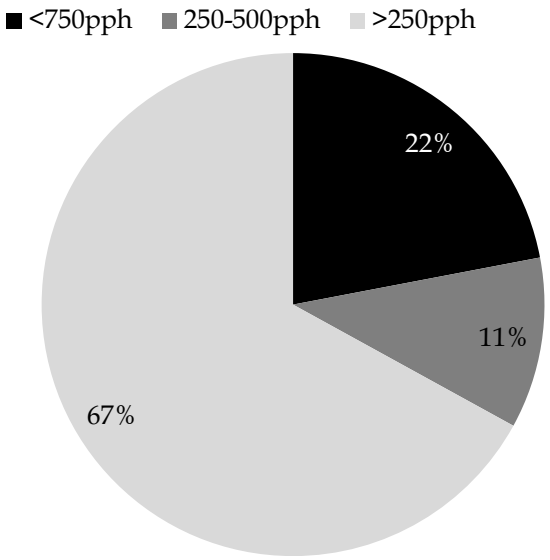
The Population Density analysis of Namchi slums shows that 67% slums has population density below 250pph, 11% slums has population density between 250pph and 750pph and 22% slums has density above 750pph.

TABLE 130: RESULT OF POPULATION DENSITY ANALYSIS

SL NO.	POPULATION DENSITY ANALYSIS	NO. OF SLUMS	PERCENTAGE
1	**>250pph**	**6**	**67%**
2	**250-500pph**	**1**	**11%**
3	**500-750pph**	**0**	**0%**
4	**<750pph**	**2**	**22%**
TOTAL		**9**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

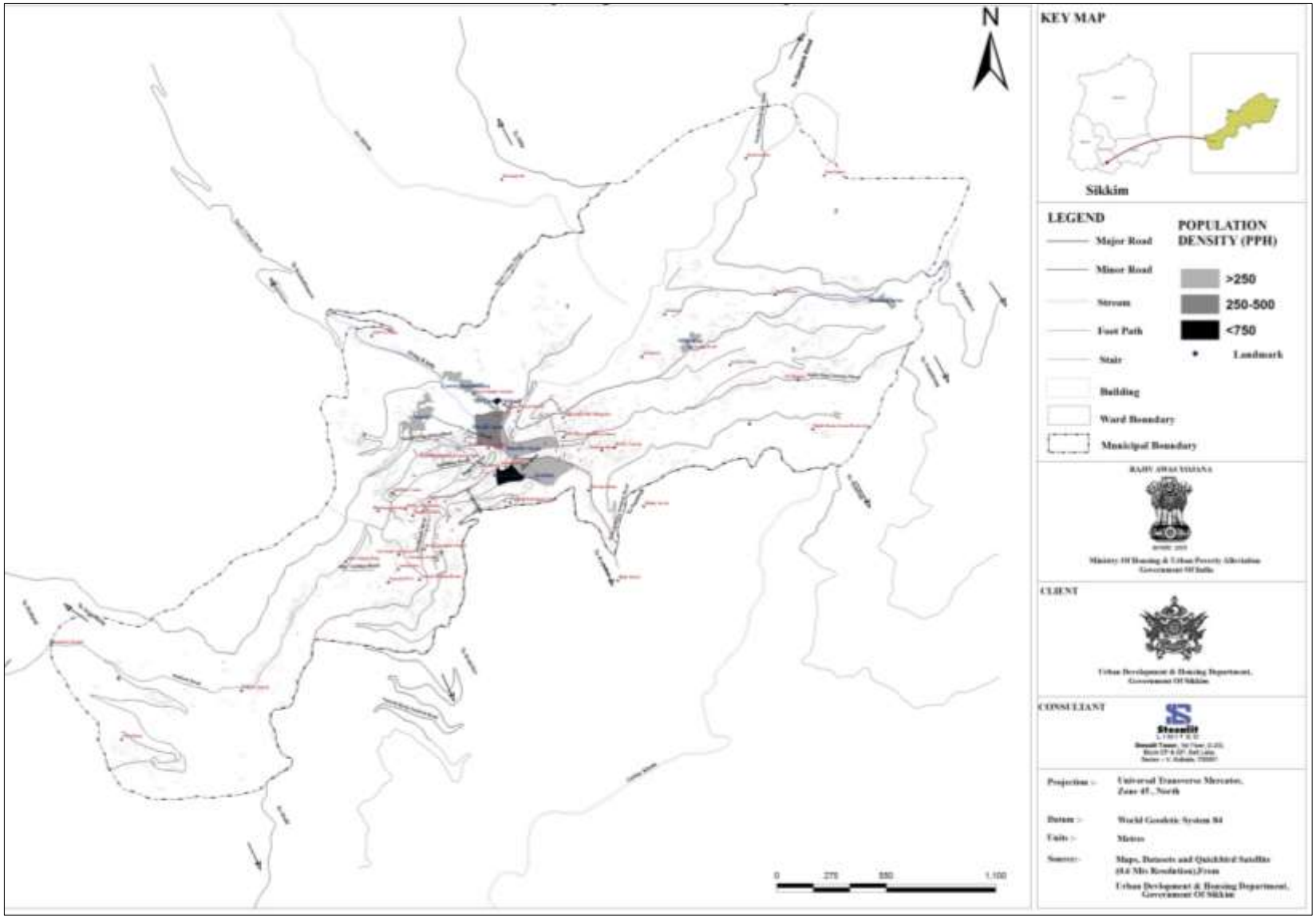
FIGURE 69: RESULT OF POPULATION DENSITY ANALYSIS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

The population density analysis highlights that since the population density of slums varies from **low** to **medium** condition with only 22% in high density the scope of **Re-densification** through **Redevelopment** of the slums can be a possible option.

MAP 36: SLUMS BY POPULATION DENSITY ANALYSIS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.5. LAND VALUE ANALYSIS

The land value of the slums located in the C.B.D area and those located in proximity to the Commercial Landuse zone of the city are the highest while that on the fringe areas near the Industries is the lowest. The Land Value factor helps determine the mode of Proposed Development of a slum.

3.5.1. LAND VALUE OF NAMCHI SLUMS

The land value ranges from Rs 1000/sqft to Rs 5000/sqft. The slums as per their Land value are given in Table below.

TABLE 131: LAND VALUE STATUS OF SLUMS

SL NO	WARD NAME	SLUM NAME	LAND VALUE (Rs/sqft)	LAND VALUE CATEGORY
	Dambudara		2500	MEDIUM
	Dambudara		1000	MEDIUM
	Dambudara + Gangyap		5000	HIGH
			4500	HIGH
			1000	LOW
			800	LOW
			3000	HIGH
			4000	HIGH
			3500	HIGH

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.5.2. LAND VALUE ANALYSIS OF NAMCHI SLUMS

Land Value for every slum pocket has been considered based on rates of Sikkim Land Revenue Department for assessment of Property Values for Developed Residential Land. The various Land Value ranges found have been categorized as:

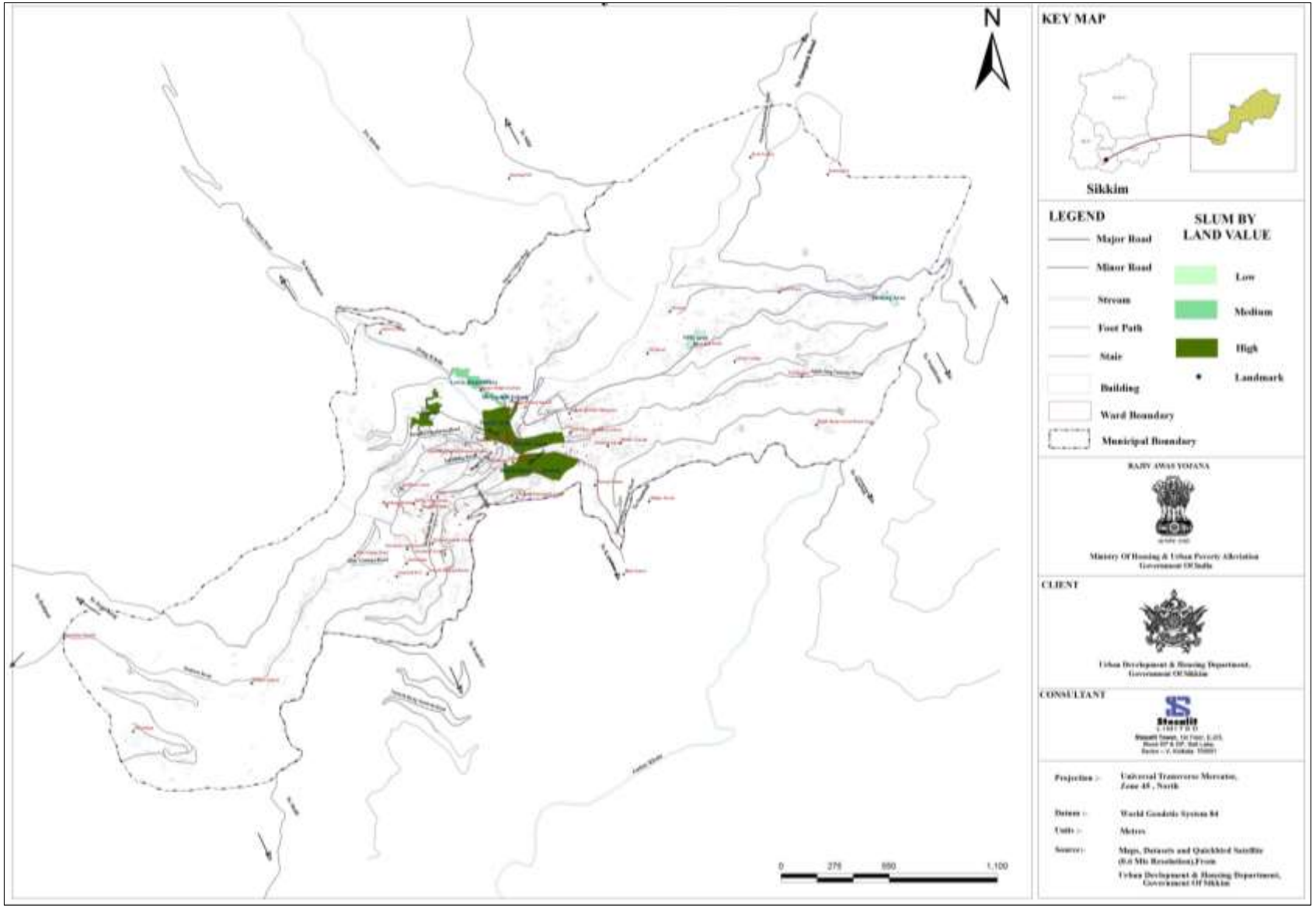
- **Low – Upto Rs 1000/sqft**
- **Medium- Rs 1001-3000/sqft**
- **High – above Rs 3000/sqft**

TABLE 132: RESULT OF LAND VALUE ANALYSIS

LAND VALUE	No. OF SLUMS	PERCENTAGE
LOW VALUE (Upto Rs 1000/sqm)	2	22%
MEDIUM VALUE (Rs 1001 to 3000/sqm)	2	22%
HIGH VALUE (Above Rs 3000/sqm)	5	56%
TOTAL	**9**	**100%**

Source: Primary survey, 2014, CLTC, Namchi-Jorethang

MAP 37: LAND VALUE ANALYSIS MAP OF NAMCHI SLUMS



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

3.6. 3X3X3 VULNERABILITY MATRIX ANALYSIS

A three dimensional matrix analysis has been made with 3 parameters, namely, Housing (Housing Condition), Infrastructure (Access to Basic services) and Socio-economic Condition as per given weightage. Each of these parameters has been further analyzed based on various key indicators determining the status of parameters. The following deficiency matrix has been generated assessing each slum as per these indicators. The slums has been categorized into typology by a code (111,121,221,321 etc as defined below) derived out of the matrix which will be further analyzed with respect to the Tenability, Tenure condition, Population Density and Land ownership status to propose the model of development for each slum. The various components and their sub-components are as follows:

PARAMETER 1- Housing condition: Housing condition is measured using following key indicators

i. High Percentage in Kutch housing
ii. High Percentage in Semi pucca housing

PARAMETER 2- Infrastructure components: The following infrastructure indicators have been considered for calculating infrastructure deficiency:

iii. High Percentage of households without water connection
iv. High Percentage of households engaged in Open Defecation
v. High percentage of deficiency of sewerage facility
vi. High Percentage deficiency of drains
vii. High Percentage deficiency of pucca road
viii. High Percentage deficiency in street lights

PARAMETER 3- Socio-economic status: Key indicators for determining the status of socio-economic parameter:

ix. High Percentage of Households with monthly income less than Rs.3000
x. High Percentage of unemployed population
xi. High Percentage of Illiterate population
xii. High Percentage of ST+SC Households

Based on the Indicators mentioned above each slum has been classified into two indices.

Slums with sound condition = **Index 1** and Slums with poor condition = **Index 2**

Each Indicator has been assigned a **weightage** as per their priority. The Index obtained from the analysis of primary data, is multiplied by Weightage to evaluate a score for the corresponding slums. The scores were finally divided into **3 Final Range Codes**.

TABLE 133: PARAMETERS, INDICATORS AND WEIGHTAGE FOR 3X3X3 MATRIXES

PARAMETER	KEY INDICATORS	WEIGHTAGE
Housing Condition	High % of Kuccha house	**60%**
	High % of Semi pucca house	**40%**
Infrastructure Condition	High % of HHs without water connection	**40%**
	High % of population engaged in open defecation	**25%**
	High % deficiency of sewerage system	**15%**
	High % deficiency of pucca drains	**10%**
	High % deficiency of pucca road	**5%**
	High % deficiency of street lights	**5%**
Socio-economic Condition	High % of HHs with monthly income less than Rs.3000	**60%**
	High % of unemployed population	**15%**
	High % of Illiterate population	**15%**
	High % of ST+SC Households	**10%**

Range code 1 = Sound Condition

Range code 2 = Medium Condition

Range code 3 = Vulnerable Condition

3.6.1. INTRODUCTION TO THE 3X3X3 VULNERABILITY MATRIX ANALYSIS

The Matrix analysis has been done by combining the analysis results of the three parameters namely Housing, Infrastructure and Socio-economic condition. The matrix will indicate the deficiency or the vulnerability of an individual slum which will help formulate the Development Proposals for the slums.

The Final Range codes for the three parameters, namely, Housing, Infrastructure and Socio-economic condition has been worked out from the corresponding scores of each slum as given on Table 115-117. The total score against each parameter has been calculated from the Index and weightage of each Indicator. This final score has been further graded into three Range codes of 1, 2 and 3 which represent good condition, medium condition and vulnerable condition respectively (Table 118).

Therefore for analyzing Housing condition, slums with score ranging between 100-133 has been assumed to be in good condition, those between 134-166 are in medium condition and those with scores equal to and more than 167 are in vulnerable condition.

Similarly for analyzing Infrastructure condition, the slums with score ranging between 100-133 has been given Range code of 1 meaning they are in good condition, those between 134-166 with Range code 2 are in medium condition and those equal to and above 167 are in vulnerable condition with Range code 3.

For Socio-economic condition, Range code 1 has been given to those slums with score ranging between 100-133 thus meaning good condition, Range code 2 to those slums with score between 134-166 are in medium condition and those slums with score equal to and above 167 has been given Range code 3 thus in vulnerable condition.

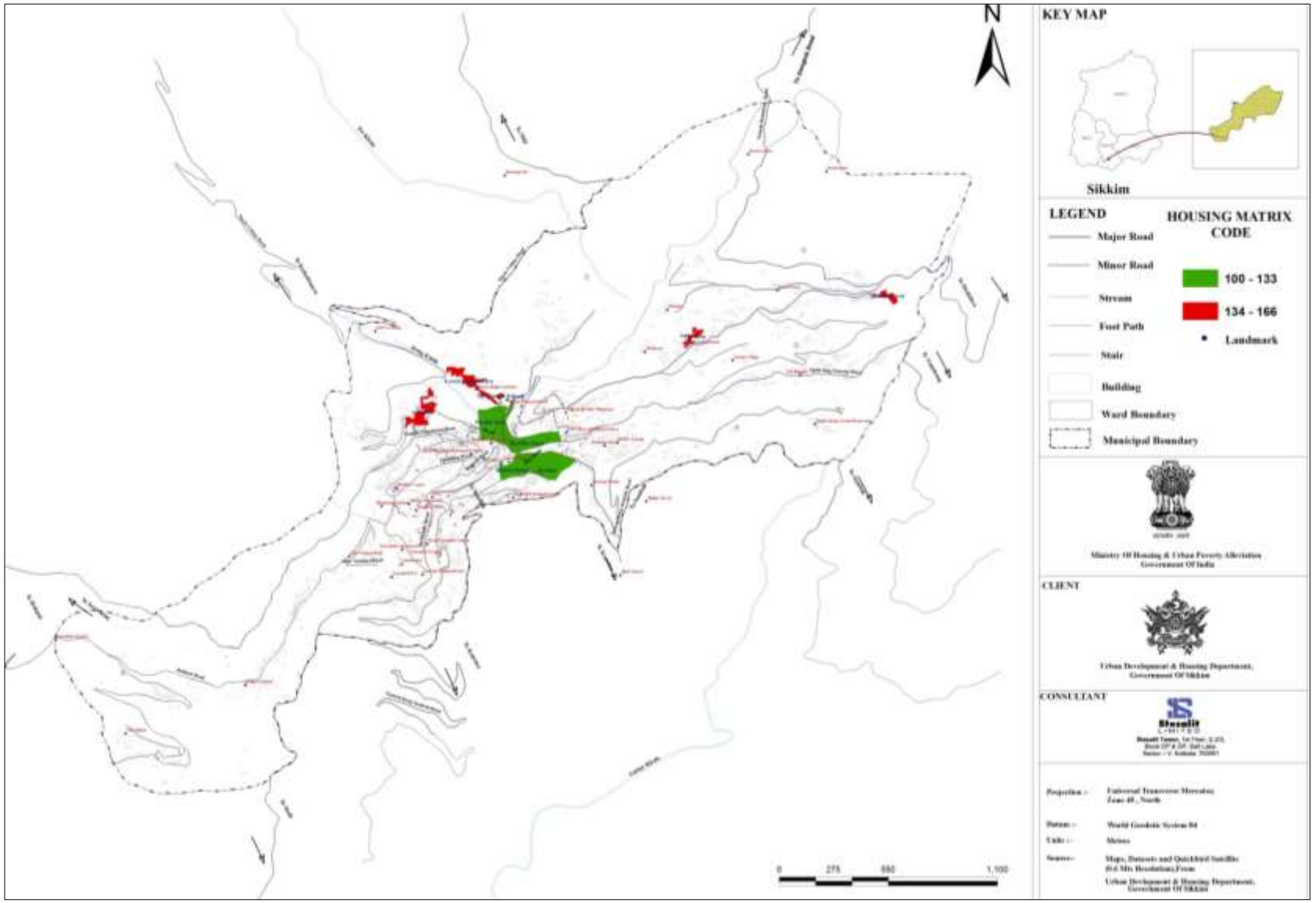
TABLE 134: RANGE CODE FORMATION FOR MATRIX ANALYSIS

	Parameters	Range Code		
		1 (Color Range)	2 (Color Range)	3(Color Range)
Total Scores	Housing	100-133	134-166	167 and Above
	Infrastructure	100-133	134-166	167 and Above
	Socio-economic	100-133	134-166	167 and Above

TABLE 135: MATRIX ANALYSIS FOR HOUSING CONDITION

PARAMETERS		HOUSING CONDITION						TOTAL SCORE
INDICATORS		PERCENTAGE OF KUTCHA HOUSE			PERCENTAGE OF SEMI PUCCA HOUSE			
		LESS THAN 40%	40% OR MORE		LESS THAN 60%	60% OR MORE		
WEIGHTAGE		60			40			
SL NO	SLUM NAME	INDEX		SCORE	INDEX		SCORE	
1	Mt Carmel School	1		60		2	80	140
2	Lower Damdura		2	120	1		40	160
3	Masjid Area	1		60	1		40	100
4	Tinzir		2	120	1		40	160
5	Nps Area		2	120	1		40	160
6	Turning Area		2	120	1		40	160
7	Mandir Gaon	1		60	1		40	100
8	Kazitar	1		60	1		40	100
9	Bhutia Busty	1		60	1		40	100

MAP 38: SLUMS BY HOUSING VULNERABILITY MATRIX

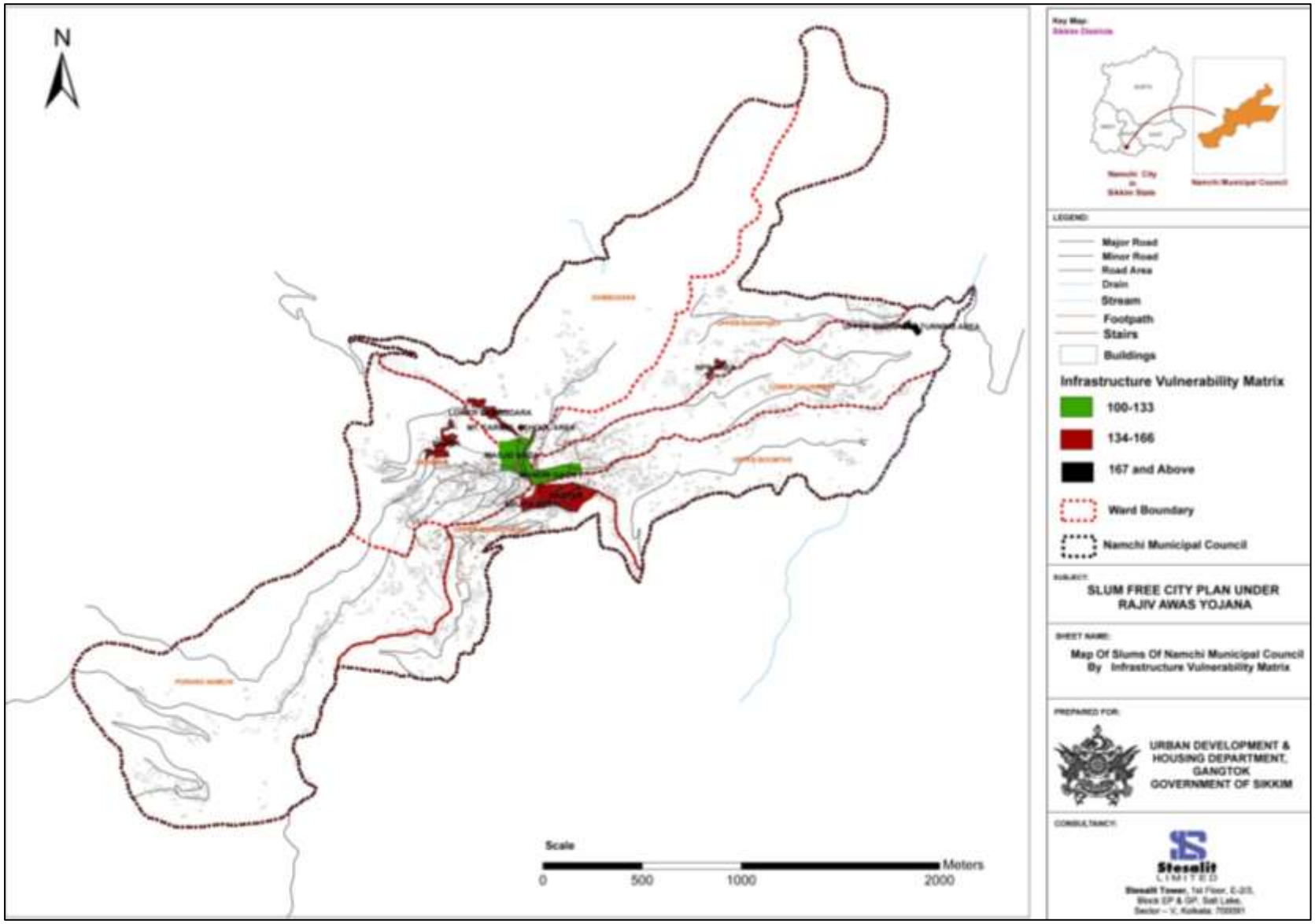


Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 136: MATRIX ANALYSIS FOR INFRASTRUCTURE CONDITION

PARAMETERS		INFRASTRUCTURE CONDITION																		TOTAL SCORE
		HHs WITHOUT WATER CONNECTION			HHs ENGAGED IN OPEN DEFECATION			HHs WITHOUT SEWERAGE SYSTEM			DEFICIENCY OF PUCCA DRAINS			DEFICIENCY OF PUCCA ROAD (3M WIDE)			DEFICIENCY OF STREET LIGHT			
INDICATORS		LESS THAN 60%	60% OR MORE	SCORE	LESS THAN 40%	40% OR MORE	SCORE	LESS THAN 40%	40% OR MORE	SCORE	LESS THAN 40%	40% OR MORE	SCORE	LESS THAN 60%	60% OR MORE	SCORE	LESS THAN 40%	40% OR MORE	SCORE	
WEIGHTAGE		40			25			15			10			5			5			
SL	SLUM NAME	INDEX			INDEX			INDEX			INDEX			INDEX			INDEX			
1	Mt Carmel School		2	80	1		25	1		15		2	20		2	10		2	10	160
2	Lower Dambudara		2	80	1		25	1		15		2	20	1		5		2	10	155
3	Masjid Area	1		40	1		25	1		15		2	20	1		5	1		5	110
4	Tinzir		2	80	1		25	1		15		2	20		2	10	1		10	150
5	Nps Area		2	80	1		25	1		15		2	20		2	10		2	10	160
6	Turning Area		2	80	1		25		2	30		2	20	1		5		2	10	170
7	Mandir Gaon	1		40	1		25	1		15		2	20		2	10	1		5	115
8	Kazitar	1		40	1		25	1		15		2	20		2	10	1		5	115
9	Bhutia Busty	1		40	1		25		2	30		2	20		2	10		2	5	135

