



**GOVERNMENT OF SIKKIM
URBAN DEVELOPMENT & HOUSING DEPARTMENT
GANGTOK.**

CERTIFICATE of APPROVAL from SLSMC

This is to certify that the document “*Slum Free City Plan of Action for Gangtok*” is herewith submitted to Ministry of Housing & Urban Poverty Alleviation, Government of India for sanction with approval of the State Level Sanctioning & Monitoring Committee (SLSMC) for the implementation of RAY in the state of Sikkim. The signatures of the SLSMC members are given below:

S. No.	SLSMC Member	Designation	Signatures
1.	Hon’ble Chief Minister, Govt. of Sikkim	Chairman	
2.	Hon’ble Minister, UD&HD, Govt. of Sikkim	Vice-Chairman	
3.	Hon’ble Mayor, Gangtok Municipal Corporation	Member	
4.	Concerned MPs/MLA, Govt. of Sikkim	Member	
5.	Secretary - Finance, Revenue & Expdt. Dept., Govt. of Sikkim	Member	
6.	Secretary - Land Revenue & Disaster Managment Dept., Govt. of Sikkim	Member	
7.	Secretary, WS&PHE Dept., Govt. of Sikkim	Member	
8.	Secretary, Forest & Environment Dept., Govt. of Sikkim	Member	
9.	Secretary, Law, Govt. of Sikkim	Member	
10.	Representative from Civil Society	Member	
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12.	Secretary, UD&HD, Govt. of Sikkim	Member Secretary	

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Executive Summary

The most apparent impact of imbalanced management of urban growth is reflected in the problems arising from the inadequate infrastructure, housing stock and the ones to suffer and live in deplorable conditions are the marginalized group. So taking into consideration such exclusionary outcomes, the scheme of Rajiv Awas Yojana was launched in June 2011 by the Ministry of Housing and Urban Poverty Alleviation, Govt. of India with a vision of procuring a 'Slum Free India' and to create conditions of inclusiveness and equity.

In the pilot phase of the scheme implementation, Gangtok was also identified among RAY Pilot cities in the country. Sikkim being in a hilly region and the city of Gangtok having 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, Gangtok Municipal Corporation (GMC) and State-level RAY Technical Cell have taken adequate care in taking up the scheme so as to remain in the ambit of the RAY Guidelines and also fulfil the localized and specific demands of the city. Notably, the whole of Sikkim including Gangtok 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 city. 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, and data

ratification, beneficiary listing, community mobilisation workshops, frequent deliberations among stakeholders, viz., Beneficiaries, MoHUPA, SLNA, GMC, State level technical cell, Lead NGO and other concerned departments.

The SFCPoA document is divided into 9 chapters.

The **first chapter** "*Background and Approach to SFCPoA*" sets the tone for the whole document and highlights the vision and principles of RAY. The highlights of the planning approach as prescribed for SFCPoA under RAY are also discussed in this chapter. The methodology for preparation of SFCPoA with its two major parts of Curative Strategy and Preventive Strategy is also highlighted. Then, 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 are outlined in this chapter.

The **second chapter** "*Introduction - City Profile of Gangtok*" gives the physical characteristics of Gangtok, social & demographic profile of the state with focus on urban areas, economic profile, housing profile, spatial growth of gangtok, and the existing physical infrastructure scenario in the city. With a population of 100286, Gangtok is the most populous urban area in the state. Currently, there are 15 wards in the city of Gangtok. Highest population is recorded in Syari-Tathangchen ward (11,028) followed by Burtuk (9957). The average density for the city of Gangtok is 52 persons / ha but it shows wide variation ranging from 330 pph in Lower M.G. Marg to 19 pph in Lower Sichey. The wards that show maximum density are M.G. Marg., Deorali, Arithang and Diesel Power House area of Gangtok. The city has a total of 58 slums (12 notified and 46 non-notified) and the total slum population is 23580. The chapter concludes with "Review of Existing Policies, Programmes & Projects related to Slum Improvement & Housing" and "Review of Existing Institutional Set up for Slum Improvement Programmes and Projects".

The **third chapter** “*Assessment of present status of slums*” broadly comprises municipal information base for slums, updated list of slums, slum assessment, and tenability analysis of slums and prioritization of slums.

The slum assessment includes locational analysis of slums; slum profile – notification status & area status; variation in slums size by number of households, areas and densities; ownership status of slums areas; economic profile of slum dwellers; assessment of housing conditions in slums; tenure status of slum houses; and assessment of housing amenities. Tenability analysis of slums in the city has been done based on vulnerability and land use. Based on vulnerability, five slums fall in the category of medium high hazards, one slum in medium low hazards and the remaining on medium hazards. Six slums, namely, Beside Bhanugram, Bakthang-I, Dichiling Pocket, Gobareygaon, Katoos Dara and Bakthang-II have been identified as untenable.

The prioritization of slums has been done using a 3x3x3 vulnerability matrix. Based on the analysis, there are 28 slums in priority I, 11 slums in priority II and 20 slums in priority III.

The **fourth chapter** “*Formulation of Development Options*” presents the development options of the prioritized slums in 3 phases. There are 17 slums in the first phase, 27 slums in the second phase and 14 slums in the third phase.

The **fifth chapter** “*Preventive Strategy: 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 Gangtok, 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.

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The **sixth chapter** “*Formulation of Future Supply Options and Policy Reforms*” 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 Gangtok are also highlighted in this chapter. 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.

The **seventh chapter** “*Investment Requirements and Financing Plan*” provides the estimations for investment requirements for the period of implementation of SFCPoA. This chapter also gives the phasing of interventions and the timelines for the SFCPoA. Gangtok can be made slum free in 15 years’ time. This is because majority of settlements have families who own the land/ house in which they live. In a smaller number of settlements, the city will need to initiate the process of property title regularization or plan for relocation. While these activities can happen in parallel, these will take time and hence shall be spread over the latter part of the development plan. The final phase of the slum development plan shall cover slums where trunk infrastructure has not been extended or where there may be technical issues in making the connection.

Phase 1	Phase 2	Phase 3
Years 1-6	Years 5-10	Years 9-15

The **eighth chapter** "*Formulation of a credit plan*" 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).

The **ninth chapter** "*Institutional arrangements for implementation of development options*" discusses the indicative implementation modes, strategy for implementation, participatory planning for slum development, and role & responsibilities of institutions. This chapter gives the conclusion along with recommendations for the SFCPoA. The recommendations are:

It is recommended that a new Planning or Development Authority under the control of UD & H Deptt., may be formed as an Autonomous Body with necessary powers to assist the State Govt. in development of the Greater Gangtok Area. UD & H Deptt., 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 Gangtok Municipal Corporation.

State Urban Development Agency (SUDA) to be properly structured for taking up the responsibility of Slum Improvement & Relocation works in Gangtok 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.

According to the bureau of Indian standards, the town falls under Seismic Zone-IV (on a scale of II to V, in order of increasing seismic activity), near the convergent boundary of the Indian and the Eurasian tectonic plates and is subject to frequent earthquakes. The lower Himalayas in general are composed of labile rock formations and therefore prone to landslides even in dry season. These landslides can result in the capital city of Gangtok being cut off from other parts of Sikkim and the mainland India. It is suggested that a regional study be done at macro level with Central Water Commission and other appropriate organizations for assessing the Regional Vulnerability and understand the extent of carrying capacity of city of Gangtok.

Abbreviations & Acronyms

APL	Above poverty line
AusAID	Australian Agency for International Development
BPL	Below Poverty Line
BSUP	Basic services to urban Poor
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
CURE	Centre for Urban and Regional Excellence
CWD	Community waste Depot
DA	Development Authority
DEM	Digital Elevation Model
DGPS	Differential Global Positioning System
DHC	District Health Committee
DMP	Disaster Management Plan
DPH	Diesel Power House
DPR	Detailed Project Report
EC	Environmental Clearance
EIA	Environment Impact Assessment
EWS	Economic weaker section
FGD	Focus Group Discussion
GCP	Ground Control Point
GIS	Geographical Information System
GMC	Gangtok Municipal Corporation

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GOI	Government of India
GPS	Global Positioning System
GRES	General Reserve Engineer Force
HH	House Hold
HoH	Head of Household
HUDCO	Housing and Urban Development Corporation
ICDS	Integrated Child Development Services
IMD	Indian Metrological Department
ISHUP	Interest Subsidy Scheme for Housing the Urban Poor
ISRO	Indian Space Research Organization
JMC	Joint Monitoring Committee
JNNURM	Jawaharlal Nehru National Urban Renewal mission
LIC	Life Insurance Corporation of India
MBC	Most Backward Class
MIS	Management Information system
MoHUPA	Ministry of Housing and Urban Poverty Alleviation
NBO	National Building Organization
NGO	Non- Govt. Organization
NHCs	Neighborhood Committees
NIC	National Informatics Centre
NRSC	National Remote Sensing Centre
O&M	Operation and Maintenance
OBC	Other Backward Class
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