MAP 39: SLUMS BY INFRASTURTURE VULNERABILITY MATRIX

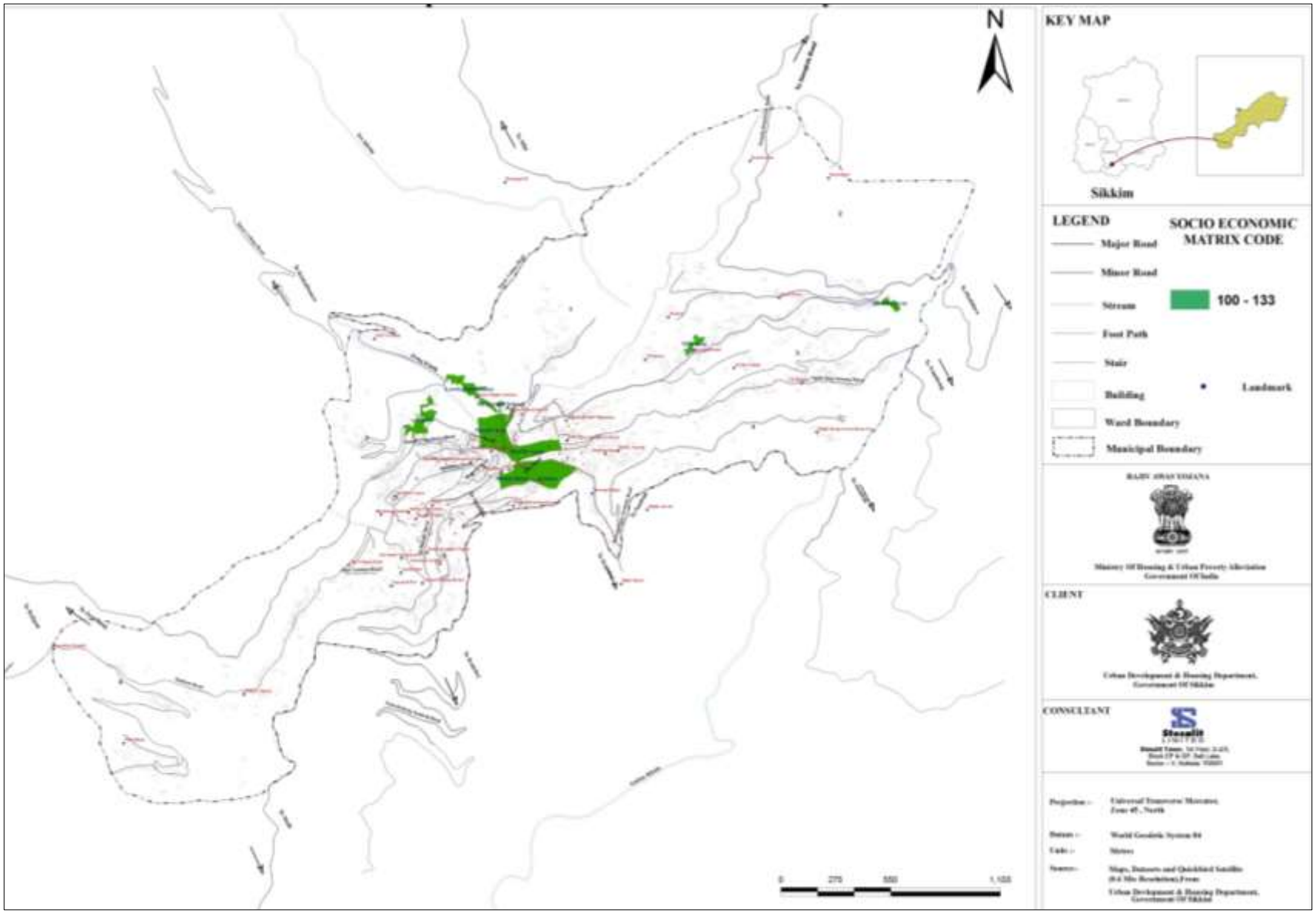


Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 137: MATRIX ANALYSIS FOR SOCIO-ECONOMIC CONDITION

PARAMETERS		SOCIO ECONOMIC CONDITION												
INDICATORS		HHs WITH MONTHLY INCOME =<Rs 3000			NO. OF UNEMPLOYED			NO. OF ILLITERATES			SC/ST HHs			TOTAL SCORE
		LESS THAN 40%	40% OR MORE		LESS THAN 60%	60% OR MORE		LESS THAN 40%	40% OR MORE		LESS THAN 40%	40% OR MORE		
WEIGHTAGE		60%			15%			15%			10%			
SL	SLUM NAME	RANK		SCORE	RANK		SCORE	RANK		SCORE	RANK		SCORE	
1	Mt Carmel School	1		60	1		15	1		15		2	20	110
2	Lower Damdura	1		60		2	30	1		15	1		10	115
3	Masjid Area	1		60	1		15	1		15	1		10	100
4	Tinzir	1		60	1		15	1		15	1		10	100
5	Nps Area	1		60	1		15	1		15		2	20	110
6	Turning Area	1		60		2	30	1		15	1		10	115
7	Mandir Gaon	1		60	1		15	1		15	1		10	100
8	Kazitar	1		60	1		15	1		15	1		10	100
9	Bhutia Busty	1		60	1		15	1		15	1		10	100

MAP 40: SLUMS BY SOCIO ECONOMIC VULNERABILITY MATRIX



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

TABLE 138: SLUMS BY VULNERABILITY MATRIX CODES

Sl No.	NAME OF SLUM	HOUSING		INFRASTRUCTURE		SOCIO ECONOMIC		FINAL CODE
		SCORE	RANGE CODE	SCORE	RANGE CODE	SCORE	RANGE CODE	
1	Mt Carmel School	140	2	160	2	110	1	221
2	Lower Dambudara	160	2	155	2	115	1	221
3	Masjid Area	100	1	110	1	100	1	111
4	Tinzir	160	2	150	2	100	1	221
5	Nps Area	160	2	160	2	110	1	221
6	Turning Area	160	2	170	3	115	1	231
7	Mandir Gaon	100	1	115	1	100	1	111
8	Kazitar	100	1	130	1	100	1	111
9	Bhutia Busty	100	1	135	2	100	1	121

3.6.2. RESULT OF 3X3X3 VULNERABILITY MATRIX ANALYSIS

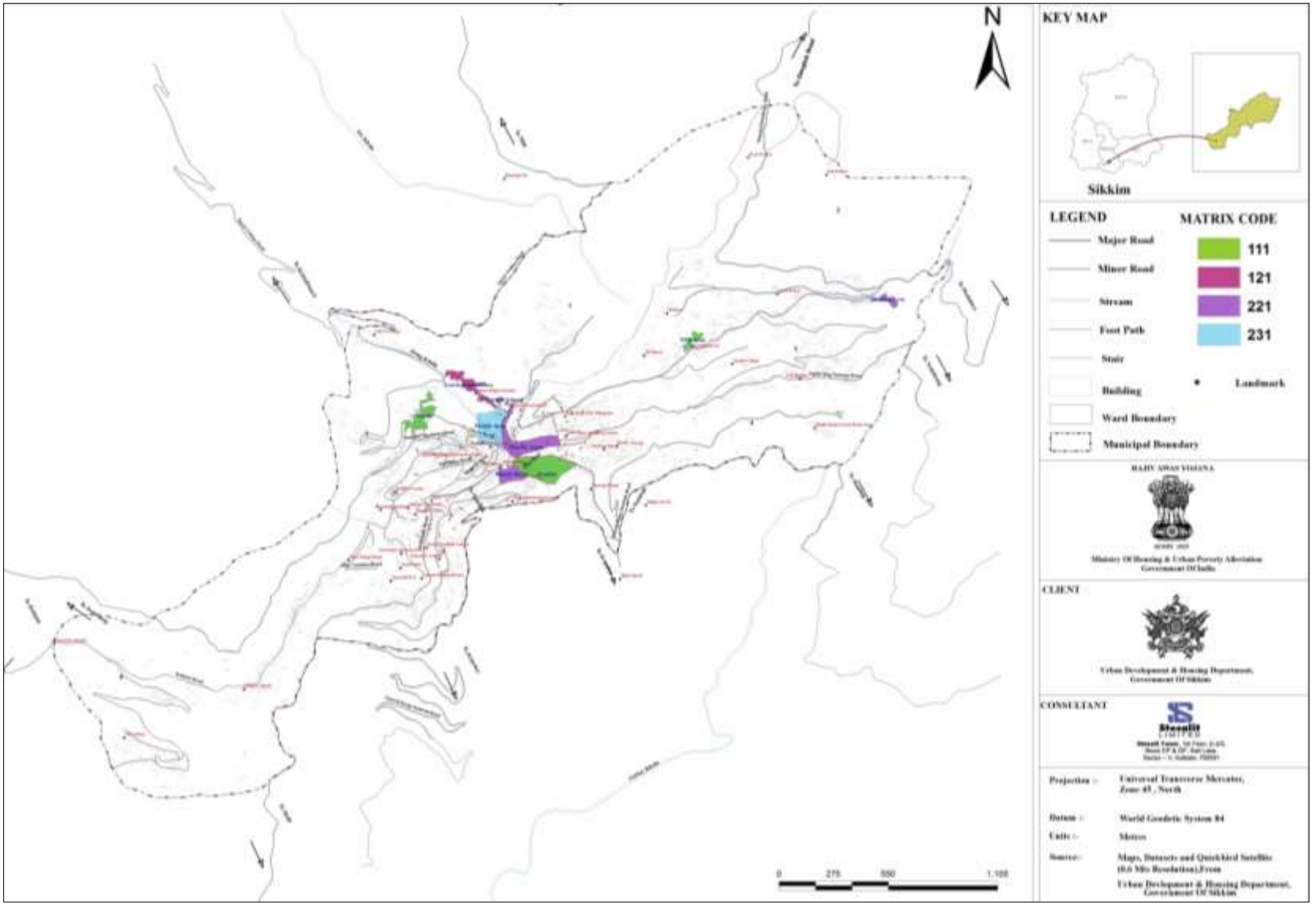
The slums as per the result of 3X3X3 Matrix is given in Table below. Slums of Namchi have been graded into 4 types of matrix codes namely, 111, 121, 221 and 231 as a result of the vulnerability matrix.

TABLE 139: RESULT OF 3X3X3 MATRIX ANALYSIS

SL NO	CODES	NO. OF SLUMS	INFERENCE	PRELIMINARY DEVELOPMENT OPTIONS
1	**231**	**1**	Medium in Housing, Vulnerable in Infrastructure & Sound in Socio economic	Housing and Infrastructure Development
2	**221**	**4**	Sound in Socio economic & Medium in others	Partial Infrastructure development with Gap filling housing
3	**121**	**1**	Medium in Infrastructure & Sound in others	Partial Infrastructure development with Gap filling housing
4	**111**	**3**	Sound in all condition	Partial Infrastructure
TOTAL	**4**	**9**		

These vulnerability matrix codes along with the Land ownership status, tenability and tenure status and population density will determine the various development options for the slums.

MAP 41: SLUMS BY VULNERABILITY MATRIX CODE



Source: Primary survey, 2014, CLTC, Namchi-Jorethang

4. PRIORITIZATION AND IMPLEMENTATION PHASING

The priority of Implementation of Slums has been done based on criteria's as mentioned below:

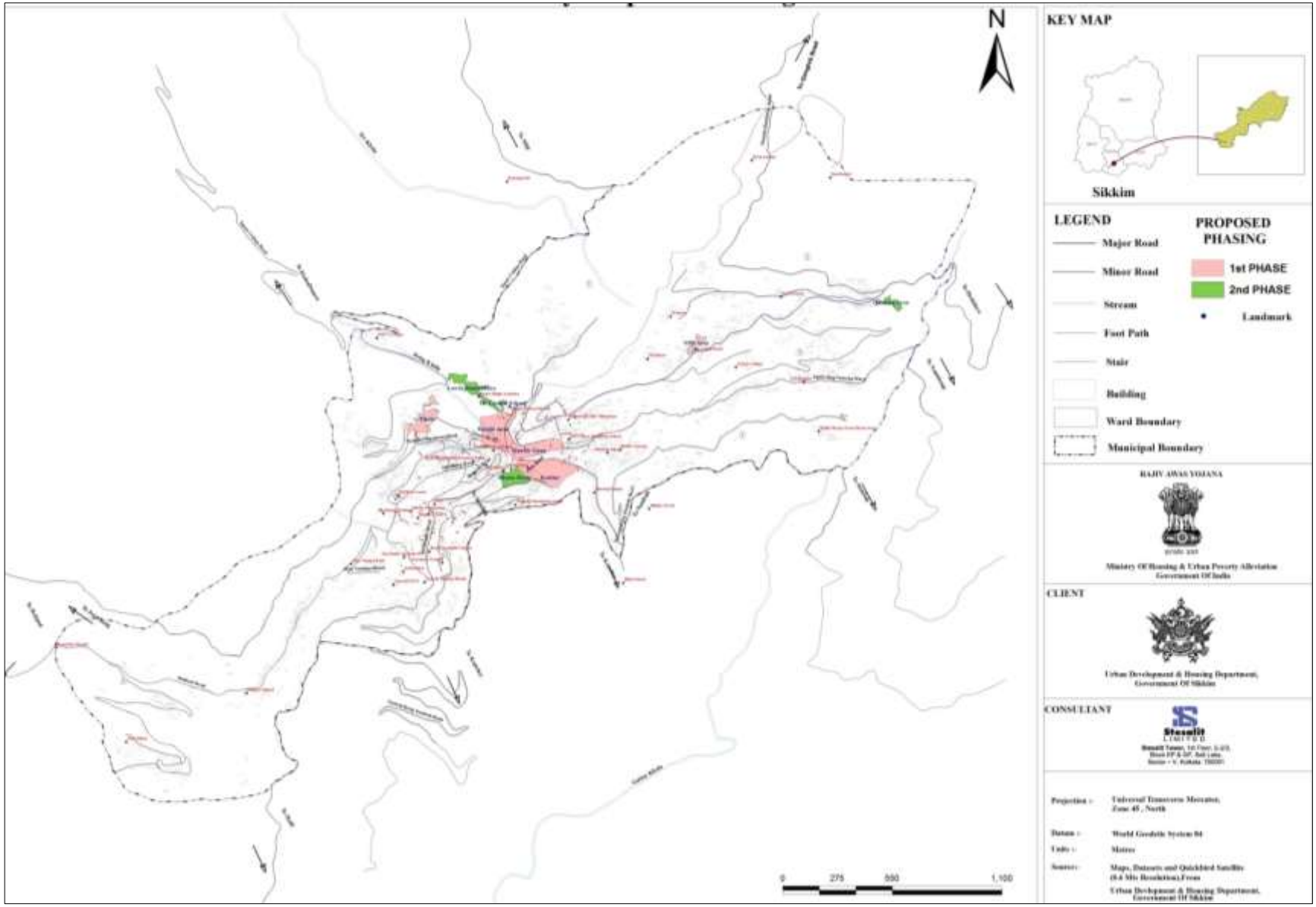
- **Tenure Status of Households in Slum** – Slums with high percentage of households with predominantly In-secured Tenure are more vulnerable and hence require immediate intervention. Therefore these slums have been given more priority in Phasing than the slums with semi secured and secured households.
- **Land Ownership of Slums –** Slums on Public land has been given more priority than slums on Private land and Slums with mixed land ownership.
- **3X3X3 Vulnerability Matrix –** Priority of implementation on the basis of vulnerability as obtained from the Matrix based on Housing condition, Infrastructure condition and socio economic condition.
- **Willingness of Slum Community –** Willingness study has been conducted through Focus Group Discussions in all the slums.
- **Existence of trunk infrastructure:** Areas near existing trunk infrastructure with spare capacity received priority, since investments will be more cost effective.

Prioritization for implementation of SFCPOA has been done on the basis of the above mentioned criteria in **Table below**. Development has been phased in two phases (year wise) with implementation period of 2 years for each phase which would run concurrently and hence overlap. The Proposed Phasing plan is as follows: 5 slums in 1st phase (2014-2015) and 4 slums in 2nd phase (2015-2016).

TABLE 140: PRIORITIZATION OF SLUMS & IMPLEMENTATION PHASING

Sl No.	NAME OF SLUM	MATRIX CODE	LAND OWNERSHIP	TENURE STATUS	PROPOSED PHASING
1	Mt Carmel School	221	PRIVATE	**SECURE**	1st PHASE
2	Lower Damdura	221	PRIVATE	**SECURE**	3rd PHASE
3	Masjid Area	111	MIXED	**SECURE**	1st PHASE
4	Tinzir	221	PRIVATE	**SECURE**	2nd PHASE
5	Nps Area	221	PRIVATE	**SECURE**	3rd PHASE
6	Turning Area	231	PRIVATE	**SEMI-SECURE**	1st PHASE
7	Mandir Gaon	111	PRIVATE	**SECURE**	1st PHASE
8	Kazitar	121	PUBLIC	**SECURE**	2nd PHASE
9	Bhutia Busty	121	MIXED	**SECURE**	2nd PHASE

MAP 42: SLUM WISE PHASING OF IMPLEMENTATION



5. STRATEGIES AND DEVELOPMENT OPTIONS

5.1. CURATIVE STRATEGY

5.1.1. AIM

The Strategies aim at provision of basic amenities and security of tenure to the slum households thereby leading to overall development of the slums community.

5.1.2. OBJECTIVES

In order to achieve the above mentioned Aim, the following objectives have been framed:

- Access to Land Tenure Rights or Property Rights
- Reduction of Poverty
- Improvement of Shelter
- Access to Basic services and
- Inclusion of Pro-poor Urban Development strategies in Town Planning Regulations as an integral part of it and Integration of the same with the Planning system

Therefore based on the spatial analysis and situation assessment as done above, a participatory process has been undertaken with slum communities in the form of Focus Group Discussions within the slum to identify the possible development strategies and options. Based on the existing scenario of slums in Namchi, it has been found that out of the 9 slums, 7 are tenable which means they can be developed in-situ i.e. on their existing site and 2 are Untenable which needs to be relocated and rehabilitated. The Tables below provide a list of alternative development options and implementation modalities.

The following strategies have been framed for physical development of slum pockets:

- **In situ Slum Upgradation and Improvement strategy:** Providing adequate infrastructure in the slums where residents have themselves constructed incremental housing, along with facilitation of housing unit upgradation, to support incremental housing.
- **Slum Redevelopment strategy:** In-situ redevelopment of the entire slum after demolition of the existing built structures in case of poor condition of housing stock and lack of basic amenities. The pucca incremental houses within the slums to be retained by facilitating housing unit up-gradation and provision of adequate infrastructure.
- **Slum Relocation and Resettlement strategy:** In case of untenable slums to be rehabilitated on alternative site after consultation with the community.

5.1.3. IN-SITU UPGRADATION STRATEGY

The In situ Upgradation and Improvement strategy has been proposed for tenable slums and the tenable households of the partially tenable slums which have high percentage of Pucca housing stock with poor or medium condition of Infrastructure. There are 4 slums with total number of 462 households which needs to be upgraded and improved. In-situ improvement of slums will include upgradation of basic infrastructure within the slums along with Gap filling for Kutcha houses and upgradation of Incremental housing i.e. Semi pucca housing in terms of roofing and flooring etc. In case of Gap filling the carpet area of dwelling unit will be 25sqm.

Slum Upgradation and Improvement will thus consist of Gap filling of Kutcha and Incremental housing which will be Beneficiary led construction in which Beneficiaries will be entitled for subsidized loans under Rajiv Rin Yojana to build Pucca housing. The model for development will be as follows:

- House should be a pucca one of 25 sqm with permanent walls and permanent roofing and with walls constructed with cement mortar
- Type design and technical specifications to be prescribed by the ULB & ULB to train masons & ensure availability of material according to design
- Application forms for consent of beneficiaries to be filled up by the ULB
- Technical supervision mandatory at foundation & roof laying stage
- Home loan with Central Government interest subsidy 5% p.a. on interest to EWS/LIG persons for acquisition/ construction of house
- Installments from Central and State government to be released stage wise on completion of Foundation, Plinth and Casting of roof slab at the rate of 30%, 20% and 50% of the total cost of Housing.

5.1.4. IN-SITU REDEVELOPMENT STRATEGY

The In situ Redevelopment strategy has been proposed for the tenable slums which have high percentage of Kutcha and Semi pucca housing stock and Infrastructure in moderate to vulnerable condition. There are 3 slums with total number of 93 households which needs redevelopment.

This Development option includes provision of transit housing to accommodate the displaced beneficiaries throughout the tenure of building new blocks. The transit housing can be planned in-situ or ex-situ depending upon the availability of land for a slum and the displacement can be phased cyclically in order to achieve efficiency in movement. The carpet area of dwelling unit has been proposed as 25sqm.

5.1.5. RELOCATION & RESETTLEMENT STRATEGY

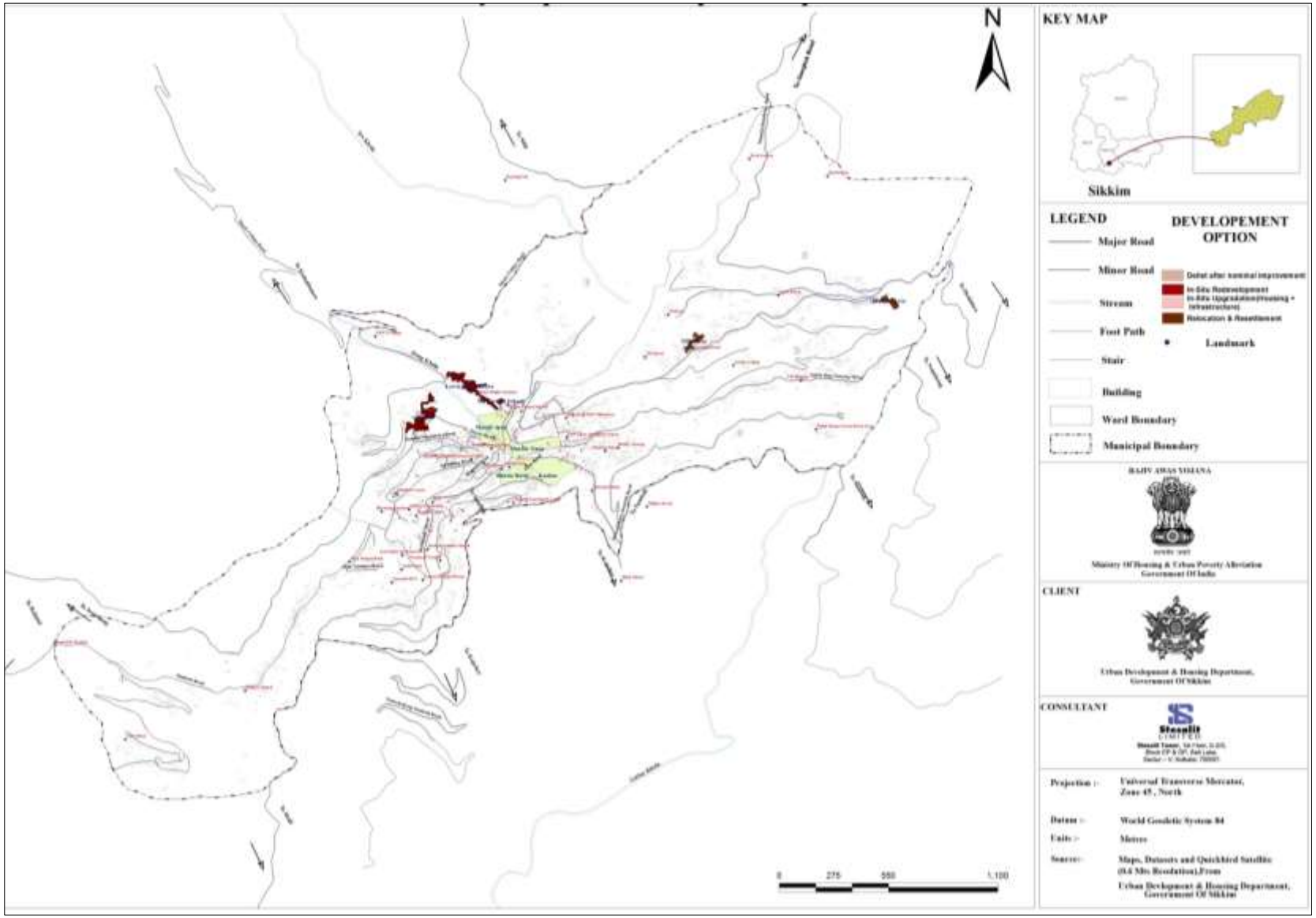
The Relocation strategy is the least preferred solution as a Development option and has been proposed only for untenable slums and untenable households of partially tenable slums. There are 2 slums which need to be relocated and resettled due to their location in untenable areas. Thus the total numbers of Households under Relocation strategy are 21.

The proposed development option by slums is given in Table below and the same is shown in Map below.

TABLE 141: SLUM WISE PROPOSED DEVELOPMENT OPTION

SL NO	NAME OF SLUM	MATRIX CODE	LAND OWNERSHIP	POPULATION DENSITY	LAND VALUE	TENABILITY	PROPOSED OPTION
1	Mt Carmel School	221	PRIVATE	<750	MEDIUM	Tenable	In-Situ Redevelopment
2	Lower Damdura	221	PRIVATE	>250	MEDIUM	Tenable	In-Situ Redevelopment
3	Masjid Area	111	MIXED	250-500	HIGH	Tenable	De-notification after nominal improvement
4	Tinzir	221	PRIVATE	>250	HIGH	Tenable	In-Situ Redevelopment
5	Nps Area	221	PRIVATE	>250	LOW	Untenable	Relocation & Resettlement
6	Turning Area	231	PRIVATE	>250	LOW	Untenable	Relocation & Resettlement
7	Mandir Gaon	111	PRIVATE	>250	HIGH	Tenable	De-notification after nominal improvement
8	Kazitar	111	PUBLIC	<750	HIGH	Tenable	De-notification after nominal improvement
9	Bhutia Busty	121	MIXED	>250	HIGH	Tenable	In-Situ Upgradation (Housing+Infrastructure)

MAP 43: SLUM WISE PROPOSED DEVELOPEMNT OPTIONS



5.2. PREVENTIVE STRATEGY

The Preventive strategy aims to arrest the formation of slums in future. This involves actions by State Government and Urban Local Bodies (NMC and UD&HD) in the form of statutory and regulatory interventions to be implemented by NMC and UD&HD. The prime objective will be creation of affordable housing and proper disposal of the same to the target groups. The housing need for a period of 20 years has to be assessed to estimate the housing shortage or need of Namchi city. Therefore in order to cater to this future need appropriate strategies has been proposed as mentioned below:

- **P1- Creation of Affordable housing stock for the urban poor by increasing the supply of housing based on the housing need of EWS and LIG through Public housing schemes.**
- **P2- Creation of Affordable housing stock for the urban poor by increasing the supply of EWS and LIG housing through Public Private Partnership.**
- **P3- Modifications in Town Planning Regulations like**
  - Inclusion of policies related to Urban poor through review and modification of Structure Plan or Development Plan.
  - Special Norms and standards for plots and DU Size, Density, FAR, Ground Coverage, Facility Standards and Open space standards
  - Special Building Byelaws for Low income Housing to be formulated.
  - Every new housing project in the city will have reservation of 15% of residential F.A.R or 35% of dwelling units for EWS/LIG whichever is higher with a system of cross subsidisation.
  - Proper formulation and monitoring of the disposal policy of Public Housing Scheme to ensure proper disposal to the target group (EWS and LIG).

5.2.1. ASSESSMENT OF EXISTING HOUSING SHORTAGE, SUPPLY & DEMAND

The rate of growth of population is higher than the rate of supply of housing in Namchi as a result there is a persisted demand in housing stock especially in the low income bracket of the society. In places like Namchi, being the District headquarter, the scenario worsened because institutional and commercial activities grew at a much faster pace which attracted people from neighboring areas within the state and neighboring states but failed to provide adequate housing for them. Also the market does not provide for these urban poor who are left with any other option than to form slums.

5.2.2. HOUSING SUPPLY

Namchi though is the capital of south district of Sikkim, there is no streamlined supply mechanism of affordable housing for the urban poor of the city who mainly migrate because of availability of employment opportunities. Till 2011, UD&HD used to supply plots in incessant manner to all income category, ranging 600-1000 sqft without any proper planned supply mechanism. But this too has been stalled in the year 2011. All these increase the demand for formal housing in the city among the low income category. Hence presently, there is no housing supply system prevalent.

5.2.3. HOUSING SHORTAGE ESTIMATION

In order to assess the housing shortage, first the population of the NMC area has been projected. Year 2031 is taken as the horizon year for the projections. The population projections have been done using the Arithmetic Progression method. Increase of population of each decade is calculated & then the average increase in population per decade is calculated by dividing total increase in population with the number of decades considered. As per Table below, the total increase is 11552. Therefore, considering Pn as the population after n decades where the increment in each decade is 5776,

Pn= P1 + n X (5776)

TABLE 142: POPULATION PROJECTION

YEAR	POPULATION	INCREMENT	PROJECTED POPULATION
1991	638		
2001	979	341	
2011	12190	11211	
2021			17966
2031			23742

Housing Shortage is calculated as "*Excess of Households over no. of census houses used as residential or residential-cum-other use (absolute shortage) + replacement of kutcha houses + obsolescent houses"*. The absolute shortage is nil in NMC area, where the number of household in 2733 (PCA data 2011), and the number of census houses under residential and residential-cum–other use is 3479. The current housing shortage considering replacement of kutcha houses and obsolescent houses has been calculated at 139. (Refer table below and notes on next page) Apart from the current shortage, housing requirement for EWS category of 2555 units by 2031 will also be required to be met. The following table shows the housing requirement till 2031. The basis of calculation is explained in the notes with the table.

TABLE 143: ESTIMATION OF HOUSING REQUIREMENT FOR NAMCHI

YEAR	POPULATION	HOUSING STOCK REQUIREMENT @ PROJECTED POP/AVG. HH SIZE	HOUSING REQUIREMENT FOR EWS @ 33% OF TOTAL REQ	SHORTAGE AS ON 2014 (KUTCHA STOCK+OBSOLESCENT HOUSES)
2011	12190	2733	902	139
2021	17966	5444	1120	
2031	23742	7914	1435	

NOTES:

- Housing Stock requirement for each decade is calculated as (projected pop/avg. HH size)
- Average HH size for the period 2011-2021 is taken as 4.46 (avg. HH size as per census 2011 data)
- Average HH size from 2021 to 2031 is taken as 3.3. Average HH size is reduced based on the trend. As avg. HH size reduced from 6.12 in 2001 to 4.46 in 2011
- Shortage of housing stock in 2014 is calculated as sum of replacement stock towards (1) replacement of kuccha houses and (2) replacement of obsolescent houses (assume to be 1.705% of the total stock.)
- No. of Kuccha Houses is the sum of census houses used as residence and residence-cum other use with material of roof and wall as (a) grass/thatch/bamboo (b)plastic/polythene (c) mud / unburnt brick (figure taken from census 2011 housing data.
- Obsolescent houses is calculated @ 1.705% of the total stock estimated from the no. of "dilapidated' census houses used as 'residence and residence cum other use' based on census figure of urban areas in South District, Sikkim (census 2011 data)
- Stock requirement for EWS category is calculated @ of 33% and not @ of 25% which is the current proportion of people living in slums in Namchi since there may be EWS HHs not living in slums. Excluding this category for future assessment of housing stock requirement may imply under assessment.
- There is no absolute shortage in Housing Units in Namchi as per Census 2011 data when defined as excess of HHs over no. of census houses used as 'residential and residential-cum other use'. No. of HHs is taken to be 139 as per Primary Census Abstract, Census 2011.
- EWS category is taken as 33% of the total HHs based on TG-12 observation that one third of the total HHs in urban areas are EWS category.
- Additional stock requirement figures shown in Column B and C do not include the housing shortage as on 2013. The same is shown separately in column D.
- Additional housing stock requirement from the year 2015 onwards also includes replacement requirement towards obsolescent houses calculated @ of 2% of the current stock)

5.2.4. ASCERTAINING CONSTRAINTS IN THE RENTAL HOUSING MARKET

The National Urban Housing and Habitat Policy 2007 promotes rental housing especially for the poor who cannot afford to pay the entire price of a house by providing them access to reasonably good housing on rental ownership basis. The overarching objective being to provide access to adequate housing that is affordable to the poor and assures security of tenure.

The current housing market in Namchi clearly indicates an overwhelming presence of rental housing market albeit in the private sector. The influx of migrant labours from surrounding states created a demand for

affordable housing. In the absence of organized government plans and programmes to this sector, the situation has been exploited by the private owners of housing wherein inadequate and often unsafe dwelling units with limited access to amenities like water and sanitation has been rented out to this category of people. Guided only by the profit motive, the main drawback of the rental housing market of Namchi as it operates today is that:

- Its inadequate
- Lacks optimum access to amenities
- Unsafe
- Completely disregards the ecological concerns &
- Do not provide security of tenure to the residents

Increasingly, the role of government is being defined as a facilitator and not a provider. Therefore, the private rental market is expected to grow even more. Consequently, to serve the objective towards housing for all the Govt. of Sikkim needs to have a proper regulatory mechanism and institution in place that will streamline the private rental market that will ensure adequate standards and safety norms for the tenants.

Given, the unique situation in Sikkim where access to property rights by non-sikkimese is restricted, to attain the objective of slum free city and housing for all it would be imperative for the State Government to promote Public Rental Housing which may be made available to the poor irrespective of their citizenship status thus assuring access to housing and security of tenure. It is proposed that:

- All rental housing may be proposed short term upto 3 yrs for new migrants who are yet to establish their identity and likely tenure of stay in the state and long term upto 20 years without legal right, on land but right to stay on lease to facilitate financing by banks.
- The DUs shall have the minimum specified space, services and quality standards.
- It is expected that during 3 years, migrant households would have settled into decent employments /occupations with regular incomes and should be able to afford their own LIG or EWS housing. This also ensure housing stock gets revolved to new/poor migrants to the city and shortage is kept to the minimum without having to do any major addition to the existing housing stock.
- Rents in such housing to be kept affordable for the poor

Government initiative in the rental market would require establishment for proper procedure and modalities for implementation of the scheme as well as proper criteria and process for allotment of houses.

6. FORMULATION OF FUTURE SUPPLY OPTIONS AND POLICY REFORMS

6.1. SUPPLY STRATEGIES TO CATER TO FUTURE HOUSING SHORTAGE

Namchi slums shall be developed through in-situ upgradation, in-situ redevelopment and relocation. Slums in Namchi are on private land and have formal property titles.

6.1.1. HOUSING

i) Property titles if unclear or not having been mutated shall be formalized. For all households on lands that are owned by people but lack legal rights, the title shall be formalized. Formalization of land ownership shall enable to extend legal, and in an equal manner, services into all such settlements and integrate them within the city.

ii) Households without formal property titles on lands or which may be redeveloped or relocated to formal houses. All redeveloped households shall get property rights in the joint names of the wife and the husband in case of family, in the name of the woman in a women-headed house and in the name of the adult male of the house in case of single men.

iii) Pucca houses will be technically supported to connect to formal piped water supplies, construct toilets linked to sewer lines, septic tanks or cluster septic tanks as the case may be, build bathing areas and kitchens, link household waste water to disposal systems (surface and storm water drains) and ensure proper lighting and ventilation. They shall have access to microfinance for this purpose.

iv) **All poor households in the settlements to be redeveloped and accommodated in the new housing in available vacant land with variable subsidy as per their eligibility**. Beneficiaries that meet the criteria shall get access to government subsidies as per city/state guidelines. For others who may not meet the eligibility criteria but who are also living in these slums, Govt. shall provide housing without subsidies but with a repayment plan based on economic resources. Those with higher incomes in these settlements shall get access to the house without subsidy on hire-purchase basis. Those who may have incomes below the stipulated amount but lack the required documentation, State Govt. shall provide housing on hire-purchase basis or rent and with access to low-cost housing finance from formal banks. Govt.

ix) **Transit Housing shall be created by Government** for all families that shall be affected during the housing development; families whose houses shall be demolished prior to redevelopment or relocation. Provision for Night Shelter may be made to accommodate the Shelter less Persons visiting the city for short term duration (in days)

6.1.2. INFRASTRUCTURE

6.1.2.1. WATER SUPPLY

- Water supply shall be in-house and through legal connections. Households in all settlements to be developed through in-situ redevelopment are to be connected to legal water supply with in-house connections. Water shall be supplied through municipal piped supply connections where the pipeline supplies are available in the communities. In settlements where water supply networks pass close by, last-mile connections shall be made to these networks. Norms for household water supply to these areas shall be as applicable in the rest of the city.

- Decentralized supply systems shall be designed for settlements where networks are missing or far off and where these are unlikely to reach in the coming years under the PHE network expansion plans. These shall include connections to natural springs with storage and treatment systems and small-scale piped networks inside settlements connecting households to the treated water source. Decentralized systems shall be developed in partnership with the communities and with community contributions. These may also be developed as **community entrepreneurship** models.
- **Water supplied to slums shall be of good and reliable quality**. Besides being potable, it shall have appropriate timings and duration of supply to ensure all households get regular and dependable supplies. This shall enable people, especially women, to be more productive. Where water is not potable, communities shall be encouraged to set up community water kiosks that shall filter the water before supplying to homes.
- Efficient Distribution & Management System to address the problem of loss of pressure & precious water with Boosting Pump Stations & introduction of Trunk Mains.

6.1.2.2. SANITATION SERVICES

- The overarching goal of the slum sanitation interventions shall be to ensure that **natural environments of slum areas are protected** and do not get degraded any further. Such environmental protection shall benefit both the natural environment and people.
- **Sanitation services to slums shall be comprehensive and aimed at making Namchi a healthy and open defecation free city.** These shall include the entire bundle of sanitation services; toilets, waste water management and solid waste disposal.
- Sanitation plans for slums shall be integrated within the Namchi City Sanitation Plan to ensure the two activities can be fully synergized and there are resources for developing the large trunk systems.
- In the transition period, it is planned to provide **shared or community toilets** in these areas**.** The toilet type shall depend on people's choice, the length of likely stay in the existing settlement before relocation, available spaces in houses, affordability, community willingness to contribute to the development of common systems, etc.

6.1.2.3. DRAINAGE AND WASTE WATER TREATMENT SYSTEMS

- Drains in all slums shall be pucca. These shall also have proper gradients and in all cases linked to outfall points so that waste water can flow out of the community. These shall also improve cleanliness of these areas. Possibility may be explored to cover the drain as much as possible. Precast system and other technological innovation shall be explored for cost-effective, easy construction/maintenance.

- All black and grey water from toilets and household chores shall be channelized to flow into sewage treatment systems where possible or to decentralized/ dedicated systems where main trunk connections are not available or technically possible. This shall ensure treatment and recycling of all grey and black water from slums. It shall also ensure no sewage is discharged into the Jhoras/rivers.

6.1.2.4. SOLID WASTE MANAGEMENT

- **Solid waste collection services shall be extended to all slum and low-income settlements.** This shall include a door-to-door waste collection service operated by the community in partnership with NMC and local level systems for waste management i.e. recycling, composting and disposal of non-biodegradable waste.
- Solid waste collection, recycling and composting shall be planned as livelihood enterprises to enable communities to generate incomes from these activities.
- NMC to augment SWM system through efficient transportation system from source with community partnerships and skilled workers in the field.

6.1.2.5. ROADS AND TRANSPORT

- Road and street network shall be improved by relaying and reconstruction where needed. All kutcha and semi pucca roads shall be upgraded to pucca roads in cement concrete or paved pathways as per PWD norms. The road construction will also include repair/reconstruction of the approach road and upgrading all in slum streets with appropriate sloping to the side drains.
- Relaying or laying of new road/streets will ensure proper leveling so that plinths of existing houses do not sink below road levels causing undue hardship to the poor. In relaying such roads where levels are likely to go higher than houses, dismantling of the old road shall be essential.
- Strengthening of site to site should be adequately strengthened before laying/upgrading a road/pathway with retaining wall or other such measures to avoid degradation and loss of asset.
- Use of Pre-Cast Concrete for walkways and recyclable materials may be considered.
- Transport linkages shall be provided to the nearest possible point. Transport is important for linking people to their livelihoods and improving their productivity. Transport linkages shall be planned such that they connect slums and poor people to their livelihoods in the city and in the industrial areas.

6.1.2.6. POWER SUPPLY AND STREET LIGHTS

- All households in the slums are to get legal power connection with meters. Power Department to ensure slum areas are covered, get access to power supply at the appropriate rates with shorter billing cycles that correspond with people's earning capacities. The department shall create awareness among residents on

cost of power and use of electrical appliances. The department shall also set up a complaints redressal system where poor people shall be able to make complaints in case of faulty/fast meters or billing inaccuracies.

- Street lights where needed or non-functional shall be provided in the slum settlements. Peripheral slums or slums away from the main roads shall be provided street lights along the approach road for safety of commuters at night.

6.1.3. SOCIO-ECONOMIC DEVELOPMENT

6.1.3.1. DEVELOPMENT OF LIVELIHOODS

- Livelihoods for the poor shall be an integral part of this slum free city plan.
- The livelihoods programme shall be based on the Livelihoods Mission of the Government of India. It shall also be comprehensive and linked to the city's economy; tourism, plant nurseries, embroidery etc. to ensure sustainability of incomes. Its particular focus shall be on promoting livelihoods among the poorest and the usually excluded groups within slum communities. Livelihoods shall be promoted through a range of solutions; development of enterprises (micro, small and medium), training in skills for employment with linkages to formal /regular wage employment, investments in product designs and support to access markets and manage business enterprises and access to finance for setting up these livelihoods. Business enterprises could be both conventional such as those promoted under the NULM programme. Urban Resource Centre may be considered to be constructed to accommodate various employment generation activities.
- Spaces shall be earmarked/ developed for people to undertake income generating activities. Towards this end, NMC shall undertake the following efforts;
  - Houses shall be designed so that people can work out of homes and shall have spaces for storage of raw material and finished products, have access to power supply;
  - Spaces shall be earmarked/ created inside slums for fabricating products such as for construction activities or composting pits or recycling non degradable material;
  - Spaces inside slums or nearby shall be earmarked /created for vending such as human skills, shops, stalls, pavements, local markets, etc. and
  - Spaces for vending activities shall also be created in the city.
  - **Vending spaces shall not be made permanent,** so that new vendors to the city/area also get an opportunity to vend in officially earmarked spaces.
  - Possibility may be explored for Urban Forestry & Farming through Community Mobilization for Income Generating Activities.

6.1.3.2. ACCESS TO HEALTH AND EDUCATION SERVICES

- Health and education services shall be planned and delivered in convergence with the concerned departments. The department officials shall jointly review the GIS maps to understand access to municipal schools and health centres and identify service gaps to improve availability and accessibility to slum dwellers.
- At the Ward level, education and health committees shall be set up that shall be responsible for monitoring service delivery quality.

6.1.3.3. PROMOTING ACCESS TO SOCIAL SECURITY

For promoting social security benefits to the marginalized, such as National Old Age Pension, Widows' Pension, Disability Pension and other benefits, it is essential to map all social security benefits available to each category, and map the uptake and access in the area. In such cases, equipping communities with the necessary information and helping them liaise with the concerned authorities is the best way to proceed. A training of local leaders can be organized to train them about social security, available benefits and processes involved. Working as a nominally paid volunteer, the community leader can compile and provide forms to all such cases and guide those regarding nominations and applications and follow up on the outcomes

6.1.3.4. OPTIONS FOR GENERATING HOUSING STOCK FOR NEW MIGRANTS

This approach to housing shall be applicable for housing for new migrants.

i. Self-financed Housing for Rental

Most low-income households in the city own land. Over the plan period they are being supported by the Govt. to incrementally improve their structures and bring in basic services. Further, the Govt. may facilitate those households who may be willing, to also create additional rooms for rental purpose. It shall be mandatory for such rental housing to include a private or shared toilet and in-house water supply to ensure the city stays open defecation free. These rooms shall be built through partly self-financing and partly any subsidies. This shall help generate large quantities of rental stock for new migrants as also create an avenue for poor households to earn income through rent. The Govt. shall through community consultations ensure that rents are kept affordable for the new migrants who are likely to be among the poorest. This effort would help the Govt. address issuance of demand for rental, which alone cannot be tackled by Govt.

ii. Public Private Partnerships with Small Builders

Housing in the low-income segment is usually generated by the small /informal builders apart from the direct construction. These small builders usually operate informally, keeping their profit margins low and building houses that are low-cost and affordable for the poor. Besides building cheaper houses, these small builders

usually build fewer units at a time because of their own limited financial capacity. They are thus able to create housing that may be better distributed within the city enabling the poor to find housing closer to their work areas. Govt.'s role may facilitate the small builder to take up these small projects to create new housing stock.

The State Govt. may promote the development of housing stock for the poor by working with the small builders. Towards this end, Govt. shall restructure its contracting procedures to enable builders with small capital to enter the market and develop housing for the poor.

iii. Public Private Partnerships with Large Builders for Social Housing

The State Govt. shall work with big builders to develop housing for new migrants as well as for slums that may be resettled. The State Govt. shall work with the district authorities to identify lands for such housing projects.

The approach to private sector participation shall be two pronged. For lands within the city that are more expensive, the State Govt. may enter into a public-private partnership with the builder. The State Govt. shall make available the land and the builder shall be responsible for the construction and financing. For lands on outer fringe of the city, the State Govt. may like to undertake the construction using its own finances through hired contractors if no private sector interest is evident.

Finances for the housing projects shall be generated by way of:

- Commercial sale of a part of the plot;
- Commercial sale of houses developed for the high-income segment in the same complex; and/or

The State Govt. shall hire an investment advisor to estimate the land and real estate values of these sites to determine the financial arrangements and share of profits between the State Govt. and the private partner. The State Govt. shall also ensure that all houses developed for the poor under the above projects shall conform to minimum specified space, services and quality standards.

Housing provision in such PPP arrangements shall vary by nature of beneficiaries. Families under resettlement shall be entitled to subsidies as proposed under RAY or State. New migrants shall be required to pay the full cost of housing, appropriately amortized to make it affordable and with housing credit assistance. Flats may be available to these families both on hire-purchase or rent, as per need. Distribution of these flats shall be done in a transparent manner and/or through open lottery.

iv. Housing Cooperatives of Slum Dwellers

Housing Cooperatives of the poor have in other countries, successfully generated housing for poor. Besides generating housing that resonates with the demands of poor families, they are also able to regulate the disposal of such flats and prevent gentrification of areas. The State Govt. shall through its lead NGO facilitate Housing Cooperatives of slum dwellers and enable them to register as Housing Cooperatives and apply for land. Land, as per existing rules for land allotment to such cooperatives, shall be made available to such Housing Cooperatives. The State Govt. shall also make available required technical assistance (architects and engineers) to design and

develop the housing. The State Govt. shall also connect housing cooperatives to get access to finance from the housing finance institutions.

This approach to housing shall be applicable for resettlement housing and housing for new migrants.

6.2. POLICY REFORMS TO FACILITATE FUTURE HOUSING SUPPLY

There are four basic factors essential for achieving a substantial increase in supply of Housing. They are:

i) Land;

ii) Material and Technology;

iii) Finance and

iv) Legislation and Regulations.

The detailed discussion that follows intends to shed some light on each factor.

i. Land

Supply of Urbanized land to the poor should be given the topmost priority and the State must intervene to provide equitable access to Land, since the most disastrous feature of Indian urbanization has been the failure to anticipate the rising demand for urbanized land. It is recommended for change of the urban land tenure system.

ii. Material and Technology

It is recommended for the use of locally available / produced and cost-effective building materials and components. Effective participation would certainly reduce the overall housing costs and housing technology needs to be rationalized and modified for acceleration of housing units production. Development of appropriate technology and project management would be an important technical input to housing. Modular design & coordination offers good possibilities to standardization of materials and components and optimization in design.

iii. Finance

Finance sources need to be finalized as Central Share, State Share, ULB Share, and Beneficiaries Share. Innovative funding methods, Ministry Guidelines like External Commercial Borrowings (ECB) options may also be explored.

iv. Legislation and Regulation

The government intervention is necessary to direct and modify the course of housing development in right direction. One basic strategy is to create the appropriate institutions, both for technical and financial management to increase the supply. The other basic strategy is to amend, modify or formulate relevant laws and

regulations, where necessary to remove constraints to housing activity. It is recommended for changes in laws relating to land, laws relating to administration as well as fiscal laws. Modifications of existing acts may be required for incorporating necessary modifications in the following areas:

i) Land Reforms and Tenure Rights,

ii) Building Bye-laws,

iii) Municipal Council Act and Bye-Laws,

iv) Rent control act

The state of Sikkim & the city of Jorethang do not have the following legislations in effect:

i) Land Reforms and Tenure Rights,

ii) Planning Norms and Standards,

iii) Apartment ownership act.

iv) Co-operative ownership act

v) Development Authority Act,

vi) Zoning Regulations and Development Control Rules,

6.2.1. REFORMS NECESSARY FOR RAY

i) 20-25% Land reservation for EWS & LIG with a system of cross subsidization

ii) Implementation of Rent Control Act.

iii) Enactment of user Charges

iv) To secure Credit for Bank & Financial Institutions

v) To create Rajiv Awas Shelter Fund

6.2.2. STATE LEVEL REFORMS REQUIRED

The following are some of the immediate steps that the Govt. of Sikkim can take to make RAY successful.

1. Implementation of De-centralization measures as envisaged in 74th Constitutional Amendment Act

2. Water Supply Metering-domestic, industrial & commercial.

3. Safeguarding the interests of Weaker Sections of society including the physically challenged and mentally challenged

4. Slum Improvement & Slum up-gradation Policy

5. Introduction of Property Title Certification System in ULBs

6. Community Participation to institutionalize citizen participation

7. Nature of legal entitlement to dwelling space-freehold, leasehold (10 years, 30 years, 90 years, etc.) license, collective & collaborative tenure and condition of lease/tenure

8. Eligibility criteria of slum dweller including treatment of existing renters.

9. Eligibility and entitlement of residential establishments within slum.

10. Introduction of developmental control regulation.

11. Sharing pattern of funding by State/ULB/Beneficiaries

12. Stamp duty and property tax – reduction/exemption for Slum Dwellers

13. Strategy for developing credit linkages including setting up of an intermediating agency.

14. Post occupancy maintenance and management arrangements including facility areas.

15. Maintenance of levy and collection of user charges.

16. Introduction of computerized process of registration.

17. Revision of bye-laws to make rain water harvesting in buildings and adoption of water conservation measures.

18. To ensure availability of vacant land.

19. Availability of loans to private developer for construction of rental unit.

20. Simplification of eligibility norms for beneficiary.

21. Suggested incentive/regulations to be implemented by Govt. of India.

22. Notification of all Slums in due process

6.2.3. DELINEATION OF BOUNDARIES OF SLUMS AND DE-NOTIFICATION OF SLUMS

Owing to implementation of National Slum Development Program, Basic Services for the Urban Poor and other allied programs aimed at bringing the services in slums at par with that of the rest of the city, certain parts of the city were identified as slums by NMC. Due to absence of the mandate of household surveys at that point, such settlements were conveniently delineated as per physical features such as rivers, jhoras, roads etc.

Currently, under RAY, the primary surveys carried out in these slums have made it possible to identify spatially the houses/areas that are resided by poor households. Also, some of these households although living in slums are affluent and certain parts reflected comparatively good condition of houses. So, it is essential for the government to delineate the slum boundaries of the previously identified slums to narrow down the areas to which the benefits of RAY and other such projects should reach and consequently check pilferage of benefits.

Moreover, mechanisms must be in place to de-notify those slums that have, by the way of RAY or any other program, achieved a satisfactory level of housing and other services in order to eliminate chances of duplication of schemes and increasing the chances of other settlements being included into such projects.

6.2.4. INTRODUCTION OF STATE HOUSING AND HABITAT POLICY

A State Urban Housing & Habitat Policy needs to be formulated as per the National Urban Housing & Habitat Policy 2007 by MoHUPA, GoI with adequate provisions for Housing for Urban Poor and Migrant People. The formulation of a state urban housing and habitat policy will provide a vision and a roadmap for the development of housing in the state, and for meeting the housing needs and requirements of the citizens in all urban centres of the state. Several states have adopted a State Housing and Habitat policies, which lays a clear framework for meeting states needs in the context of the National Housing and Habitat Policy, 2007.

6.2.5. SUGGESTED REFORMS IN RENT CONTROL ACT

1. Fixing of economic rent based on the market forces or fixation of standard rent at a specified percentage of cost of construction and value of land in the year of construction.

2. Obligation of tenant to ensure maintenance.

3. Setting up of fast track tribunals for disposal of disputes etc.

4. Provision for contractual or semi-contractual tenancy within the framework of rent control act.

5. Limiting inheritance with specific heirs for a specified period only.

6.2.6. FORMULATION OF APARTMENT OWNERSHIP ACT & COOPERATIVE HOUSING ACT

At present, the state does not have any apartment ownership act. As a result, in case of apartments, there is no direct devolution of title to the apartment owner resulting in emergence of a parallel market for these apartments. Enactment of this legislation will help end this practice, and also act as a fillip for group housing projects, including those of affordable housing, in the state.

Similarly, a cooperative housing act is also required for the state to act as impetus for affordable/ cooperative housing projects.

6.2.7. SUGGESTED CENTRAL REGULATIONS FOR REDUCTION IN UNIT COST OF HOUSING

1. Exemption – Central Excise/Custom on the procurement of material/machine
2. Exemption – Service Tax applicable to contract/consultancy/rental income upto 80 sq.mt. unit DU.
3. Exemption – Income tax on capital gain from whole of the project land under affordable housing.
4. Easy and cheaper project credit from the institutions to developers.
5. Direct subsidy to EWS purchaser

6. Rental income on affordable housing may be tax exempted.

7. Special residential zone for EWS/LIG housing

8. Cross subsidization options may be examined.

6.2.8. SUGGESTED STATE INITIATIVES

1. Ensuring adequate land availability, reservation of land for EWS/LIG.

2. Development of Incentives to private developers such as reduction in fees for approval.

3. Relaxation in conversion/lay out/building plan approval process for affordable housing development.

4. Promotion of rental housing through promotion of dormitories concept for meeting needs for lower income groups.

5. Regulations are also required for short term lease of land to slum dwellers for slum improvement programmes.

6. Formulation of policies for greater participation of private developers with innovative technology, project financing and delivery.

6.2.9. LAND RELATED ISSUES

The critical issues that need to be tackled to realise the objective of increased supply of developed land and ensure its optimum utilisation are as follows:

a) **Distortions in Land Market:** Land market distortions exist mainly because of various problems which inhibit the supply of land and restrict legal access to land, particularly the poor. Time consuming, unduly cumbersome, and costly procedures related to land registration and permission to develop project in numerous delays often extending over several years. Many a times, the acquisition procedures itself get stalled due to compensation related disputes.

b) **Land Information System:** The urban land records system is completely disjointed. No easily accessible record exists of who owns which piece of property. This complicates the land transaction process and further distorts the land market. An elaborate land information system is absolutely essential not only for helping land transaction process and reducing distortions in the land market but also for achieving optimum utilisation of land. GIS provides a good opportunity in this direction and Government should take this up as a priority area. Remote sensing technique can be quite helpful in collection and updating data regarding the present and the changing land use pattern.

c) **Urban Land Policy:** How to increase the supply of developed land and encourage its conservation are critical concerns related to urban land related policy issue.

d) **Role of Private Sector in Land Development**

e) **Leasehold V/s Freehold Tenure**

f) **Alternatives to Public Acquisition of Land**

g) **Urban Land taxation Policy**

h) **Strengthening Organisations involved in Land Development**

i) **Violations in Building Bye-Laws and Un-authorised Construction**

7. INVESTMENT REQUIREMENTS AND FINANCING PLAN

As the RAY guidelines, the funding pattern for Slum Free City Plan for Namchi is 80% on Housing and Infrastructure as grant from Central Government, 10% as grant from the State Government on Housing and Infrastructure, 10% to be shared by Urban Local Body on Infrastructure and 10% to be borne by the Beneficiaries on Housing. The actual grants for the various development options will be sanctioned with the individual slum DPR's. The Financial strategy for Slum Free City Plan for Namchi is based on various proposed development options in the following sub sections.

7.1. ESTIMATION OF INVESTMENT REQUIREMENTS UNDER CURATIVE STRATEGY

7.1.1. IN-SITU UPGRADATION & IMPROVEMENT OF SLUMS

There are 4 slums with total number of 462 households which needs to be upgraded and improved under Slum Free City Plan for Namchi. The details of Investment calculation is shown in Table below. The total cost of In situ upgradation and Improvement is **Rs. 345735981.05** or **Rs 34.57 crores** only with cost of housing is **Rs. 4500000** or **Rs 4.5lakhs** only. The phasing of Investment required for In-situ upgradation of existing slums of Namchi is given below.

TABLE 144: PROPOSED INVESTMENT CALCULATION FOR INSITU UPGRADATION & IMPROVEMENT

INVESTMENT REQUIREMENT FOR **462** HOUSEHOLDS COVERING **2576** SLUM POPULATION UNDER INSITU IMPROVEMENT & UPGRADATION						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs /Unit)	AMOUNT (Rs)
A	**Housing (RCC Frame Structure,CGI Roofing)**					
a	GAP FILLING		HHs	53	450000.00	23850000.00
b	INCREMENTAL		HHs	56	360000	20160000.00
SUB TOTAL A					**Rs**	**44010000.00**
B	**Physical Infrastructure**					
B1	**Road**					
a	Internal Road (CC)	15m/HH	meter	1800	5143	9257400.00
b	Approach Road (CC)	10m/HH	meter	1950	5714	11142300.00
B2	**Water Supply**					

INVESTMENT REQUIREMENT FOR **462** HOUSEHOLDS COVERING **2576** SLUM POPULATION UNDER INSITU IMPROVEMENT & UPGRADATION						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs /Unit)	AMOUNT (Rs)
a	Pipelines (25 mm Dia)	3m/HH	meter	474.00	1945	921930.00
b	Connectivity to Trunk Mains (80 mm Dia)	20m/HH	meter	3160.00	3600	11376000.00
c	Rain Water Harvesting	Per Dwelling unit	D.U.	462	11780	5442360.00
B3	**Drainage/Sewerage**					
a	Sewer Lines (DI Pipes)	10m/HH	meter	81.00	2000	162000.00
b	Storm water drain (DU Lines)-Open drains	3m/HH	meter	1689.00	25000	42225000.00
c	Connectivity to Trunk Main Drain	10m/HH	meter	5630.00	15000	84450000.00
B4	**Street lighting/Waste Management**					
a	Street lighting (Poles of 2m height)	1 no for every 20 m road (Nos)	No	171	23335	3990285.00
b	Solid waste disposal (Dustbins)	1 no/24 HHs (Nos)	No	19	22857	439997.25
SUB TOTAL B (B1+B2+B3+B4)					**Rs**	**169407272.25**
TOTAL (A+B)					**Rs**	**213417272.25**
C	**Escalation** (@7.5% per year for 8 years-half of RAY period (60%)				**Rs**	**128050363.35**
E	Contingencies	2% of (A+B)				**4268345.45**
TOTAL INVESTMENT (A+B+C)=X					**Rs**	**345735981.05**

7.1.2. IN-SITU REDEVELOPMENT OF SLUMS

There are 3 slums with total number of 93 households which needs to be redeveloped under Slum Free City Plan for Namchi. The details of Investment calculation is shown in Table below. The total cost of In situ redevelopment is **Rs. 327023415.52** or **Rs 32.70 crores** only with cost of Housing is **Rs. 600000** or **Rs 6lakhs** only. The phasing of Investment required for in-situ redevelopment of existing slums of Namchi is given below in Table.

TABLE 145: PROPOSED INVETSMENT CALCULATION FOR INSITU REDEVELOPMENT

INVESTMENT REQUIREMENT FOR **93** HOUSEHOLDS COVERING **354** SLUM POPULATION UNDER INSITU REDEVELOPMENT						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
A	**Housing (RCC Frame Structure,CGI Roofing)**					
A1	**Dwelling Unit**		HHs	93	600000.00	**55800000.00**
A2	**Transit Accomodation**		No	2	5000000.00	**10000000.00**
SUB TOTAL A (A1+A2)					**Rs**	**65800000.00**
B	**Social Infrastructure**					
B1	**Health**					

INVESTMENT REQUIREMENT FOR **93** HOUSEHOLDS COVERING **354** SLUM POPULATION UNDER INSITU REDEVELOPMENT						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
a	Multipurpose Hall covering Health	1 no for every 15000 population	No	1	7500000	**7500000**
B2	**Community Facility**					
a	Livelihood/Production Centre & Skill Based Training Centre	1 no for every 5000 population (area 660 sqm)	No	1	4750000	**4750000**
B3	**Landscape**					
a	Garden & Landscaping	3 sqm/person	Sqm	1062	750	**796500.00**
SUB TOTAL B (B1+B2+B3)					**Rs**	**13046500.00**
C	**Physical Infrastructure**					
C1	**Site Preparation**					
a	Retaining Wall		meter	450	20000	**9000000**
b	Site Preparation works		Cum	675	100000	**67500000**
C2	**Road**					
a	Internal Road (CC)	15m/HH	meter	1395	5143	**7174485**
b	Approach Road (CC)	10m/HH	meter	930	5714	**5314020**
C3	**Water Supply**					
a	Pipelines (25 mm Dia)	3m/HH	meter	279	1945	**542655**
b	Connectivity to Trunk Mains (80 mm Dia)	20m/HH	meter	1860	3600	**6696000**
c	Rain Water Harvesting	Per Dwelling unit	D.U.	93	11780	**1095540**
C4	**Drainage/Sewerage**					
a	Sewer Lines (DI Pipes)	10m/HH	meter	930	2000	**1860000**
b	Storm water drain (DU Lines)-Open drains	3m/HH	meter	279	25000	**6975000**
c	Connectivity to Trunk Main Drain	10m/HH	meter	930	15000	**13950000**
C5	**Street lighting/Waste Management**					
a	Street lighting (Poles of 2m height)	1 no for every 20 m road (Nos)	No	121	23335	**2823535**
b	Solid waste disposal (Dustbins)	1 no/24 HHs (Nos)	No	4	22857	**88570.875**
SUB TOTAL C (C1+C2+C3+C4+C5)					**Rs**	**123019805.9**
TOTAL INVESTMENT (A+B+C)					**Rs**	**201866305.88**
D	**Escalation** (@7.5% per year for 8 years-half of RAY period (60%)					**121119783.53**
E	Contingencies	2% on (A+B+C)				**4037326.12**
TOTAL INVESTMENT (A+B+C+D)=X					**Rs**	**327023415.52**

7.1.3. RELOCATION AND RESETTLEMENT OF SLUMS

There are 2 slums with total number of 21 households which needs to be relocated and resettled under Slum Free City Plan for Namchi. The details of Investment calculation is shown in Table below. The total cost of relocation and resettlement is **Rs. 88795703.86** or **Rs. 8.88 crores** only with cost of Housing is **Rs. 650000** or **Rs**

6.5lakhs only. The phasing of Investment required for relocated and resettlement of existing slums of Namchi is given below in Table. Since there are only 21 households under Relocation and Resettlement thus it has been considered that they will be redeveloped with the slums under Insitu redevelopment.

TABLE 146: PROPOSED INVETSMENT CALCULATION FOR RELOCATION & RESETTLEMENT

INVESTMENT REQUIREMENT FOR **21** HOUSEHOLDS COVERING **81** SLUM POPULATION UNDER RELOCATION & RESETTLEMENT						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
A	**Housing (RCC Frame Structure,CGI Roofing)**					
A1	**Dwelling Unit**		HHs	21	650000.00	**13650000.00**
A2	**Transit Accomodation**		No	0	5000000.00	**0.00**
SUB TOTAL A (A1+A2)					**Rs**	**13650000.00**
B	**Social Infrastructure**					
B1	**Community Facility**					
a	Livelihood/Production Centre & Skill Based Training Centre	1 no for every 5000 population (area 660 sqm)	No	1	4750000	**4750000**
B2	**Landscape**					
a	Garden & Landscaping	3 sqm/person	Sqm	1062	750	**796500.00**
SUB TOTAL B (B1+B2)					**Rs**	**5546500.00**
C	**Physical Infrastructure**					
C1	**Site Preparation**					
a	Retaining Wall		meter	120	20000	**2400000**
b	Site Preparation works		Cum	220	100000	**22000000**
C2	**Road**					
a	Internal Road (CC)	15m/HH	meter	315	5143	**1620045**
b	Approach Road (CC)	10m/HH	meter	210	5714	**1199940**
C3	**Water Supply**					
a	Pipelines (25 mm Dia)	3m/HH	meter	63	1945	**122535**
b	Connectivity to Trunk Mains (80 mm Dia)	20m/HH	meter	420	3600	**1512000**
c	Rain Water Harvesting	Per Dwelling unit	D.U.	21	11780	**247380**
C4	**Drainage/Sewerage**					
a	Sewer Lines (DI Pipes)	10m/HH	meter	210	2000	**420000**
b	Storm water drain (DU Lines)-Open drains	3m/HH	meter	63	25000	**1575000**
c	Connectivity to Trunk Main Drain	10m/HH	meter	210	15000	**3150000**
C5	**Street lighting/Waste Management**					
a	Street lighting (Poles of 2m height)	1 no for every 20 m road (Nos)	No	58	23335	**1348763**
b	Solid waste disposal (Dustbins)	1 no/24 HHs (Nos)	No	1	22857	**19999.875**
SUB TOTAL C (C1+C2+C3+C4+C5)					**Rs**	**35615662.88**
TOTAL INVESTMENT (A+B+C)					**Rs**	**54812162.88**
D	**Escalation** (@7.5% per year for 8 years-half of RAY period (60%)					**32887297.73**

INVESTMENT REQUIREMENT FOR **21** HOUSEHOLDS COVERING **81** SLUM POPULATION UNDER RELOCATION & RESETTLEMENT						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
	Contingencies	2% on (A+B+C)				**1096243.26**
TOTAL INVESTMENT (A+B+C+D)=X					**Rs**	**88795703.86**

7.2. Estimation of Investment Required for creation of Affordable Housing Stock

The total number of affordable housing units required for Namchi city is 1041, 1120 and 1435 for 2011, 2021 and 2031 respectively. The proposed cost for creation of affordable housing is Rs **6779027644.11** or **Rs 677.90 crore** for Namchi. These housing stocks have been proposed to accommodate the new migrants of lower income category and it can either be ownership type or rental or dormitories depending upon the demand of low income population of the city.

TABLE 147: PROPOSED INVETSMENT CALCULATION FOR CREATION OF AFFORDABLE HOUSING

INVESTMENT REQUIREMENT FOR 3596 AFFORDABLE DWELLING UNITS CREATION						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
A	**Housing (RCC Frame Structure, CGI Roofing)**		HHs	3596	650000.00	**2337400000.00**
B	**Social Infrastructure**					
B1	**Health**					
a	Multipurpose Hall covering Health	1 no for every 15000 population	No	1	7500000	**7500000**
B2	**Community Facility**					
a	Livelihood/Production Centre & Skill Based Training Centre	1 no for every 5000 population (area 660 sqm)	No	1	4750000	**4750000**
B3	**Landscape**					
a	Garden & Landscaping	3 sqm/person	Sqm	53940	750	**40455000.00**
SUB TOTAL B (B1+B2+B3)					**Rs**	**52705000.00**
C	**Physical Infrastructure**					
C1	**Road**					
a	Internal Road (CC)	15m/HH	meter	53940	5143	**277413420**
b	Approach Road (CC)	10m/HH	meter	35960	5714	**205475440**
C2	**Water Supply**					
a	Pipelines (25 mm Dia)	3m/HH	meter	10788	1945	**20982660**
b	Connectivity to Trunk Mains (80 mm Dia)	20m/HH	meter	71920	3600	**258912000**
c	Rain Water Harvesting	Per Dwelling unit	D.U.	3596	11780	**42360880**
C3	**Drainage/Sewerage**					

INVESTMENT REQUIREMENT FOR 3596 AFFORDABLE DWELLING UNITS CREATION						
SL NO	COMPONENTS	NORMS	UNITS	TOTAL REQUIREMENTS	RATE (Rs/Unit)	AMOUNT (Rs)
a	Sewer Lines (DI Pipes)	10m/HH	meter	35960	2000	**71920000**
b	Storm water drain (DU Lines)-Open drains	3m/HH	meter	10788	25000	**269700000**
c	Connectivity to Trunk Main Drain	10m/HH	meter	35960	15000	**539400000**
C4	**Street lighting/Waste Management**					
a	Street lighting (Poles of 2m height)	1 no for every 20 m road (Nos)	No	4495	23335	**104890825**
b	Solid waste disposal (Dustbins)	1 no/24 HHs (Nos)	No	150	22857	**3424740.5**
SUB TOTAL C (C1+C2+C3+C4+C5)					**Rs**	**1794479966**
TOTAL INVESTMENT (A+B+C)					**Rs**	**4184584965.50**
D	**Escalation** (@7.5% per year for 8 years-half of RAY period (60%)					**2510750979.30**
E	Contingencies	2% on (A+B+C)				**83691699.31**
TOTAL INVESTMENT (A+B+C+D)=X					**Rs**	**6779027644.11**

7.3. INVESTMENT PHASING PLAN FOR SFCPOA

The details of Investment requirement by various components for SFCPOA in phased wise manner is given below.

TABLE 148: PROPOSED COMPONENT WISE INVESTMENT PHASING FOR SFCPOA

SL NO	PHASING IN YEARS	CURATIVE: COST REQUIREMENT (In Rs Crore)							
		HOUSING (a)	PHYSICAL INFRASTRUCTURE (b)	SOCIAL INFRASTRUCTURE (c)	TOTAL x= (a+b+c)	O&M COST @4%	DPR,PMC, Community Mobilisation @4%	A&S @2%	TOTAL PROJECT COST (W)
1	First	3.78	28.83	0.82	33.44	1.34	1.34	0.67	36.78
2	Second	9.09	24.31	2.19	35.59	1.42	1.42	0.71	39.15
TOTAL		**12.87**	**53.14**	**3.01**	**69.03**	**2.76**	**2.76**	**1.38**	**75.93**
SL NO	**PHASING IN YEARS**	**PREVENTIVE: COST REQUIREMENT (In Rs Crore)**							
		HOUSING (a)	**PHYSICAL INFRASTRUCTURE (b)**	**SOCIAL INFRASTRUCTURE (c)**	**TOTAL x= (a+b+c)**	**O&M COST @4%**	**DPR,PMC, Community Mobilisation @4%**	**A&S @2%**	**TOTAL PROJECT COST (W')**
1	First	109.62	84.16	2.47	196.24	7.85	7.85	3.92	215.87
2	Second	67.18	51.58	1.51	120.27	4.81	4.81	2.41	132.30
3	Third	67.18	51.58	1.51	120.27	4.81	4.81	2.41	132.30
4	Fourth	67.18	51.58	1.51	120.27	4.81	4.81	2.41	132.30
5	Fifth	67.50	51.82	1.52	120.84	4.83	4.83	2.42	132.92
TOTAL		**378.66**	**290.71**	**8.54**	**677.90**	**27.12**	**27.12**	**13.56**	**745.69**
TOTAL INVESTMENT UNDER SFCPoA FOR NAMCHI= (W+W')= Rs 821.62 crores									

TABLE 149: PROPOSED PHASEWISE FINANCING PLAN FOR SFCPOA OF NAMCHI

SL NO	PHASING IN YEARS	INVESTMENT REQUIREMENT (In Rs crores)					INVESTMENT REQUIREMENT (In Rs crores)				
		HOUSING					INFRASTRUCTURE (PHYSICAL+SOCIAL)				
		Central Govt	State Govt	ULB	Beneficiary		Central Govt	State Govt	ULB	Beneficiary	
		80%	10%	0%	10%	TOTAL	80%	10%	10%	0%	TOTAL
1	FIRST	90.72	11.34	0.00	11.34	113.40	93.02	11.63	11.63	0.00	116.28
2	SECOND	61.02	7.63	0.00	7.63	76.27	63.67	7.96	7.96	0.00	79.59
3	THIRD	53.75	6.72	0.00	6.72	67.18	42.47	5.31	5.31	0.00	53.09
4	FOURTH	53.75	6.72	0.00	6.72	67.18	42.47	5.31	5.31	0.00	53.09
5	FIFTH	54.00	6.75	0.00	6.75	67.50	42.67	5.33	5.33	0.00	53.34
TOTAL SHARE		**313.22**	**39.15**	**0.00**	**39.15**	**391.53**	**284.32**	**35.54**	**35.54**	**0.00**	**355.40**
SL NO	**PHASING IN YEARS**	**INVESTMENT REQUIREMENT (In Rs crores)**					**INVESTMENT REQUIREMENT (In Rs crores)**				
		O&M COST @4%					DPR, PMC & COMMUNITY MOBILISATION @4%				
		Central Govt	State Govt	ULB	Beneficiary		Central Govt	State Govt	ULB	Beneficiary	
		80%	10%	10%	0%	TOTAL	80%	20%	0%	0%	TOTAL
1	FIRST	7.35	0.92	0.92	0.00	9.19	7.35	1.84	0	0.00	9.19
2	SECOND	4.99	0.62	0.62	0.00	6.23	4.99	1.25	0	0.00	6.23
3	THIRD	3.85	0.48	0.48	0.00	4.81	3.85	0.96	0	0.00	4.81
4	FOURTH	3.85	0.48	0.48	0.00	4.81	3.85	0.96	0	0.00	4.81
5	FIFTH	3.87	0.48	0.48	0.00	4.83	3.87	0.97	0	0.00	4.83
TOTAL SHARE		**23.90**	**2.99**	**2.99**	**0.00**	**29.88**	**23.90**	**5.98**	**0**	**0.00**	**29.88**
SL NO	**PHASING IN YEARS**	**INVESTMENT REQUIREMENT (In Rs crores)**					**TOTAL PROJECT COST= Rs 821.62 cr**				
		A&S @2%									
		Central Govt	State Govt	ULB	Beneficiary						
		0%	80%	20%	0%	TOTAL					
1	FIRST	0	3.67	0.92	0	4.59					
2	SECOND	0	2.49	0.62	0	3.12					
3	THIRD	0	1.92	0.48	0	2.41					
4	FOURTH	0	1.92	0.48	0	2.41					
5	FIFTH	0	1.93	0.48	0	2.42					
TOTAL SHARE		**0**	**11.95**	**2.99**	**0**	**14.94**					

7.4. SUSTAINING RAY INVESTMENTS

Creation of assets, more so for the economically weaker sections of the society, is a means only and not an end towards delivering basic services including housing in a sustained manner. RAY recognizes this aspect and hence emphasizes upon all measures leading to sustenance of the facilities including housing created for the socially and economically disadvantaged sections of people under the programme.

Availability of financial resources needed for not only upkeep of the housing units but also the infrastructure facilities are sine qua non for sustenance of project benefits. The poor sections of the people living in slum settlements may not be in a position to garner enough fiscal strength to address the need of operation and maintenance. The local self-government units or the urban local bodies (ULBs) shall have to extend support to the effect. Now the question arises as to whether the concerned ULBs would have enough fiscal strength to extend such support. This takes us to study the health of municipal finances.

7.4.1. SUSTENANCE OF SLUM DEVELOPMENT & URBAN INFRASTRUCTURE

The finances for slum development shall come from several sources. The total amount to be generated for slum upgrading and development and resource management plan is provided below:

- Internal Earmarking of Funds for RAY in the municipal budget; for slum development.
- Funding from the State Finance Commissions.
- Contribution from a State Revolving Fund; a Revolving Fund has been created at the State level which allows municipalities to borrow from the State. This loan is interest free, unlimited based on a proposal and does not have any time restrictions for spending or refunding.
- Central Govt. subsidy under RAY & matching subsidy/grant for State/ULB/beneficiaries.
- Special grant of North-East States of special non-lapsable grant.
- Other sources.

7.4.2. PUBLIC PRIVATE PARTNERSHIP AS FINANCING MODEL

In the present day context of liberalized and globalized economies, the public sector resources, especially budgetary allocations are increasingly becoming scarce. In many cases, the ULBs have to look for alternative sources of financing. The institutional finances require the ULBs to have a robust fiscal health so that the ability to repay the debts is of high order. Market borrowing is emerging as another option for mobilizing finances, but the same requires the ULBs to be credit rated by the rating agencies. Again, for securing a high credit rating, ULBs shall need to demonstrate a sound fiscal health on sustained basis.

Another route of resource mobilization – be it for creation/up-gradation of infrastructure assets or management of infrastructure facilities – that is becoming increasingly relevant in recent years is the paradigm of Public

Private Partnership (PPP). Besides mobilizing financial resources, the PPP also brings in efficiencies in creation/up-gradation and delivery of urban infrastructure services. Essentially, the project risks are shared between the public sector and private sector agencies under the PPP arrangement and the extent of sharing risks by each party depends on the format of PPP adopted. There is a wide range of options for the PPP arrangement and no particular option can be considered to be appropriate across the board. The suitability of the PPP option depends on the profile of the project in question and a number of parameters of a project are taken into account before deciding on the PPP format. At the broad level, there could be three formats of PPP, namely, Joint Venture (JV) Companies; Build, Operate & Transfer (BOT) or variant thereof; and Management Contracts.

The route of JV Company is resorted to generally in cases of projects in which the expertise of the public sector agencies can be leveraged for the projects and/or there is need for exercising controls over operation of the project owing to its social significance and impacts. In cases of JV Companies, both the public and private sector entities share financial risks, equally usually. The pricing of the products or services are determined by the markets.

For urban infrastructure projects, however, the most commonly used route has been found to be the BOT. The financial risks are generally borne by the private sector entity. One important aspect in this option is the 'concessions' that are extended to the private sector entities. Generally, the concession comes in the form of 'user specific charges' payable by the consumers of services. Under this option of PPP, the assets created get transferred to the public sector agency on expiry of the concession period without any cost. Nevertheless, the public sector agency bears the social risks as delivery of services according to preset standard constitutes the mainstay of these kinds of projects.

The variants of BOT like Build & Transfer (BT), Build, Own, Operate & Transfer (BOOT), Build, Operate, Lease & Transfer (BOLT) and Build, Own & Operate (BOO) are also taken recourse to depending on the nature of the projects. For commercial/real estate projects generally, the model of BOO is resorted to and the land involved is transferred to the private sector entity for too long a period. All financial risks are borne by the private entity and the premium for the land is paid upfront to the public sector agency.

It needs to be appreciated that private sector entities should not come forward to invest in development of public projects without being assured of modest financial returns on investment. While in the commercial/real estate projects, the returns are easier to come by and the private entities are used to doing these kinds of projects even on their own, for the infrastructure projects the returns on investment shall come through the 'concessions' extended. It is therefore imperative to design the concession structure judiciously such that there is a balance between the affordability of the public and the rate of financial return. In case no concession can be made available, the option of 'annuity' payment by the public agency to the private entity may be explored.

The foremost important aspect of PPP once it is decided to take up any project on PPP mode is the selection of private partner. In fact, there is likely to be more than one private party who may be interested to partner with public sector agency for any project. It is thus imperative to adopt a transparent and competitive means for selection of the private partner. Transparency can be achieved by laying down the conditions of bids in details to the extent possible, especially in relation to eligibility and bid evaluation and competitiveness can be realized by inviting bids through insertions in various media.

There is immense scope for enlisting private sector participation in the RAY initiatives as by doing this not only private sector efficiency can be invoked but also some revenue surplus generated such that the same can be leveraged to sustain the benefits of the project by the slum dwellers after the redevelopment. A part of the capital finances can also be secured through PPP initiative under RAY.

Wherever the slums are found to be occupying prime land within city, it is obvious that the economic potential of the land is not exploited. Again, the slums are generally found to be horizontally spread over large chunk of land. In case, by adopting a consultative process involving the slum dwellers by taking help of NGOs/CBOs etc., the consent of slum dwellers for either moving to another site or resettlement at the existing site on multi-storied buildings can be obtained, certain portion of the prime land can be carved out whereon commercial exploitation may be resorted to. In this type of cases, the private sector entities can be attracted to participate. As already mentioned, any revenue surplus that the public bodies like UD&HD and Namchi Municipal Council could be able to generate, the same could be used as corpus for the slum community for using the same in maintenance of their buildings and infrastructure. As the redevelopment schemes shall be somewhat homogeneous, a panel of private sector entities can be formed on the basis of their capabilities – both technical and financial. Whenever a slum redevelopment project under RAY shall be considered to be taken on PPP mode, competitive bids can be invited from amongst the empanelled entities by limited circulation. This would save on time. Nevertheless, the bidding platform shall need to be judiciously designed.

For PPP initiatives under RAY, the option of JV Company may also be explored, as in this case, the public sector agency shall be able to effectively ensure fulfillment of the objectives of RAY and the slum beneficiaries shall feel more comfortable with the PPP initiatives.

Funds can also be raised from the private sector for implementation of slum upgrading. The scope for private sector engagement in Namchi is considerable because of its commercial importance and other business potential. This forms transit between Siliguri and Darjeeling. However, because of restriction on land transfer policy and providing right only to Sikkimese, private sector organisations are reluctant to be business partners. But involvement of private partners in development might led to considerable improvement in the city's infrastructure and services.

8. FORMULATION OF CREDIT PLAN

8.1. REVIEW OF ACCESSIBILITY AND AFFORDABILITY OF HOUSING FINANCE FOR URBAN POOR

The average socio-economic profile in slums of Namchi is given in Tables below. The Table shows that the average monthly income of slum population is more than Rs 9000 while the average monthly expenditure is Rs 6500.

TABLE 150: INCOME EXPENDITURE ANALYSIS OF SLUM POPULATION

SL NO	CATEGORY	(in Rs.)					Total No. of Households
		<3000	3000-5000	5000-7000	7000-9000	>9000	
1	Average Monthly Income of slum Household	37	54	107	68	520	786
		5%	7%	14%	9%	66%	100%
2	Average Monthly Expenditure of slum Household	53	125	146	92	370	786
		7%	16%	19%	12%	47%	100%

Source: Primary Survey, RAY technical Cell

TABLE 151: DISTRIBUTION OF HOUSEHOLDS BY INDEBTNESS STATUS

SL NO	NAME OF SLUM	HHs	INDEBTEDNESS STATUS OF HHs	
			Yes	No
1	Mt Carmel School	23	0	23
2	Lower Dambudara	30	15	15
3	Masjid Area	217	42	175
4	Tinzir	40	9	31
5	Nps Area	12	0	12
6	Turning Area	7	1	6
7	Mandir Gaon	140	18	122
8	Kazitar	225	50	175
9	Bhutia Busty	92	19	73
TOTAL		**786**	**154**	**632**

Source: Primary Survey, RAY technical Cell

It can be inferred that in the mentioned slums, there is positive propensity to save in case of slum dwellers whose income is on higher side. They can save some of amount of income over and above to their expenditure for future use. This gives an indication that slums are able to take financial credit burden for housing purpose. A strong community mobilization in support with NGO/CBO will be needed.

TABLE 152: ASSESSMENT OF AFFORDABILITY OF URBAN POOR TOWARDS HOSUING

SOCIO ECONOMIC STATUS	AMOUNT	REMARKS	% HHs
Avg. Monthly Income	**Rs 9000**		**66**
Avg. min. Monthly Expenditure	**Rs 6500**		**40**
Avg. expenditure on maintenance of house(annually)	**Rs 2500**	Excluding property tax and rent, including repair, maintenance, etc	
AVG. BPL POPULATION IN SLUMS	**21%**	Unable to afford Housing	

Table above provides an interesting scenario that in Namchi 66% of slum households has an average monthly income above Rs 9000 whereas 40% households has average monthly expenditure of Rs 6500. Thus the affordability of people is an average of **Rs 2500-3000** per monthly towards minimum formal housing. But the affordability varies with slums and hence it has to be ascertained taking into account the socio economic condition of each slum at the stage of DPR preparation.

21% of the average slum **population** in Namchi is in the **BPL category**, and thus shall clearly require assistance for acquiring formal housing. The remaining population has to be incubated in a way that the financial assistance that shall be provided to them in terms of loans and subsidies can be exploited in a practical and wise manner.

Recommendations of Affordable Housing Task Force, Government of India, 2008

PAREMETER	EWS/LIG
Size of the house	300-600 sqft, carpet area
Cost of the house	Not exceeding 4 times gross HH annual income
EMI/Rent	Not exceeding 30% of gross monthly income

Affordability is generally viewed as a ratio of price/rent of housing to income of household. The ratio differs for different income groups. Lower income groups can afford to pay much less proportion to their income for housing than that of higher income groups. People below Poverty Line namely BPL category, a section of EWS is also falling part of Government's inclusive policy of Affordable Housing. EWS and LIG have been considered under the same group by the Task Force Committee.

Affordable Housing Prices

Price is to be defined not only in terms of purchase price of the house in case of ownership housing but must also include other charges/fees like registration charges, legal fees etc. payable at the time of purchase. Recurring cost like maintenance costs, taxes etc. should also be ideally included. As envisaged, there is direct relationship of income and cost ceiling of the housing unit. Based on capacity to afford EMI and a certain percentage of cost ceilings are fixed as loan ceilings for housing for extending loan to various income groups.

8.2. CREDIT SUPPORT FOR AFFORDABLE HOUSING FOR THE URBAN POOR

The cost of housing is so high compared to what people earn and the households who can save in hand can only afford houses with loans & financing. It is difficult for the EWS/LIG to afford a house without any loans; finance for the housing needs is the required for the EWS/LIG group.

In order to overcome the obstacles for the getting loan from the formal systems, strategies are worked out to make the housing finance reach the needy. Some of the existing schemes of Government of India for credit support for affordable housing for the urban poor which can be tapped are:

Strategy 1: Legalization of Slums Land:

Government legalizes slum land and provides the slum dwellers with tenurial rights they can individually take loans from housing banks to pay for the construction cost of their houses. The slum dwellers will then be able to mortgage their houses against the loan.

Strategy 2: Forming intermediate finance institutions:

As formal institutions hesitate to provide loan to the LIG/EWS /poor households due to their inability to repay and as they fail in providing security for the loan amount. Setting up intermediate finance institutions which facilitate the households in getting loans and linking them with banks makes the formal institutions comfortable in providing loans to these groups.

Strategy 3: Cost reduction strategy:

One way of providing houses to EWS/LIG category is to reducing the cost of housing by using innovative and design construction strategies, which make is unit cost lower and make them affordable to the vulnerable groups.

Strategy 4: *ISHUP and* Rajiv Rinn Yojana (RRY):

As a means of Credit Enablement, the Interest Subsidy Scheme for Housing the Urban Poor (ISHUP), has been dovetailed with RAY, with the existing ceiling of the subsidized loan of 1 lakh, so as to give the option to the State/ULB to release a part of the subsidy for housing as per the guidelines of ISHUP to reduce the cost of the loan taken by the beneficiary to build or purchase his/her house. ISSHUP has now been revamped as RRY. The Scheme envisages the provision of a fixed interest subsidy of 5% (500 basis points) on interest charged on the admissible loan amount to EWS and LIG segments to enable them to buy or construct a new house or for carrying out addition (of a room / kitchen / toilet / bathroom) to the existing building. The scheme will provide an interest subsidy for a maximum amount of Rs.5,00,000 for an EWS individual for a house at least of 21 sq.mts.

maximum loan amount of Rs.8,00,000 for a LIG individual will be admissible. However, subsidy will be given for loan amount up to Rs. 5 lakhs only.

As the emphasis of the strategy is to encourage housing facilitated by credit linkages, review of the implementation of the scheme in the city with the bankers is very important from the point of view of formulating the credit plan as explained in the next section.

Strategy 5: ***Credit Risk Guarantee Fund:***

As a means of Credit enablement, for loans up to 5 lakhs to be availed by EWS/LIG buyers of new homes, with first loss borne by the banks, a Credit Risk Guarantee Fund has been established by the Ministry of Housing and Urban Poverty Alleviation. This is envisaged as a risk mitigation measure to further incentivize and encourage participation by banks.

The fund will cover the housing loans to EWS/LIG borrowers for the purposes of home improvement, construction, acquisition, and purchase of new or second hand dwelling units, involving an amount not exceeding Rs. 5 lakh per loan. The guarantee cover available under the scheme is to the extent of 90% of the sanctioned housing loan amount for a loan amount of up to Rs.2 lakh and 85% for loan amounts above Rs.2 lakh and up to Rs. 5 lakh.

The initial corpus of this fund would be Rs 1200 crores of which Rs 1000 crores would come from the Centre and Rs 200 crores from the State Governments who draw on it, in accordance with their slum population.

Strategy 6: ***Rajiv Awas Yojana Residents Housing Association of the slum dwellers:***

As per RAY guidelines, the State may also consider creating, or enabling, in each slum or city, an Intermediating Agency between the lender and the borrower, which may be a Rajiv Awas Yojana Residents Housing Association of the slum dwellers, or such a housing association in collaboration with a microfinance agency or a joint venture between a municipal or State Housing Board, which will take care of tracking each borrower, and ensuring repayment. In the event of intentional failure to pay the loan, this intermediating agency should also provide help to the lender to foreclose on the mortgage.

Housing shall not be provided completely free to beneficiaries and part of the funding shall therefore be generated through people's contributions. People's contributions shall be both in cash and kind.

People shall contribute a minimum of 12% (10% in case of SC/ST/OBC) as their share for housing. New migrants or non-eligible but poor beneficiaries shall pay the full cost of housing, albeit over a period to time. This will require upfront capital investments by the city, recovered over 20 years with interests.

In addition people could contribute in kind for construction activities such as digging foundations, purchasing water, transporting construction material to home sites, recycling housing material if usable, etc. Many slum families are also into construction work and can be made responsible for construction work under supervision. The costs of these inputs shall be estimated and deducted from the money to be paid to the contractors. This shall reduce the burden of debt on the poor and improve the quality of construction.

Strategy 7: ***Contribution for O&M and other Development Activities:***

Community shall also generate resources for small repairs and maintenance of infrastructure. This process of community participation and contribution may be initiated. People in these slums would collect funds by the lead NGO/such organisation. Households would pay for a door step waste collection system. This shall reduce the O&M requirements at the city level.

8.3. FORMULATION OF AN EFFECTIVE CREDIT PLAN

Poor people shall need access to credit for building up houses, adding toilets, getting water connections, etc. They shall also need finance for setting up and operating business enterprises. The State Nodal Agency for RAY shall, besides providing the housing subsidies, also facilitate access to credit. They shall do so in the following ways:

i. Linkages with formal banking/ housing finance institutions:

The Nodal Agency shall provide lists of beneficiaries to formal banks or housing finance institutions identified. The agency shall organize a consultation between people and finance managers to agree upon a pro-poor system for fund disbursement and repayment plans. In the case of housing loans, most people with ownership rights shall have collateral. For other beneficiaries, especially the poor, the SHG or the Nodal Agency shall stand guarantee.

ii. Setting up a Community Credit Fund (CCF): The Nodal Agency shall create a CCF from its housing grant. 25% of the total approved housing subsidy budget for each project shall be forwarded into the CCF and shall be used for extending credit to the poor. DUDA shall invest this amount into bank securities to generate resources for the CCF. CCF shall also be capitalized from private sector housing projects in the city.

CCF shall be a revolving fund and shall be open to all beneficiaries who may want credit. Credit shall be provided on low/affordable interest rates to the poor.

Recommended Guidelines for lending to the poor

1. Simplification of procedure for lending based on only ID proof and slum tenure.
2. Prioritization of slum dwellers for lending
3. TPA between beneficiaries, lenders and intermediary (CBO/NGO/SHG)
4. Encourage the beneficiary for saving.
5. Enhancing the extent of Govt. funding.
6. Special purpose vehicle fund to be provided to SHG against their financial viable proposal.

iii. Strategy for Sustenance Recommended guidelines for lending to the poor:

1. Banks may be given a target for loans to the needy and monitoring will be needed.

2. SHGs may be provided loan from the bank on lower interest rate to encourage more participation or urban poor in such groups.

3. Loan installments release to be done timely.

4. Govt. may release housing loans immediately after houses are complete.

5. Co-operative banks role to be increase channelize housing credit.

6. Housing finance may be routed through federation of SHG.

7. Sensitizing bankers, NGO and SHG on the implementation of housing microfinance.

8. Direct transfer of subsidy under RAY on the basis of Adhaar Card.

9. Govt. of India may establish the credit guarantee fund scheme for low income housing to provide credit guarantee support to collateral free/third party guarantee free individual housing loan upto Rs.5.00 lacs extended by lending institutions for low income housing.

9. INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION OF DEVELOPMENT OPTIONS

9.1. STRATEGY FOR IMPLEMENTATION

i. Project Implementation Agency and Unit

The UD & HD will implement the programme in the initial phases, as the NMC does not have the capacity to do so at the moment. After the devolution of functions to the NMC, they shall take over implementation in the later phases. The implementation agency also needs to coordinate, and work closely with a range of city agencies concerned stakeholders in implementation of the plan. These shall include departments such as electricity, transport, roads, education, health, etc in preparing policies and ensuring effective implementation of the plan. This role will be undertaken by the programme implementation unit (PIU). They shall meet regularly to ensure coordinated implementation of activities. All PIU staff shall require capacity building for implementing SFCP.

ii. Community Based Organizations and Representation

Community Based Organizations shall be organized as part of the slum free city plan implementation process. Further, these shall be federated at a ward level. They shall meet on a regular basis to review the plans and their implementation and discuss/ trouble shoot problems/issues. Representatives of these CBOs or their federations shall be members of the various Task Forces and Ward Committees and shall be part of the discussion on plans in their areas and their implementation strategies.

Community mobilization will be at the core of slum development intervention in Namchi. The lead NGO will work with pre-organized communities facilitated under the Cities Alliance project and other city or donor supported initiatives in slums, strengthen the existing groups and build their capacities to work in partnership

with Govt. /its agencies in the implementation of slum upgrading activities, mobilize, engage, organize and strengthen similar groups in other settlements for project implementation in a phased manner as proposed above.

In order to ensure participation is real and meaningful, communities shall be engaged in the planning, implementation, monitoring and maintenance of all development activities in their areas. Community groups mobilized may vary by area /need and could include self-help/savings groups, enterprise and livelihood groups, water, toilet and sanitation committees, area welfare associations, construction monitoring committees, etc. Community groups shall also contribute to slum development through labour, money, time, etc. as per requirement/affordability etc.

iii. Ward Committees

At the ward level, it is required to set up Area Sabha and Ward Committees. These Ward/Area Committees shall include representation from all groups in the area including representatives of slum communities, leaders of other neighborhood groups in the area, representatives of commercial /market associations and members of institutional establishments. Area Committees may also co-opt professionals from the area with requisite skills in planning, architecture, environmental improvement, livelihoods promotion, etc. as per need to guide the process of development.

iv. Partnerships and Task Forces

The Govt. shall enter into partnerships with key stakeholders for the successful implementation of the Plan. These partnerships shall be expanded over the Plan period to include all stakeholders. It is required to set up Task Forces on Water Supply, SWM, Urban poverty, Local Economic Development, Sewerage and Drainage, Municipal finance and Taxation, Heritage and tourism, Traffic and Transportation and Urban governance. These Task Forces will be aimed at bringing together all concerned local bodies for joint implementation of development plans. Such convergence is not only efficient but shall ensure that any contradictory policies or rules may be addressed.

The ambit of these Task Forces shall be expanded to include new partners. These shall include representatives of community based organizations, private sector partners, banking and finance institutions, etc. The object shall be to ensure greater coherence in policy and implementation. The Task Forces shall meet on a regular basis to assess progress and discuss key issues and challenges to implementing the Plan.

v. Assessment of Financial Capacity

The state govt. shall receive funds to implement the Plan, especially the housing component which is the most expensive. However, it is expected that this fund shall not be adequate for implementing the Plan. While many agencies, as part of their annual budgets shall be able to contribute resources for development of services.

9.2. PARTICIPATORY PLANNING FOR SLUM DEVELOPMENT

Slum and Ward Development Plans

Communities have begun to come together to address key problems in their settlements; water supply, solid waste disposal, etc. At the time of preparation of DPRs, the agreed slum development plans and proposals shall be further discussed and detailed with the communities. Communities shall prepare an operating plan for implementation that shall include responsibilities of various stakeholders and actors, resource requirements and people's contributions, and a construction and a management plan.

Communities shall be fully involved in the process of implementation to ensure there is transparency. Slum Upgrading Committees shall be organized in the slums who shall work with UD&HD and NMC on the implementation of the plan. This shall include; being part of the process of selection of contractors and for the procurement of materials, understanding the contractual obligations of contractors, contributing to physical works, supervising the construction, troubleshooting etc.

9.3. ROLE & RESPONSIBILITY OF INSTITUTIONS

i. Capacity Building

Considerable capacity creation shall be required at all levels to achieve the vision for a slum free Namchi to ensure universal entitlements and comprehensive development of all slum households as described above. A detailed /annual capacity building plan shall be prepared for implementing the strategy for slum prevention. At the community level, people shall need to understand the value of organization and of working together to achieve common goals. People will need information so that they can prepare actionable slum development plans and build community consensus on solutions and responsibilities. It would be essential to empower people to negotiate for their entitlements with local governments and various service providers.

ii. Facilitating Agencies

Facilitating agencies such as the lead and smaller NGO(s), the State Designated Agencies shall also need sensitization and skill building. While the NGO field staff will need orientation to the tools and instruments of working with the poor, SUDA/State Designated Agencies teams including the Project Implementation Unit staffs shall have to be sensitized to the problems of poor communities and pro-poor approaches to slum development. A clear and shared vision and roadmap shall be needed so everyone is clear about the programme's goals, objectives and processes.

State Designated Agencies shall with the support of capacity building consultants undertake a **training needs assessment** and prepare an annual plan for staff training. Staff shall be deputed to the various national, state, nodal, technical training institutes for participation in specific training programmes. The Capacity Building Officer shall be responsible for the following activities:

- Regular staff meetings to share experiences from trainings/ ground and to brainstorm on possible /innovative solutions;
- Special sessions of staff with experts to discuss technical problems and solutions;
- In-house orientation training programmes for field staff;
- Experience exchange meetings bringing together various department officials to discuss crosscutting issues; and
- Documentation of success stories and field pilots and sharing these with the staff.

NGO staff shall also need regular orientation. The Lead NGO shall ensure that its staff shall attend at regular intervals training programmes, organized by the Government, other agencies and in-house. They shall also ensure that their staffs participate in various workshops and seminars to improve their understanding of issues and for replicating new and innovative solutions.

iii. Government Stakeholders

Slum development issues cut across various sectors and departments not all of which are mandated to work for the poor or whose staffs have an understanding of the critical issues in slum upgrading. The annual capacity building programme developed by designated State Agency shall on a quarterly basis, bring together all stakeholders for discussions and brainstorming.

Finance and Administrative Staff

Capacity building is critical for staff from the finance and administrative departments to ensure that the existing systems and procedures are in sync with the flexible approaches being proposed under the Plan. Interaction with these officials is also important to understand the viability of some of the proposed solutions. State Designated Agency shall organize regular meetings with finance and admin officers to brainstorm on implementation challenges.

iv. Other Actors

Apart from the approach and strategy described above, new stakeholders under the capacity building plan shall include the;

- Private sector, both the small and big builders;
- Poor households willing to create additional housing units;
- Housing finance institutions;
- Staff of other land owning agencies such as Forest, Defense etc.
- These are important stakeholders in future slum prevention. The new actors shall be sensitized to the conditions of the poor and their role in creating new housing for the poor. This shall create a sense of ownership and partnership among the partners.

9.4. RECOMMENDATIONS FOR IMPLEMENTATION OF THE PLAN

The various activities, functions involved and the roles of the respective agencies at the State level, city level, zone/ward level and at the slum level for implementation of SFCP has been proposed in the Table below.

TABLE 153: PROPOSED RESPONSIBILITY MATRIX FOR SFCP

Sl No.	Stakeholder	Preparatory Phase	Community Participation	Planning	Implement ation	Reforms	Post Implementation
1	State Govt.	Legislation					
2	SUDA	Funding & Project Monitoring					
3	Town Planning	Policy decision					
4	UD&HD	✓	✓	✓	✓	✓	✓
5	NMC			✓	✓		
6	Building & Housing Department				✓		
7	NGOs	✓	✓		✓		✓
8	Slum Community/ CBOs		✓	✓	✓		✓

CHAPTER 4: CONCLUSION

This Plan envisions the development of a Slum Free Jorethang and Namchi using a universal entitlements framework with a futuristic vision. The Slum Free City Plan primarily includes people-centred approaches to development. The new perspective of Sustainable Cities is an 'inclusive approach', which puts the vision of the poor and marginalized sectors at the center and includes all the dimensions of development in a holistic and synergetic manner. The Plan aims to make inclusive cities where all people, especially the poor have access to an equal and comprehensive set of services that are also socially and environmentally sustainable. Its key principles are reiterated again:

- It shall recognize that all people, women and men, especially the poorest, excluded and most vulnerable groups have right to a decent house, livelihoods, services and resources.
- It shall ensure an equitable level of services for all, the rich and the poor without discrimination on the basis of religion, caste, ownership of land, formal identity or formal livelihoods.
- It shall ensure the development of all slums and low-income settlements in a holistic manner, addressing the full breadth of needs of the poor people, networking them in legal ways to the city's infrastructure for a sustainable reduction in poverty levels.
- It shall ensure real and meaningful participation of the poor in the process of planning and implementation so that the city and area plans respond to the needs of the poor.
- It shall ensure that development of slums happens in a socially and environmentally sustainable manner and is linked to the revival of traditional forms of environmental management.
- It shall aim at strengthening the systems and institutions including resource-based of the local government and create capacity in these agencies for working with the poor in a long-term and sustainable manner.

ANNEXURE

ANNEXURE-I

Contents of Gazette notification of 2003-Slum definition

The exact definition of slum has been notified by the government vide Gazette notification no 02/ HOME/ 2003 dated 27/01/2003. The state government has declared the following categories of areas and habitations as "urban slum areas."

1. Areas that are generally unfit for human settlement due to subsidence, steep slope, landslide prone, etc., but are occupied by people below the poverty line, including the relocation of such people in other stable areas and providing them low cost housing including distribution of building materials.

2. Areas that are by reason of dilapidation, overcrowding, faulty arrangements and poor structure of houses, narrowness or faulty arrangements of avenues, streets and setbacks, lack of ventilation or light or any composition of these factors which are detrimental to safety, health and morals/social and has sheds/tenements requiring standardization and up gradation.

3. All under serviced settlements, owing to unauthorized occupation of Government land, congested back streets and areas surrounding them, which require introduction of skill development programmes, health care, child care programme including adult literacy and poverty alleviation programmes preferably through area-specific community development.

4. Any area where the residents or those in the neighborhood are prone to health hazard due to poor waste management, lack of inadequate or proper infrastructure, public amenities, utilities, or conveniences due to overcrowding, unsanitary and unhygienic conditions.

5. Any area where the construction are not regulated in accordance with Sikkim Building Construction Regulation, 1991.

6. Any area where the sanitation provisions relating to toilet, waste management, drainage maintenance etc. are not in accordance with the Sikkim Sanitation Rules.

7. Area without proper water supply and electricity connection.

ANNEXURE-II

CITY LEVEL STAKEHOLDER CONSULTATION FOR SFCPoA PREPARATION FOR JORETHANG AND NAMCHI

1. Purpose/Objective of the Workshop

The capacity building workshop for the ULB stakeholders of Namchi and Jorethang was organized by the State-level RAY Nodal Agency (UD&HD) in collaboration with the State level RAY Technical Cell - Gangtok and City level RAY Technical Cell – Namchi-Jorethang at the Namchi Municipal Council auditorium on the 30th of July 2013.

The workshop provided with an opportunity to bring all the stakeholders from Namchi Municipal Council and Jorethang Nagar Panchayat to a common platform to understand RAY and what it entails for the respective municipal wards that they're looking after. This was primarily an environment-building session wherein, detailed information about RAY such as its guidelines, vision of the creation of slum-free city plans, mission statement and its objectives and strategies were discussed. Besides the top objective of disseminating information about RAY, the ULB stakeholders were also informed about the progress of RAY in Gangtok along with the foundational activities and their strategies to be adopted in Namchi and Jorethang.

The workshop also acted as a successful forum for a Focus Group Discussion, which brought to the table, the teething problems that Namchi and Jorethang could face in the implementation of RAY and the feasible solutions that the ULBs should use for a sustainable implementation of RAY in their cities.

2. Workshop Details

The Workshop started with the welcoming of the participants through a *khada* ceremony by the State Level Nodal Agency and the State Level and City Level RAY Technical teams. The Guests of Honour were Shri Binod Rai, MLA (Namchi-Singithang Constituency) and Shri Madan Cintury, MLA (Zoom-Saalghari Constituency). Also present were the Namchi Municipal Council and Jorethang Nagar Panchayat office bearers, SLNA, SLTC, CLTC and Town Planners and Engineers from UD & HD, Jorethang, Namchi & Gangtok. (The Participant List has been attached as an annexure.)

Distinguished MLAs of Namchi & Jorethang Constituency & ULB members of Namchi Municipal Council & Jorethang Nagar Panchayat

The programme commenced with a brief introductory session of the SLTC - Gangtok and CLTC members for Namchi – Jorethang. The Specialists stated their names and designation in their respective teams.

Introduction of RAY Specialists from SLTC-Gangtok & CLTC Namchi-Jorethang

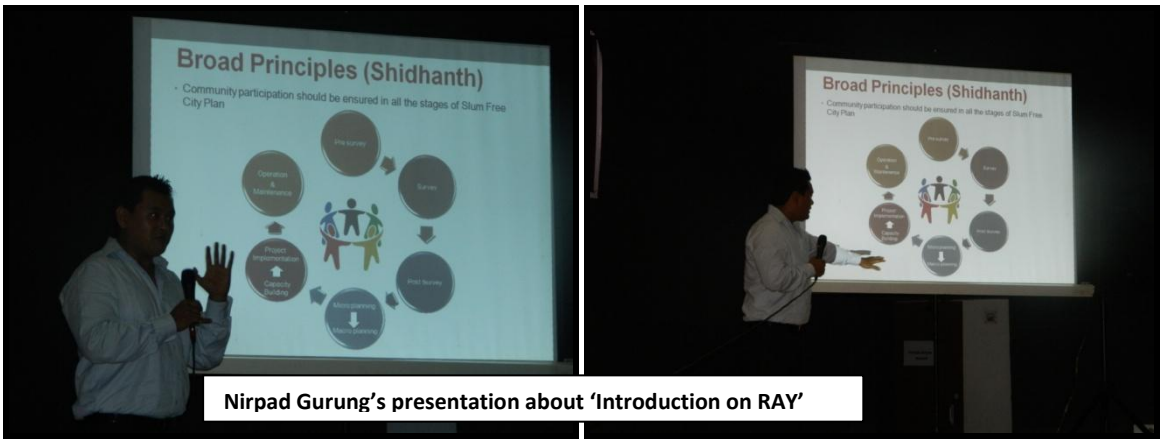
Welcome Speech by Shri RN Pradhan, State Nodal Officer - RAY

After the introductory session, Shri R.N Pradhan, the State Level Nodal Officer for RAY, took to the stage to welcome the participants present at the workshop. He stated that the key objective of holding the workshop is to spread awareness on RAY to the ULB stakeholders of Namchi and Jorethang. He gave a brief account of the initiation of RAY in Gangtok in 2012 with Centre for Urban and Regional Excellence (CURE) New Delhi as the Technical Cell which carried out the preparatory activities of RAY in Gangtok. He reiterated that the workshop would cover an extensive dissemination of RAY guidelines, its aims and objectives to the ULBs of Namchi-Jorethang.

2.1 Presentation Details

The programme moved towards the presentation segment from 11.30 AM onwards with the first presentation given by Mr. Nirpad Gurung (Capacity Building/ Training Coordinator for Namchi-

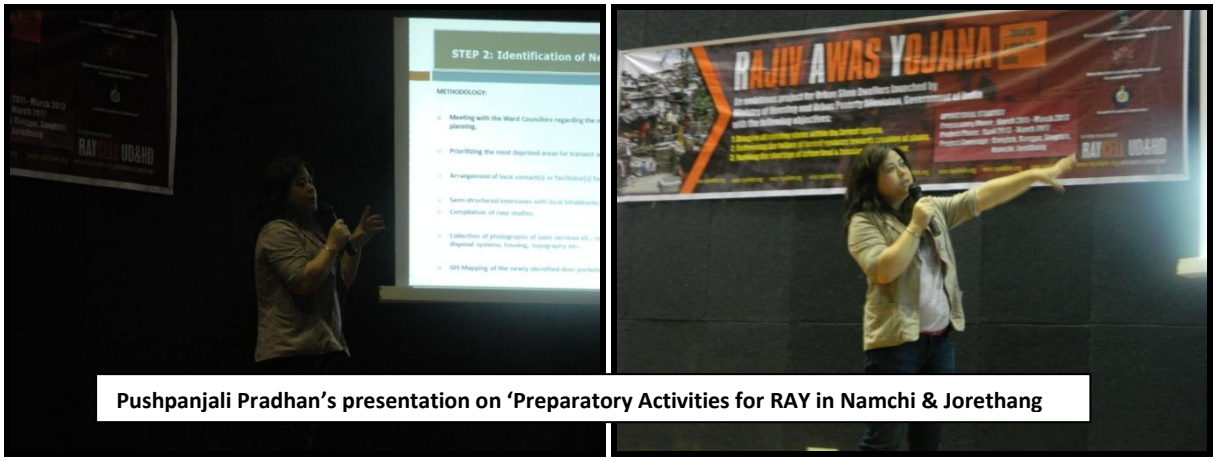
Jorethang). His presentation explained the concept of 'slum' and the growing importance of slum redevelopment in urban areas. He educated the participants on the implementation process under RAY with a comprehensive explanation about the four stages viz. Pre-survey, Survey, Micro Planning and Operation & Maintenance. He also highlighted the necessity of Community Participation in all these stages of RAY to make it sustainable. The presentation also highlighted the achievements of RAY in Gangtok since its inception in 2012.



Nirpad Gurung's presentation about 'Introduction on RAY'

The next presentation entitled 'Preparatory Activities for RAY in Namchi and Jorethang' was given by Ms. Pushpanjali Pradhan (Capacity Building/ Training Coordinator, SLTC - Gangtok). Her presentation highlighted the integral aspects of a successful SFCPoA and the preparatory works to be taken up in Namchi and Jorethang. She highlighted the importance of i) Environment Building ii) Community Mobilization iii) Socio-Economic Household Survey and iv) GIS Mapping in RAY. Under the environment building process like: assessing the existing situation of basic services, transect walks to the slums, creation of Neighbourhood Groups (NHGs) and its process, identification process of key facilitators was elaborated. The presentation further highlighted the process and methodology for the identification of new (non-notified) slums. It further explained the importance of ratification of non – notified slums by UDHD & ULB. The presentation gave detailed description of Socio-economic household survey and elaborated the components which would be covered which include: Land status, Socio-demographic profile, Housing status, Economic status, Occupational status, Access to basic infrastructural facilities, household level information etc. The importance of household survey data ratification and Community Participation was disseminated. The presentation further elaborated on the significance of CBO and necessitated the formation of CBO for fulfilment of community mobilization initiatives under

the scheme. The presentation ended with an emphasis on the usage of IEC for effectively spreading RAY awareness amongst the stakeholders.



Pushpanjali Pradhan's presentation on 'Preparatory Activities for RAY in Namchi & Jorethang

The third presentation entitled 'Less is More' was given by Ms. Punyasil Yonzon (Social Development Specialist, SLTC - Gangtok). The presentation highlighted the description of RAY initiatives for slum-free city and necessitated the importance of Community Participation in RAY. The presentation also highlighted issues relating to 'security of tenure' for beneficiaries under RAY. The discussion on allotment of land to COI holders and rental system for non-COI holders was elaborated. The presentation further highlighted the typology and housing size structure under the scheme. The main emphasis of the presentation was to disseminate information to participants that housing facility collaborated with all the basic facilities like clean drinking water, community hall facility, electrical facility and complete housing facility although less in size (300 sq. ft.) would be more in terms of quality. Therefore, the concept of 'Less is More' fits appropriately under the slum redevelopment model under RAY.

Punyasil Yonzon's presentation on 'Less is More'

2.2 Interactive Session

Once the presentation sessions were over, the ULB members were handed evaluation forms for their constructive feedback regarding the course contents of the workshop. After the feedback collection, an interactive session was held to discuss the content explained to them through various presentations and also to brainstorm about any local problems that could hamper the successful working of RAY and come up with innovative solutions.

Interactive Session in progress

Shri Dipanker Lama (Assistant Director, UD & HD) queried on the role of beneficiaries and the method for community organisation in RAY. He further questioned on how the construction would be initiated during the project phase and what measures would be adopted under the RAY for the same.

Replying to this query, Shri Dinker Gurung (Dy. Nodal Officer – RAY) stated that RAY's basic tenet is to ensure active community participation in all phases of the project (pre-survey, survey, micro-planning and operation & maintenance of the created assets) for building sustainability through community ownership. This means that the beneficiaries would be directly involved in the

ratification of the survey data, slum boundary maps, project implementation plans and the monitoring of the construction of housing and other basic infrastructure in their area.

Regarding the question on the housing construction and method, he emphasized that RAY emphasizes on 'in-situ' slum redevelopment to ensure that the slum dwellers' livelihood options don't get displaced. He mentioned that the relocation of slums would be carried out only in cases of untenable slums located on encroached lands owned by Defence, Forest departments etc. provided these departments don't permit the use of the encroached lands for slum redevelopment.

In case of in-situ slum redevelopment process for unstable lands, innovative engineering and architectural strategies would be facilitated. However, if these solutions don't work then, the alternative option would be to relocate the slum to a stable land for redevelopment. He said that the District Collector's verification would be required on any land transfers made for RAY.

Participants asking questions to the panel

Another question was asked on how community participates in the micro-planning phase of RAY to which, Shri Dinker Gurung explained the mandatory ratification/vetting and monitoring exercises that the slum community have to be involved in such as verification of DPRs, community monitoring during the project implementation stage like checking the quality of construction raw materials, works executed per specifications etc. Additionally, a community contracting approach could be provided for some communities depending on the skill sets available within these slums.

The next question was about the possibility of an increase in the currently fixed size of 300 sq. ft. under RAY as there's a fair chance that the slum dwellers would climb up the social ladder once they're brought on par with the rest of the society. Responding to this, Shri Dinker Gurung

mentioned that there's a scope for incremental housing strategy under RAY. He highlighted the important rider that this strategy can be adopted only for slums which are primarily located on stable lands. Citing the example of Bhanugram, he mentioned that if engineering and architectural innovations helps in increasing the stability of the land then, incremental housing can be done even on unstable lands.

He further added that the manner of housing and basic infrastructure construction would differ for every slum depending on various dynamics like their topography, land tenure; community needs, redevelopment strategy adopted etc., and would be planned during DPR phase.

Replying to the question on the slum redevelopment model and the percentage of beneficiary contribution to the total housing cost, Shri Dinker Gurung replied that slums located on Government land would be redeveloped 'in-situ' as the transfer of public land is comparatively easier. However, in case of private lands, we would have to judge the willingness of the owner to sell their lands and negotiate with them accordingly.

Answering the question on beneficiary's financial contribution, provision for acquisition of land and SC/ST COI holders would have to contribute 10% of the total housing cost and those belonging to the General Category would have to bear 12% of the total housing cost. For non-COI holders, houses would be given on a long-term rental lease with a nominal monthly rent.

Also, clarifying the doubt on whether RAY would improve the drainage and sewerage networks in Namchi, he said that this would not come under the purview of the project as it is specifically for the redevelopment of slums in Namchi. He further explained that building towards a decent housing stock for the future will be taken up under RAY's preventive strategy.

Shri R.N. Pradhan added to the discussion by mentioning that after the contribution of 10 – 12% from beneficiaries, the rest of the budget for construction purposes would be levied by the State. The budget decision initiated by the State will be implemented for sanctioning and construction of the project plans.

Shri R.N. Pradhan, State Nodal Officer-RAY, answering to one of the questions during the interactive session

Regarding a query on who would be given more priority for the formation of CBOs (Community Based Organizations) under RAY, Shri Dinker Gurung replied that female participation would be given more emphasis in the formation of CBO. He said that the project plan should be architecturally friendly for physically handicapped persons so they are also encouraged to actively participate in micro-planning phase.

One of the Councillors questioned those slum dwellers who own their land might demand houses with a built-up area of more than 300 sq. ft. Answering to this, Shri Dinker Gurung said that these beneficiaries' houses might be allotted with houses with more than 300 sq. ft. built-up area with the rider that they bear the cost of construction for the extra built-up area over and above the usual 10-12%.

One of the Councillors asked if RAY would take up redevelopment activities on notified areas which are comparatively affluent, by virtue of being notified as slum. Shri Dinker Gurung explained that socio-economic household survey data, conducted at the initial stages, would decide whether a notified slum can be classified as slum. Any intervention would be based on the findings of the household survey, which could also be de-notification of the area as slum.

Winding up the interactive session, Shri R.N. Pradhan thanked the participants for their enthusiasm in putting forward their questions which is a crucial step to understanding the

working of RAY. He concluded the session with a note on the importance of a good environment building and community participation strategy for the successful initiation of RAY in Namchi and Jorethang. He said that identification of non-notified slums would be done in Namchi and Jorethang very soon, further stating that RAY as a project is unique in its nature in the sense that the identification of beneficiaries is prioritized and completed before it reaches the implementation stage. He also mentioned that RAY activities started on full swing since February 2012 in Gangtok. He said that the preparatory phase in RAY would take longer time compared to the implementation of the slum redevelopment plan.

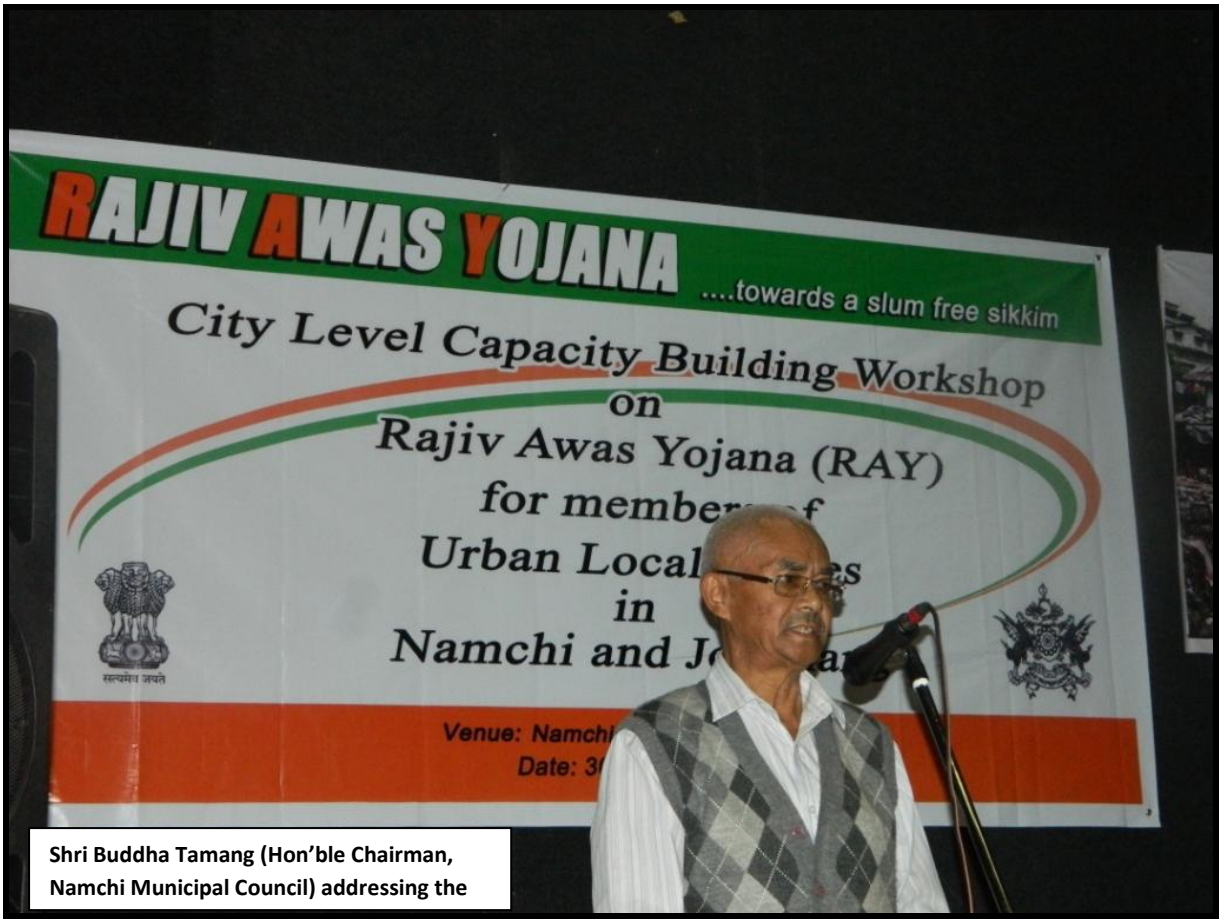
2.3 Concluding Talks by Esteemed Guests

After a healthy round of Q&A session, Shri P.D. Agarwal (President, Jorethang Nagar Panchayat) took to the stage to welcome the prospect of RAY in Namchi-Jorethang region and its pivotal role in making these cities slum-free. He extended full support from the Council to RAY Technical Cell and wished the team the very best in their endeavour.

Shri P.D. Agarwal (Hon'ble President, Jorethang Nagar Panchayat) addressing the

Speaking to the audience, Shri Buddha Tamang (Chairman, Namchi Municipal Council) raised a few important points such as Namchi Municipal Wards 1 & 7 must be prioritized under RAY as the rest of the wards fall under rural category. He spoke about the violation of the building bye laws in Namchi and therefore, some buildings are vulnerable to natural disasters like earthquake and landslides. He requested the engineers should keep this in mind and not sanction construction projects which could violate the existing building bye laws.

He also added that two of the major problems faced by Namchi are poor solid waste management and sanitation and mentioned that there's been a delay in the allocation of the budget for developmental projects to the Namchi Municipal Council and took the opportunity to request the officials present in the workshop to look into the matter and help expedite this. Finally, he concluded his speech by thanking the RAY team and wished them the best in their efforts of an effective implementation of the scheme in Namchi and Jorethang.



Shri Buddha Tamang (Hon'ble Chairman, Namchi Municipal Council) addressing the

After Mr. Tamang's speech, Shri Binod Rai (MLA, Namchi-Singithang) addressed the audience by thanking the organizers for a successful capacity building workshop for the ULBs of Namchi and

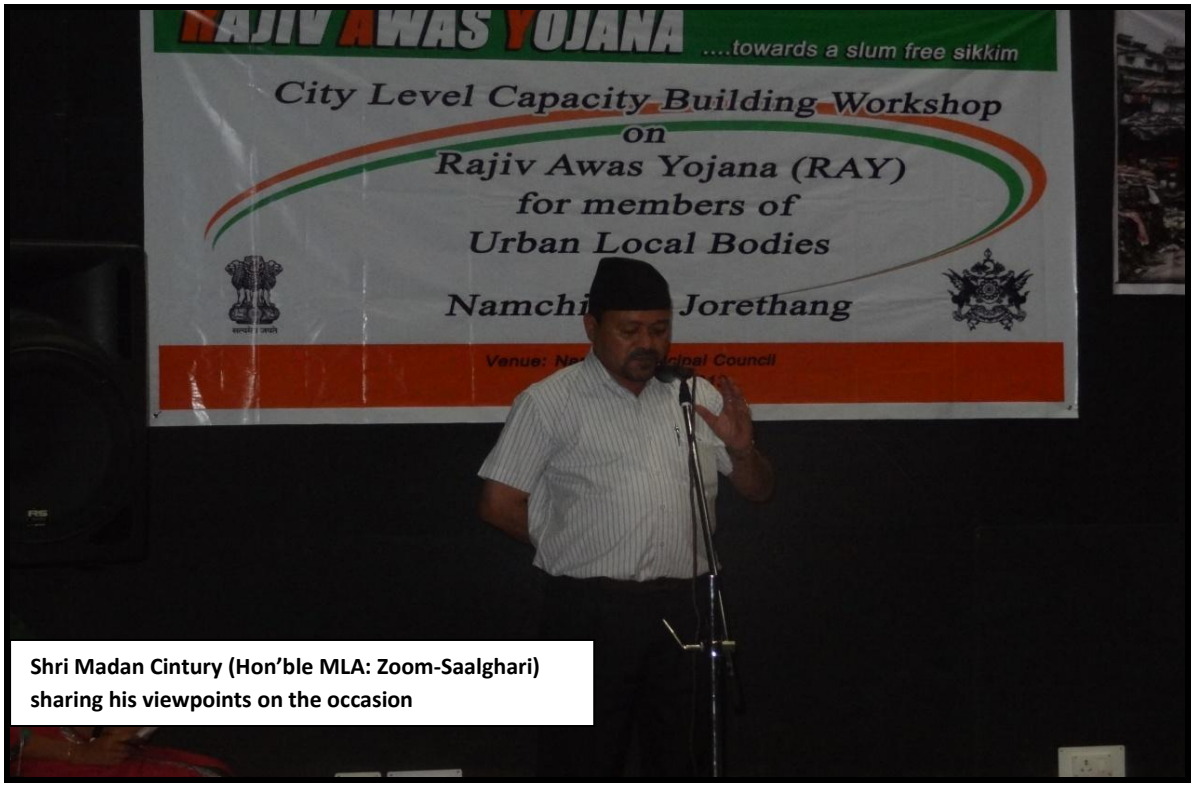
Jorethang. He emphasized the importance of RAY in a slum free city development which could complement the State's objective of making Sikkim free of *kuccha* houses. He extended his support to the slum redevelopment initiatives under RAY to be taken up by the Namchi Municipal Council along with other stakeholders in the city. Finally, he concluded his speech by requesting an efficient collaboration and coordination between the Namchi Municipal Council, its Engineering wing, UD & HD and other line departments for a successful implementation of RAY in Namchi.

Shri Binod Rai (Hon'ble MLA: Namchi-Singithang Constituency) sharing his

After Shri Binod Rai's speech, Shri Madan Cintury (Hon'ble MLA: Zoom-Saalghari) addressed the gathering. He highlighted the significance of RAY in a slum-free development of towns in Sikkim. He suggested that an awareness generation about RAY at higher levels of stakeholders and at the grassroots should be incorporated efficiently in the Namchi-Jorethang region. He suggested on including the slum dwellers at RAY workshops to avoid negative perception of RAY at the grassroots level due to lack of awareness generation about the benefits of RAY at the grassroots

level. He stressed on the need for an extensive environment building and awareness campaign esp. for 'Mazhi Gaon' slum in Jorethang.

Regarding the beneficiaries who're non-COI holders, he opined that there should also be allocation of housing in terms of their duration of stay in Sikkim. He mentioned that instances of unregistered land would raise concerns and RAY initiatives and plans needs to focus upon reducing the problems associated with the case. Also, he suggested that RAY should come up with a well-balanced slum redevelopment plan which incorporates suitable interventions for each slum regarding the construction of houses and basic infrastructure. Finally, he ended his talk by wishing the RAY team the very best in their initiative to pave way for a slum-free Sikkim.



Shri Madan Cintury (Hon'ble MLA: Zoom-Saalghari) sharing his viewpoints on the occasion

After the above addressed the audience, Shri Dinker Gurung concluded the workshop with a Vote of Thanks to the participants and the organizers.

3. Critical Insights

The workshop accomplished the objective of bringing the stakeholders from Namchi Municipal Council and Jorethang Nagar Panchayat to a common forum so they get a better understanding of RAY, its guidelines, strategy and their role in the preparation of a Slum-Free Plan of Action for

their respective towns. The training and interactive sessions served the purpose of building the environment for the preparatory works under RAY in Namchi and Jorethang.

The Q&A session conducted in the workshop facilitated the discussion of critical points pertaining to RAY in Namchi and Jorethang. Below, are some of the vital insights gathered through the workshop.

3.1 Issues Discussed

1. RAY's approach of active community participation in all stages of RAY i.e. pre-survey, survey, micro-planning and Operation & Maintenance of the created assets. As this concept is fairly new and innovative, it was discussed at length through presentations and interactions. Numerous questions were asked by the participants on Neighbourhood Groups, CBOs and the pivotal role of involving more females and physically disabled members in the community to create an equal platform to all the groups based on gender, age, occupation etc. and provide them with the opportunity to have a say in the redevelopment project being done for their community.

2. The priority given to the identification and finalization of RAY beneficiaries through various community forums and ratification activities were discussed. Also, the role of these beneficiaries in the ratification of the socio-economic household survey data, GIS maps of their slum boundary, project implementation plans and the monitoring of the construction of housing and other basic infrastructure in their area were discussed in detail.

3. The aspect of community participation in the micro-planning phase of RAY was discussed. Various activities under this were thrashed out like the mandatory ratification/vetting of DPRs, monitoring during the project implementation stage like checking the quality of construction raw materials, works executed per specifications, and community contracting depending on the skill sets available within these slums.

4. The slum redevelopment models under RAY i.e. 'in-situ' and 'relocation' were also discussed in detail. These models were explained with the help of real-time examples of Bhanugram, Greater Surya Gaon and other slums in Gangtok.

5. Detailed discussion ensued regarding the prescribed house size of 300 sq. ft under RAY. Issues like whether there's a possibility of an incremental housing model in Sikkim keeping in mind lack of vacant land inventory and an upward demand for housing due to an organic population growth in the State. Follow-up discussions were made on the engineering and architectural innovations which could be used to help increase the inventory of stable lands in RAY cities in Sikkim.

6. Beneficiary contribution was also one of the important topics brought to the table. The concept of SC/ST COI holders' contribution of 10% and those from the General Category of 12% of the total housing cost, and the long-term rental lease amount for non-COI holders was explained.

7. The strategy of identifying non-notified slums and the de-notification of notified slums, if necessary was discussed with the help of a few case studies from Gangtok.

8. The crucial step of efficient environment-building should be taken up at all tiers of stakeholders in Namchi – Jorethang to avoid negative perception of RAY due to lack of awareness generation about the benefits of RAY.

3.2 Follow up-plans

The workshop concluded with a rough Plan of Action for the foundational activities under RAY for the ULBs and RAY Technical team of Namchi and Jorethang. Here's a list of 'things-to-do' under the preparatory activities of RAY in these towns:

1. Environmental building campaigns for RAY with the help of hoardings, media coverage, community meetings and workshops to be taken up by the RAY Technical Cell.
2. Reconnaissance visits to notified slums in both the towns and create a database of boundary maps and slum-related data for basic infrastructural components like water supply, sewerage, solid waste management, electricity, roads, sanitation and drainage from the Line departments.
3. Identification of new slums in Namchi and Jorethang to be prioritized.
4. Demarcation of slums into zones for efficient community mobilization activities.
5. Socio-economic household survey to be conducted in the notified slums.

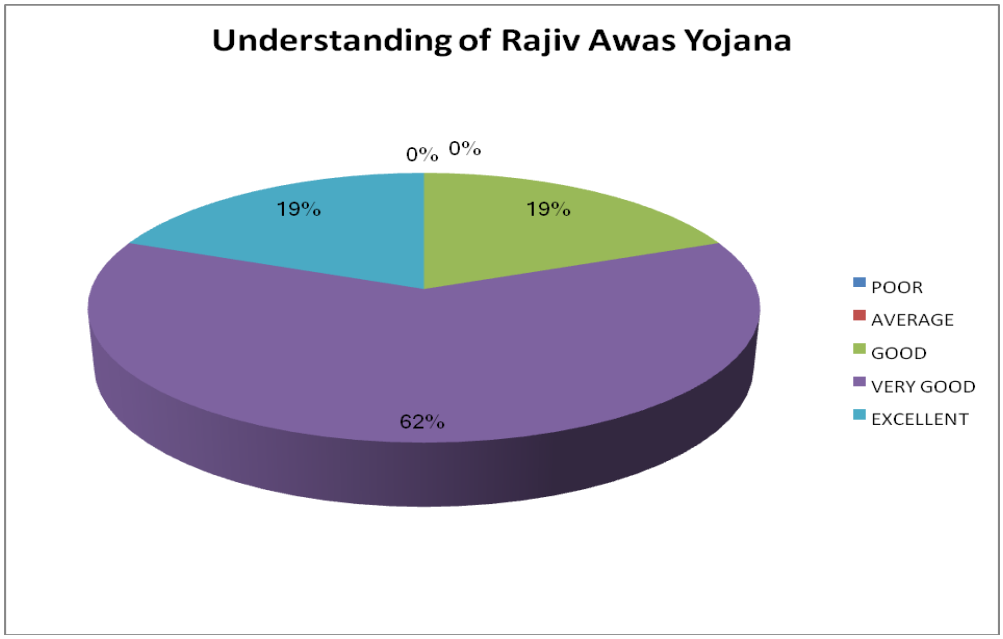
Annexure

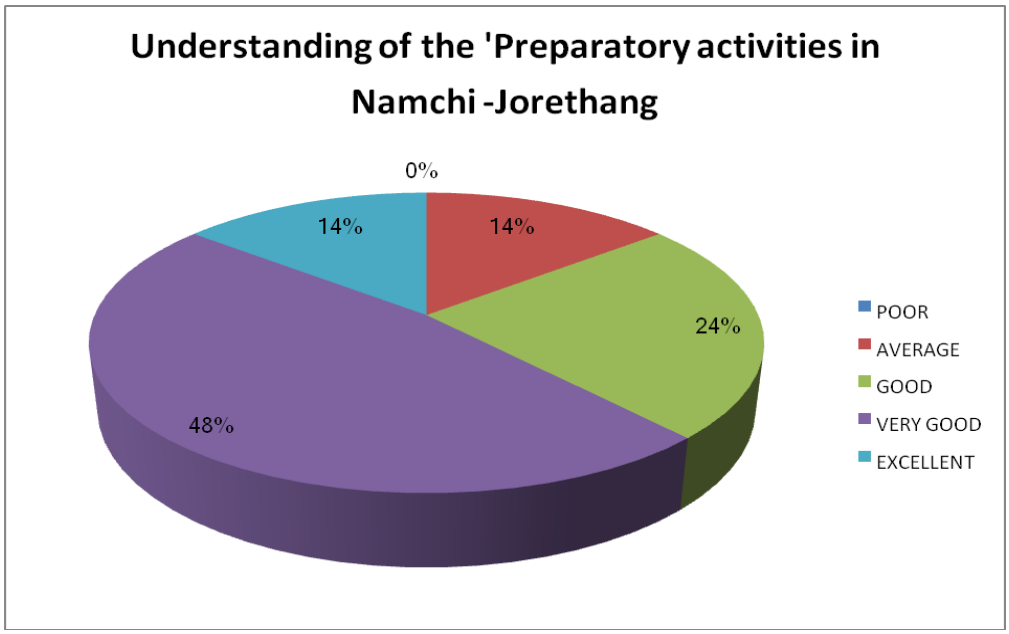
Evaluation Form Analysis

Participants' Score

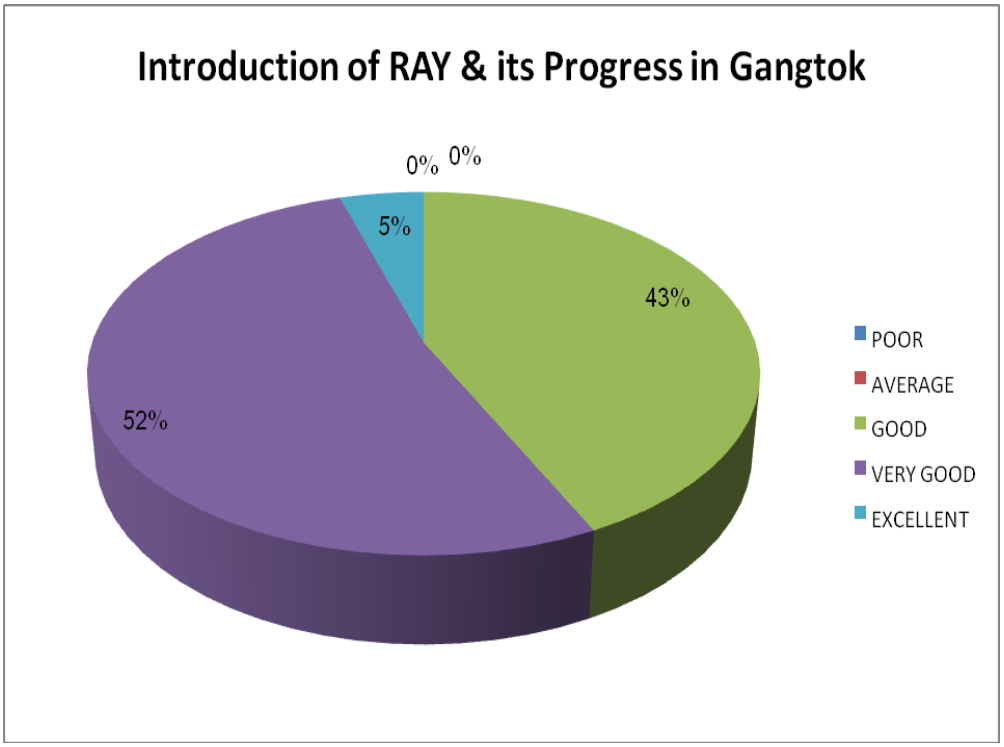
S. No.	OBJECTIVE/TOPIC	Poor	Average	Good	Very Good	Excellent
1(a)	Understanding of Rajiv Awas Yojana	0	0	4	13	4
1(b)	Understanding of the 'Preparatory activities in Namchi –Jorethang	0	3	5	10	3
2(a)	Introduction of RAY & its Progress in Gangtok	0	0	9	11	1
2(b)	Preparatory activities for RAY in Namchi-Jorethang	0	2	6	13	0
2(c)	Less is More	0	0	5	10	6
3(a)	Presentation	0	0	3	17	1
3(b)	Case Study	0	1	10	6	4
3(c)	Small Group Discussion	0	0	7	11	3
4	How effective were the learning materials supplied/ distributed?	0	1	2	15	3
5	How relevant is the training programme to you in terms of its application in your context?	0	0	3	11	7

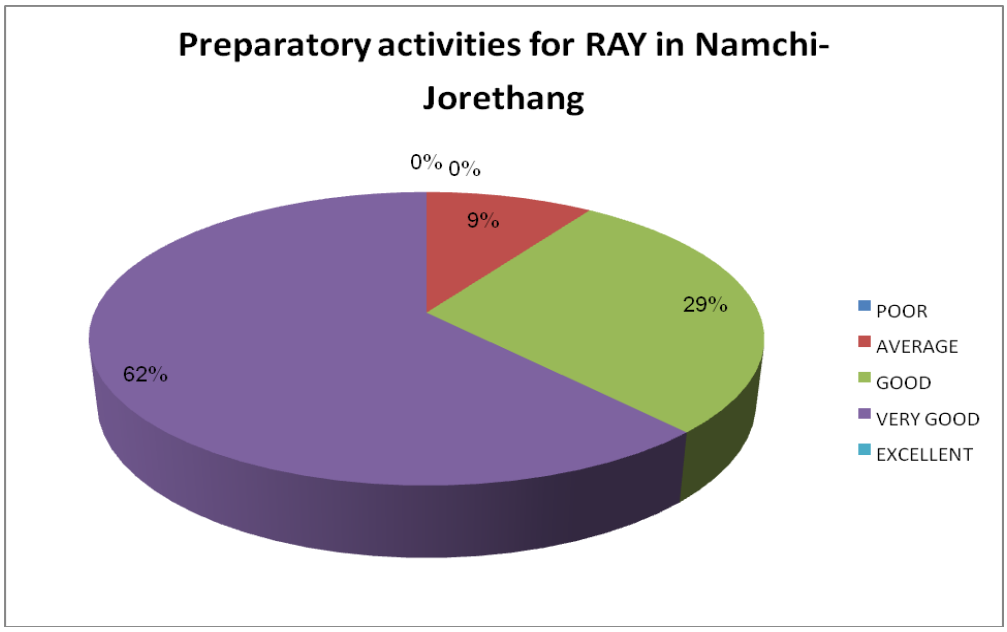
1. How effectively were the following objectives met?

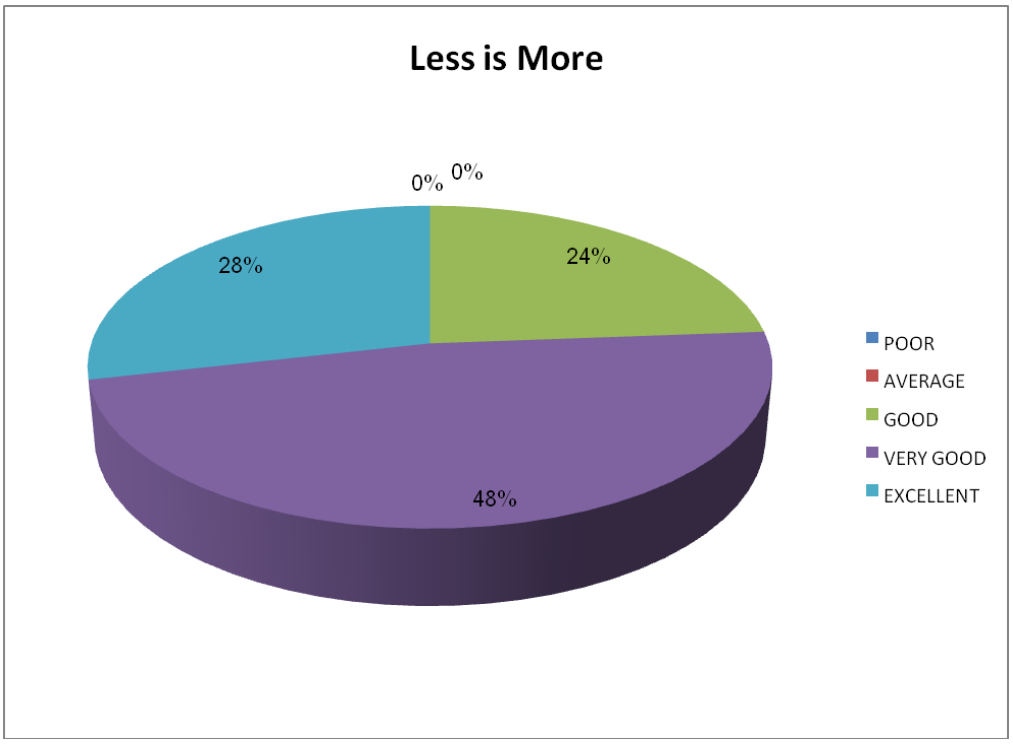




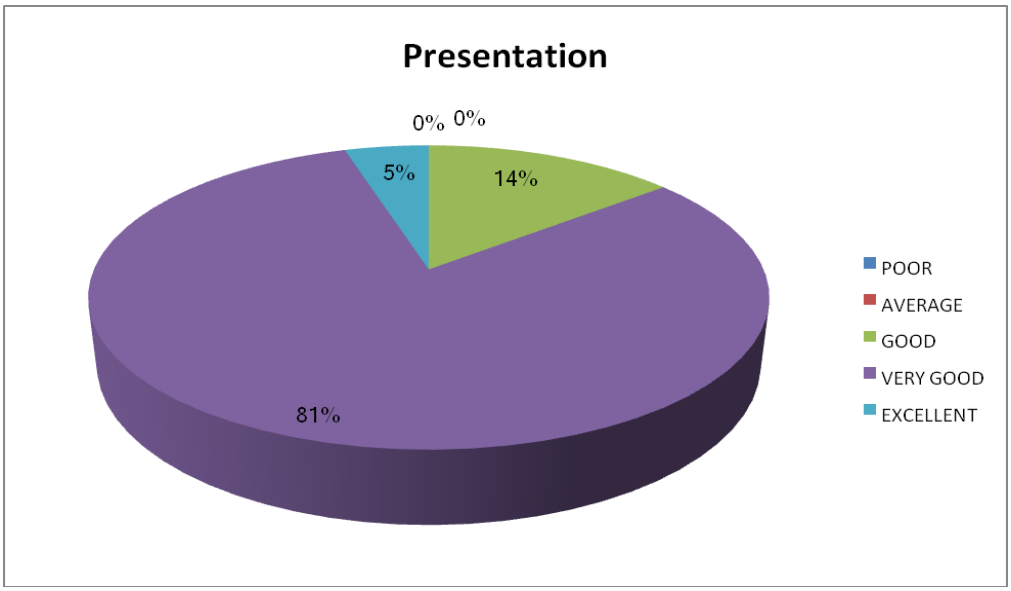
2. How effective were the following topics/themes?

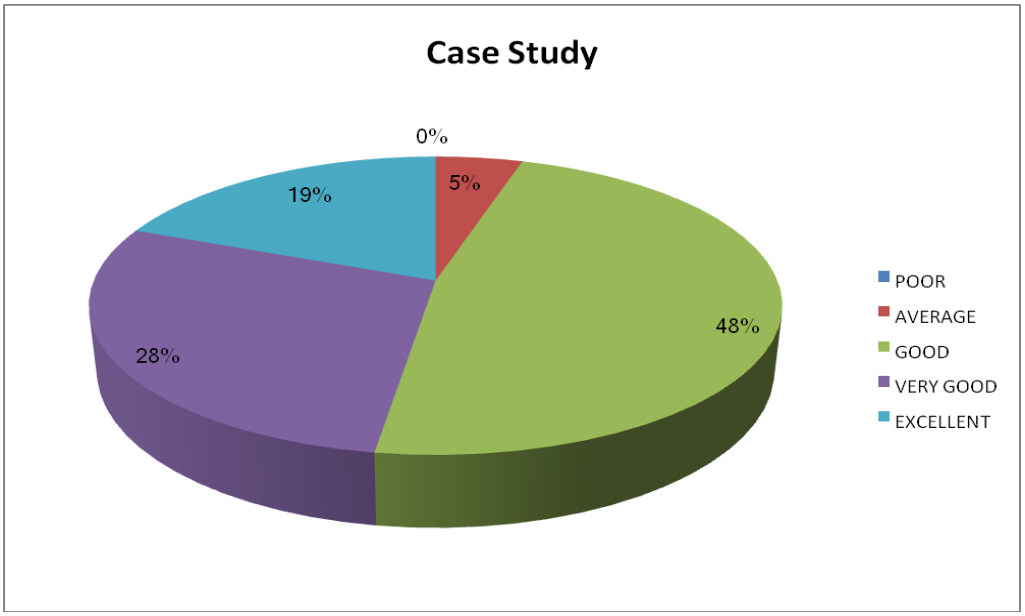






3. How effective were the methods applied in training programme?

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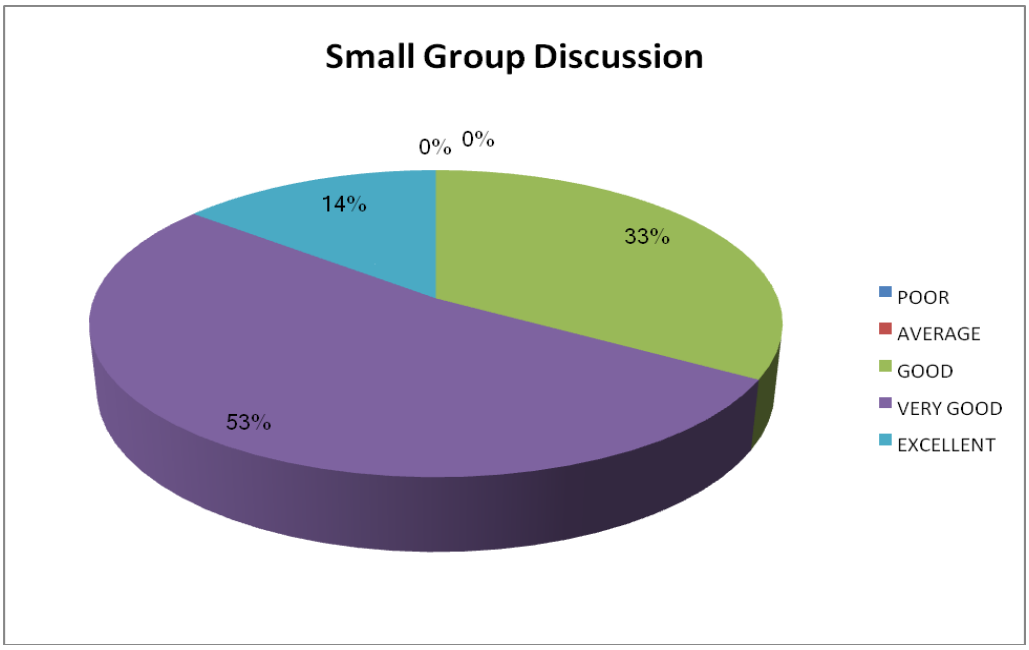
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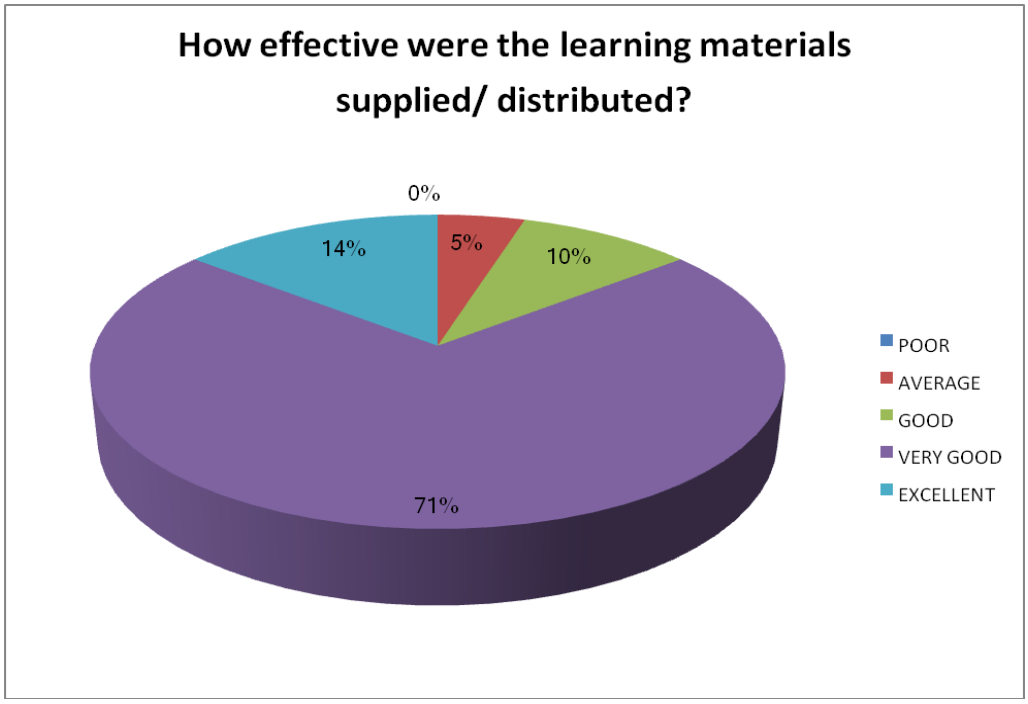
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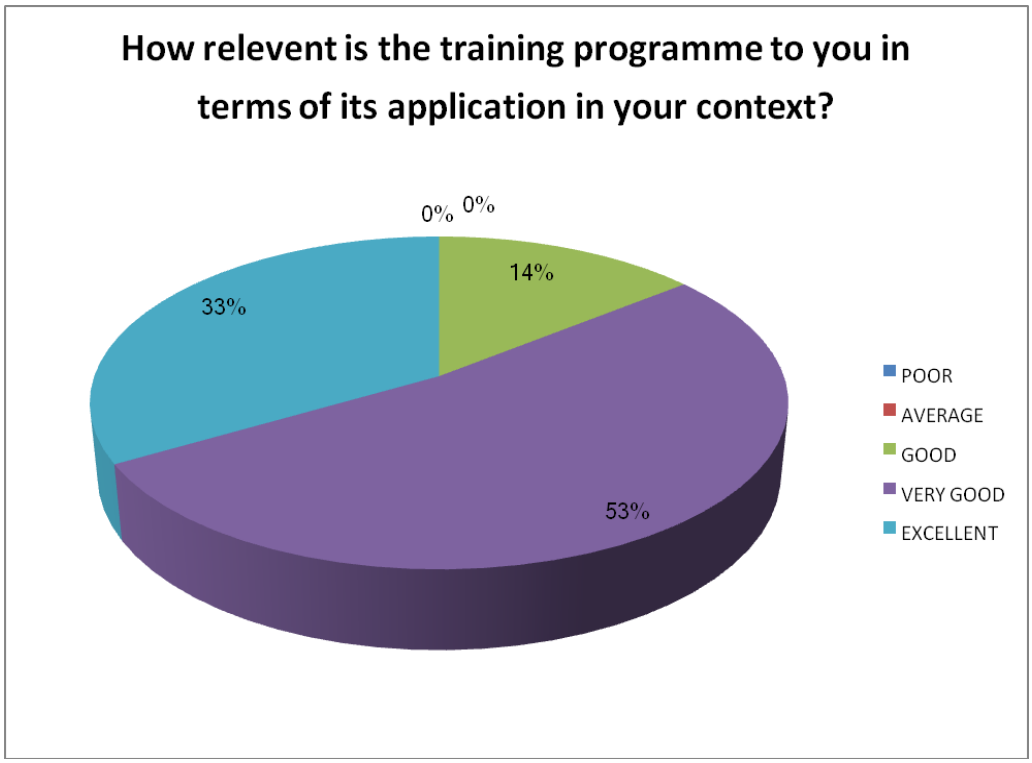
How relevent is the training programme to you in terms of its application in your context?
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Agenda for ***City Level Capacity Building Workshop on Rajiv Awas Yojana (RAY) for members of Urban Local Bodies in Namchi and Jorethang***

Venue: Namchi Municipal Council Office, South Sikkim

Timing	Event
11.00 AM – 11.10 AM	Welcoming of the Hon'ble MLA and Councillors from Namchi & Jorethang through Khada Ceremony
11.10 AM – 11.20 AM	Welcome Address & Introduction on RAY by Shri Raj Narayan Pradhan, Nodal Officer, State Level Nodal Agency for RAY
11.20 AM – 11.30 AM	Introduction of the SLTC & CLTC members
11.30 AM – 11.50 AM	Presentation on RAY by City Level Technical Cell
11.50 AM – 12.10 PM	Presentation on "Preparatory Activities for RAY in Namchi & Jorethang" by State Level Technical Cell
12.10 PM – 12.40 PM	Presentation on "Less is More" by Social Development Expert, SLTC
12.40 PM – 01.00 PM	Interactive Session with RAY-Sikkim Website on Background to be presided over by Shri L.B. Chettri, Special Secretary, UD&HD
01.00 PM – 01.10 PM	Address by Shri P. D. Agarwal, President, Jorethang Nagar Panchayat
01.10 PM – 01.20 PM	Address by Shri Buddha Tamang, Chairman, Namchi Municipal Council
01.20 PM – 01.30 PM	Address by Shri Binod Rai, Hon'ble MLA of Namchi-Singithang
01.30 PM – 01.40 PM	Address by Shri Madan Cintury, Hon'ble MLA, Saalghari-Zoom
01.40 PM – 01.50 PM	Vote of Thanks by Shri Dinker Gurung, Dy. Nodal Officer, State Level Nodal Agency for RAY
Working Lunch	

City Level Capacity building Workshop on Rajiv Awas Yojana (RAY) for members of Urban Local Bodies in Namchi and Jorethang

Venue: Namchi Municipal Council
Date: 30th July, 2013

Sl. No.	Name	Designation & Organization	Contact no.	Signature
1.	Sonam Peden Bhutia	Executive Councillor	9641841441	
2.	Gita Chettri	councillor	9832499805	Calcutta
3.	Ratna Maya Rai	Councillor		
4.	L.B. Chhetri	Special Secretary UD & HD		
5.	Binod Rai	Councillor Purano Namchi ward NO 7 of NMC	9647892268	
6.	P.D. Agarwal.	President Jorethang Nagar Panchayat	9735007000	P.D Agarwal
7.	Madan Cenleng	MLA jorethang	9434098009	
8.	Binod Rai	MLA, Namchi	9474767767	
9.	Buddha Bhanu Tamang	Chairman, NMC	9002090048	
10.	N.H. Ansari	Vice Chairman NMC	9434127351	
11.	Tarkeshwar Prasad	councillor Namchi municipal council	97330-15256	(T. Prasad)
12.	K.S. Bhutia.	M.E.O. NMC	9002019160	
13.	D.P. Gurung	S E (UD & HD) Jth	9932001121	
14.	Raj N. Pradhan	Nodal Officer (RAY)	97330-63820	
15.	Bhanu Kala Gurung	Councillor (J NP)	9775965821	
16.	Pema Tamang	Councillor (JNP)	9733225009	
17.	Ganesh Adhikari	Councillor (JNP)	9735086355	

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22.	KAMAL SHARMA	J.E(S), UD&HD	9775832314	[signature]
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25.	Pema Ongdup Bhutia		9635415992	[signature]
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27.	Nim Sangay Sherpa		9775939160	[signature]
28.	SONAMANI SINGH K.	State Project Coordinator SLTC- Gangtok	8348477829	[signature]
29.	Jeewan Tamang	Asstt. Director UD&HD Gangtok	9434448194	[signature]
30.	Tathabrata Bhattacharya	Plng. Expert, CLTC, Namchi & Jorethang	9609024539	[signature]
31.	Mahendra Pd. Luitel	GIS-Specialist-Rangpo Singtam	9609854162	[signature]
32.	NIRPAD	CLTC - JORETHANG		[signature]
33.	Sonam W. Lepcha	CLTC- Jorethang. MIS	9733251959	[signature]
34.	Pranaya Raj Nepal.	CLTC - Jorthang PE.	9647730148	[signature]
35.	PUSHPANJALI PRADHAN	SLTC - Gangtok	8670936607	[signature]
36.	Roshnila Gurung	CLTC - Namchi-Jrt	9775431700	[signature]
37.	Sunaina Chauhan	SLTC- Gangtok	9933564609	[signature]

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38.	Ganesh Chettri	Training/Capacity Building Coordinator	7797888932	
39.	PUNYABIL YONZON	SLTC	9647470950	
40.	VIDYA SHARMA	CLTC	9434257847	
41.	Sulochana Dahal	CLTC	9732985655	
42.	Delli Ram Chettri	SLTC	7872885648	
43.	Rohit Lhuss	Driver	9647745524	
44.	Bishal Gazmer		8820837950	
45.	Purna Prasad Pradhan	Farmer		
46.	Ratan Dhamala	~~Historian~~ Farmer	9563213844	
47.	Nawin Rai	TP - VDC HD NAMCHI	9733415432	
48.	SOURAV GUPTA	MIS Specialist SLTC, Gangtok	9230082201	
49.	Sabina Sharma	GIS Specialist CLTC Namchi - Jorethang	9832315962	
50.	Karma Sonam Bhutia	CLTC - Rangpo - Singtam	8016990084	
51.				
52.				
53.				
54.				

Press Release in Local Daily of RAY workshop for Jorethang Nagar Panchayat & Namchi Municipal Council in Namchi:

Capacity building workshop on RAY conducted

SE Report

GANGTOK, July 31: The technical cell of Urban Development & Housing department conducted a capacity building workshop on Rajiv Awas Yojana (RAY) for members of Namchi Municipal Council (NMC) and Jorethang Nagar Panchayat (JNP) on July 30 at NMC auditorium.

The workshop was attended by Namchi-Singhithang MLA Binod Rai and Saalghari-Zoom MLA Madan Cintury.

The specialists from Technical Cell gave presentations on RAY and the preparatory activities necessary for the cities to implement the scheme. These presentations helped the participants to understand the vision and mission of Rajiv Awas Yojana. After the presentations, an interactive session was conducted to further help the participants understand the fundamentals of the scheme and also to clarify their doubts.

Saalghari-Zoom MLA highlighted the importance of awareness camps for the slum dwellers and ensured the participation of the Nagar Panchayat in fulfilling the core objectives of RAY.

MLA Binod Rai assured full support from his and the concerned departments side for the successful implementation of the project.

The event was planned as an initial sensitization programme for the urban local bodies.

The participants of the workshop included councilors and officials of the JNP and NMC along with representatives from UD&HD.

HIMALAYAN MIRROR GANGTOK THURSDA

Workshop on RAY at Namchi

Gangtok, July 31: A city level capacity building workshop on Rajiv Awas Yojana (RAY) for members of Namchi Municipal Council and Jorethang Nagar Panchayat was conducted on July 30 by the RAY Technical Cell, Urban development and Housing Department at Namchi Municipal Council auditorium. The workshop was attended by the MLA Binod Rai of Namchi–Singhithang and Madan Cintury.

The event was planned as an initial sensitization program for the urban local bodies. The participants of the workshop included Councillors and officials of the Jorethang Nagar Panchayat and Namchi Municipial Council along with representatives from Urban Development & Housing Department.

An interactive session was conducted to help the participants and understand the nitty-gritty of the scheme and also to clarify their doubts. Deputy Nodal Officer (RAY) Dinker Gurung, clarified every doubts raised in the interactive session.

Speaking during the occasion Binod Rai, MLA, Namchi- Singhithang, assured that he and the various departments involved would give full support for the successful implementation of the project. Madan Cintury, MLA, Saalghari-Zoom, highlighted the importance of awareness camps for the slum dwellers and ensured the participation of the Nagar Panchayat in fulfilling the core objectives of RAY.

राजीव आवास योजनामाथि क्षमता विकास कार्यशाला

गान्तोक, ३१ जुलाईः नाम्ची नगर परिषद् अनि जोरथाङ नगर पञ्चायतका सदस्यहरूका लागि राजीव आवास योजना (रे). माथि शहरस्तरीय क्षमता विकास कार्यशाला आयोजना गरियो। यस कार्यशालाको आयोजना शहरी विकास एवं आवास विभागको रे तकनिकी कोष्ठद्वारा नाम्ची नगर परिषद्को प्रेक्षागृहमा भएको थियो। यस कार्यशालामा नाम्ची सिङ्गीथाङका विधायक विनोद राई, सालघारी जूम समष्टिका विधायक मदन सिञ्जुरी विशेष रूपले उपस्थित थिए। यो कार्यशाला शहरी निकायलाई प्रारम्भिक स्वविवेकीकरण गरिने योजनाका साथ आयोजना गरिएको हो। यस कार्यशालामा प्रतिभागी हुनेहरूमा पार्षद् अनि जोरथाङ नगरपञ्चायत र नाम्ची नगर परिषद्का अधिकारीहरू अनि शहरी विकास अनि आवास विभागका अधिकारीहरू थिए। रेका मोडल अफिसर राजनारायण प्रधानले स्वागत सम्बोधन राखेपछि प्रशिक्षण समन्वयक निर्पद गुरुङद्वारा रे तथा यसको तकनिकी विशेषतामाथि प्रस्तुतिकरण दिए। यस प्रस्तुतिकरणले प्रतिभागीहरूलाई राजीव आवास योजनाको लक्ष्य र यसको दुरदर्शिताबारे जानकारी प्राप्त हुनेछ। प्रस्तुतिकरण पछि तकनिकी सत्र पनि सम्पन्न भयो जसमा उप नोडल अफिसर डिन्कर गुरुङले प्रतिभागीहरूमा उब्जिएको आशंकालाई स्पष्ट रूपमा अवगत गराए। यस अवसरमा जोरथाङ नगरपञ्चायतका अध्यक्ष पीडी अग्रवाल अनि नाम्ची नगर परिषद्का अध्यक्ष बुद्ध तामाङले यस प्रकारको कार्यक्रममा सबै सदस्यहरूको उपस्थितिप्रति सन्तोष व्यक्त गरे। यसैगरी क्षेत्र विधायक विनोद राई अनि मदन सिञ्जुरीले यस कार्यक्रमले विभागका विभिन्न योजनाहरूलाई सफलतापूर्वक कार्यान्वयनगर्नमा सहयोग पुऱ्याउने बताउदै सबै प्रतिभागी सदस्यहरूले रे सम्बन्धमा जानकार हुन अति आवश्यक रहेको जानकारी गराए।

ANNEXURE-III

CITY LEVEL STAKEHOLDER CONSULTATION ON DRAFT SFCPoA FOR JORETHANG AND NAMCHI


RAYCELL UD&HD


RAJIV AWAS YOJANA
Stakeholder's workshop on Slum-Free City Plan of Action (SFCPoA)
for Namchi-Jorethang under Rajiv Awas Yojana (RAY)
Date: 22nd November 2014
Venue : Auditorium, Namchi Municipal Council


Jorethang under Rajiv Awas Yojana (RAY)
Date: 22nd November 2014
Auditorium, Namchi Municipal Council


Municipal Council

Stakeholder's consultation on Slum Free City Plan of Action for Namchi- Jorethang under Rajiv Awas Yojana:

REGISTRATION

Si. No	Name	Organisation & Designation	Contact no/ email	Signature
1.	Naina Singh Rai	J.S (UD&HD	9434203890	[signature]
2	Bhagat Mukhia	SI (UD&HD)	9733318340	[signature]
3	Jiwan prasad Subba	H.A. Jorethang Nagar panchayat	9593284427	[signature]
4	[illegible]	[illegible]	9647850009 ~~4568~~	[signature]
5	Fanda Chetty	Tingeer Busty	7584045820	[signature]
6	Navin Pradhan	Jorethang UD/HD/D/man	9775962350	[signature]
7	Pirthi Prashad Rana	Tingir	9593985841	[signature]
8	Sanjay Thapa	Gangyap	8348563378	[signature]
9	फूल माया राई	~~TINGIR~~ TINZIR	7679350338	[signature]
10	Chandra Bdr Pradhan	Jorethang	9593285868	[signature]
11	Yogen Tamang.	Jorethang W.NO 4.	9609862557	[signature]
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RAY CELL, URBAN DEVELOPMENT & HOUSING DEPARTMENT, GoS

Stakeholder's consultation on Slum Free City Plan of Action for Namchi- Jorethang under Rajiv Awas Yojana:

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14	Priyanka Gurung	Ghurpisey	9593084846	
15	Sangita Bararaya	Ghurpisey	9609894272	
16	P. D. Agarwal	Jorethang Nagar Panchayat, President	9735007000	
17	Babita Chettri	TINZIR NAMCHI	9002055167	बबिता छेत्री
18	Naveen Rai	UDLHD/JCTP	9933443442	
19	Obed Rai	UDLHD/ATP(W)	9933443442	
20	Chetnaya Chettri	Tinzeer Beauty	7584045820	
21	Uttam Gurung	Jorethang	9609242218	
22	Dilip Kr Chettri	Gairy Gaon Jorethang	9933724486	
23	Amrit Tamang	Jamthi	9800554475	
24	[illegible] Tamang	Jorethang	7593587813	

Stakeholder's consultation on Slum Free City Plan of Action for Namchi- Jorethang under Rajiv Awas Yojana:

REGISTRATION

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26	Prem Hang Subba	Jrt.	9734959659	[signature]
27	Deepa Sherpa	Namchi	9832971862	[signature]
28	Deepa Bhutia	"	9832488154	[signature]
29	D. B. Tamang	Jorethang Devi mandir	9593382825	D. B. Tamang
30	Krishna Bdr. Chettri	-do-	9593382825	–
31	sabita minj	Lower Ghurpisey	9735993357	sabita minj
32	Sagar Lohar	Jrt	9593138477	[signature]
33	Prakash Tamang	Jorethang	9735054920	[signature]
34	ISMail Subba	Jorthang	8001864256	[signature]
35	B. C. Rai	SDM/Namchi	94341-74592	[signature]
36	Baidya Nath Sah	Market Kostma	9641610320	[signature]

Stakeholder's consultation on Slum Free City Plan of Action for Namchi- Jorethang under Rajiv Awas Yojana:

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38	Sarala Rai	Tingzir		
39	Kumari Chettri	Dambudara		
40	Dambar Kr Chettri	Dambu dara	9547276300	
41	Manbahadur	upper Linzee	97	
42	BISHNU Pd Chhetri	Tingzi		
43	Maya Baidya	MTC Namchi	9641523778	Maya
44	Manju Roy	-do-	9749392429	
45	MACA	-do-	-	
46	MANI KR. CHETTRI	DAMBU DARA	—	
47	TWINKAL RAI	JORETHANG	9775445419	
48.	Om prakash Rai	Namchi	7797088875	

Stakeholder's consultation on Slum Free City Plan of Action for Namchi- Jorethang under Rajiv Awas Yojana:

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49 ~~37~~	PRAKASH MANDAL	MT. CARMAL (NAMCHI)	9641397534	—
50 ~~38~~	LEELAWATI SUBBA	NAMCHI	—	—
51 ~~34~~	PEMBA BHUTIA	NAMCHI BUHTIA BUSTY	—	
52 ~~40~~	N. B. CHETTRI	NAMCHI	—	—
53 ~~41~~	MOHAN SUBBA	JORETHANG	8509006765	
54	Purna Kumari Chetri	Tinzed	9002108022	
55	CHANUKHY CHETTRI	DAMBU DARA	9593264185	
56	Hemant Ghimiray	Jorethang.	7029262707	
57	Smita Pradhan	Jorethang	8116305370	
58	Subash Pradhan	"	9647887582	
59	ROMA SUBBA	-do-	9734943057	
60	Kala Basnett	Dambudara	8101179953	

Stakeholder's consultation on Slum Free City Plan of Action for Namchi- Jorethang under Rajiv Awas Yojana:

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74 ~~38~~	D.B Chettri	Namchi		
75 ~~39~~	Rajendra Thapa	NMC	9832376252	
76 ~~40~~	KANTI BEGUM	NAMCHI	9002837434	—
77 ~~41~~	MEGINA SUBBA	TINZIR	—	—
78	DIL MAYA PRADHAN	-do-	—	—
79	GANGA RAI	-do-	—	—
80	RAM RAJ RAM	DAMBU DARA	9932464318	Sanjay Ram
90.	DINKER GORUNG	Jr. chief. T.P. VD&HD.	9937032718	
91	Namo Dixit	Senior Correspondent Sikkim Express Namchi	9434184097	Namo
92		DAMBU DARA	—	
93	PABITRA CHETTRI	-do-	—	पवित्र

Stakeholder's consultation on Slum Free City Plan of Action for Namchi- Jorethang under Rajiv Awas Yojana:

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62 38	Sibbahadur Chettri	Jorethang	9593275662	
63 39	Dilip Tamang	Jorethang	97331-07765	[signature]
64 40	Sharmilla Dorjee	Jorethang	-	[signature]
65 41	Bishnu Kr. Rai	E&P deptt	9635288810	[signature]
66 42	Shakeel Ansari	Jorethang.	8443991474	[signature]
67 43	Muslim Committee Jorethang	Md. Alamgir	943744 88337	[signature]
68 44	Dr [illegible]	DH Namchi DMS	9434117251	[signature]
69 45	R. PRADHAN	Energy & Power D.E.	89675-15055	[signature]
70	Prem Gupta.	Namchi	767967 6189	[signature]
71	Birkha Bdr Pradh.	Namchi	9749948881	[signature]
72	[illegible]		959358978l 81	[signature]

RAY CELL, URBAN DEVELOPMENT & HOUSING DEPARTMENT, GoS

Urban local bodies, stakeholders discuss slum-free town action plan

Action plan for five identified towns completed

KUNAL RAI

GANGTOK, November 21: Urban Development and Housing department, a nodal agency for Rajiv Awas Yojana (RAY) organized a stakeholders consultation programme on preparation of 'Slum Free City of Action Plan' for Rangpo and Singtam today.

The programme at Singtam Nagar panchayat auditorium was graced by Gangtok Municipal Corporation commissioner C.P. Dhakal as chief guest along with the presence of elected representatives of Rangpo and Singtam Nagar panchayats, officials from departments like Urban Development, Fire and Health and stakeholders of the identified slums.

At the outset, chief town planner cum RAY deputy nodal officer Dinker Gurung informed that five towns of Sikkim have been identified under RAY. Preparations of the action plan of the entire identified towns have been completed and plan for Gangtok has already been accepted by the Ministry of Housing and Urban Poverty Alleviation, added Gurung.

Officials and stakeholders during the meeting at Singtam on Nov 21. SE Pic

Other identified towns are Namchi, Jorethang, Rangpo and Singtam.

The action plan under RAY is a perspective plan with a time period of 15-20 years and designed essentially to make a city slum free, said the officer, adding "it has two pronged strategy of 'curative and preventive.

The action plan presents a road map for addressing the present slums through redevelopment or up-gradation with an idea of bringing the slums at par with the formal set up of the city and to prevent spreading of new slums in the future, it was informed.

Today's consultation programme, it was informed was a primary meet with the urban local bodies and slum stakeholders. The second round of consultation would be held with the officials of the department after which the plan of action would be send to the State level Sanctioning and Monitoring Committee for approval.

Once the plan of action is approved by the State, same would be sent to the Central government for necessary sanction. Likewise, the detailed project report for any development in the slums would be based on the Plan of Action prepared, added Gurung.

It was further informed that out of total 58 slums in Gangtok, 46 are non-notified while 12 are notified.

Singtam has total of 10 slums out of which five are said to be notified and five non-notified. The slum has 3,875 population with a slum household totaling to 752.

In case of Rangpo, there are 19 slums with five notified and 14 non-notified. The population residing in this slum tolls to 5,138 with a slum household of 1,224.

The GMC commissioner said RAY aims at uplifting the standard of living of the people in the slums along with basic facilities like quality drinking water, electricity and proper sanitation. "The scheme is very good and the same must be initiated in a proper manner in Sikkim," said Dhakal, stressing on collective responsibility especially in keeping the environment healthy and hygienic. He also called upon all to dump their garbage responsibly.

Stakeholders' consultation on slum-free Namchi, Jorethang

NAMO DIXIT

NAMCHI, November 22: A day long stakeholders' workshop on SFCPoA (Slum Free City Plan of Action) for Namchi-Jorethang under Rajiv Awas Yojana was organized by Urban Development department today at the auditorium of Namchi Municipal Council.

At the onset, the background and importance of SFCPoA were highlighted. It was informed that Rajiv Awas Yojana (RAY) scheme was launched in June 2011 by the Union Ministry of Housing & Urban Poverty Alleviation with a vision of making India a slum-free country.

In Sikkim, under the aegis of State nodal agency Urban Development department, the scheme is being implemented in Gangtok, Rangpo, Singtam, Namchi and Jorethang.

One State-level technical cell and two city-level technical cells have been formed to assist the department and respective urban local bodies in implementing the scheme.

SFCPoA is a perspective plan with a time period of 15-20 years and designed basically to make the city free from slum areas .Broadly, the SFCPoA has a two-pronged strategy of 'curative and preventive'. It presents a road map for addressing the present slums through redevelopment or up-gradation, thus bringing them into par with the formal set-up of the city and also prevents new slums from coming up in the future.

The SFCPoA for Rangpo-Singtam and Namchi-Jorethang have been prepared by a consultancy group from Kolkata appointed by the Urban Development department in consultation with the respective Urban Local Bodies (ULBs).

The fact sheet for SFCPoA for Namchi and Jorethang was presented in detail during the stakeholder's consultation programme in Namchi today.

During the programme investment details, sharing pattern, sharing cost for the curative and preventive strategy, investment required, phasing and similar topics were highlighted.

The programme also included an open consultation where the participants placed their queries which were answered by the officials present.

The chief guest, PHE advisor Binod Rai said that a similar meeting was conducted with the concerned ward councilors and ward panchayats and so accordingly the presentation was made today.

The presentation showed that the areas are covered properly.

Rai further said some beneficiaries are hesitant to contribute from their side as needed in the scheme. The beneficiaries should be ready to contribute from their side as the government has provided necessary help to make their area slum-free, he said. He mentioned that the survey conducted in this connection will be of great help for other departments as well.

The daylong programme also highlighted on the tenable, semi-tenable and untenable areas of slum areas, along with population density, literacy rate, accessibility, water supply and other factors like income and expense of the slum population and their profession.

The identified slum areas of Namchi and Jorethang were also discussed.

It was also informed by the officials during the programme that 15 houses are needed to be identified as a slum area in the country but for North East States including Sikkim only 10 houses are needed to be identified as slum area.

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