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SJSRY	Swarna Jayanti Sahari Rojgar Yojana
SoI	Survey of India
ST	Schedule Tribe
SUDA	State Urban Development Authority
SWM	Solid Waste Management
ToR	Term of Reference
TSS	Total Station Survey
UD&HD	Urban Development and Housing Department
ULB	Urban Local Body

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Chapter I: BACKGROUND AND APPROACH TO SFCPoA

1.1 Background

There is a growing recognition of the pivotal role the cities play in the development process of a region as well as the nation. Cities, today, are recognized as 'engines' or 'drivers' of growth. Empirical studies indicate that urbanisation has a positive association with long-term economic growth. It is generally observed that nations with higher levels of urbanization have higher levels of per capita income. In other words, urbanization is just not inevitable but also desirable. Undoubtedly, the urban systems have exhibited themselves as engines of growth of national and sub-national economies. The urban centres at large present a significant dynamism in their growth patterns and have acted as centres of employment and activity concentration, education and training, cultural promotion and cosmopolitan convergence.

However, it has also been observed that unplanned and unregulated urbanization poses serious challenges to the overall development process. The challenges that emerge are that of distortions in the ecological footprints of cities, land use conflict in the urban fringe areas, stress on the limited infrastructure, inequality in access to opportunities and inadequate urban governance. Ignoring or neglecting these issues invariably results in a situation that is best described as 'urban chaos' or 'urbanisation without development'. The situation that holds true for most of the Indian cities is best described in the following words.

"While the urban settlements have been able to pull substantial cheap workforce from the rural areas, their ability to extend the required essential services including shelter, has not been successful to the required extent. This has resulted in a dichotomy exhibiting peaks of prosperity and affluence as well as depths of misery, centres of prosperity as well as slums of despair. However, the persistence and continuance of

this trend may threaten, in the long run, very basic survival of the economy" (*The State of the Indian Cities, HSMI, 2001*).

Therefore, addressing the challenges of proliferating slums is the need of the hour to make our cities efficient, inclusive, equitable and sustainable. The latest census i.e. 2011 pegs the urban population of India as on 31st March 2011 at 377.1 million out of the total Indian population of 1210.2 million. This makes the urban share of the population to be 31.16% in 2011, compared to 28% in 2001. The urban population growth rate for the period 2001-11 has been 31.8% which is marginally high compared to the urban growth rate of 31.5% in the preceding decade of 1999-2001 but substantially high compared to the overall population growth rate of 17.6% in 2001-2011. The most impressive fact about the urbanization trend in India is that for the first time the absolute increase of population is higher in urban areas (91.0 million) than in rural areas (90.4 million). Total number of towns in India in 2011 is 7935 of which 4041 are statutory towns and 3894 are census towns. In 2011, for the first time, Slum Census was conducted for all Statutory Towns (4,041). Out of the total towns 2,543 Towns i.e. 63% reported the presence of slums. Total number of slum households reported is 137.49 lakh HHs that makes 17.4% of the total urban households to be slum households. While slums remain a matter of huge concern to the decision makers and policy planners, the silver lining in the slum scenario in India as evident from the NSSO estimates that facilities in terms of roads, sewerage, sanitation and health have improved in about 80-90% of the slums. This can definitely be attributed to the persistent efforts of the Central Government as well as State Government in implementing various schemes that targeted improvement of basic services, infrastructure, housing health and poverty issues in slums. The most notable slum improvement programmes in recent times include:

- Environmental Improvement of Urban Slums (EIUS)

- Urban Basic Services for the Poor (UBSP)
- VAMBAY
- JnNURM

1.2 Rajiv Awas Yojana (RAY): Highlights

Considering the huge challenge and the crucial need to tackle the issue of slums to make our cities sustainable as well as efficient, Government of India announced the Rajiv Awas Yojana (RAY) in August 2009 that has the ambitious and bold objective of a Slum Free India. What makes RAY unique is that for the first time in the history of slum improvement initiatives by Government of India, the programme stresses on 'whole city' and 'whole slum' approach and categorically emphasizes that both notified and non-notified slums need to be addressed.

The overarching objective of RAY is to enable the poor urban families to realize their dream of owning a house with proper land title and access to basic amenities.

The guiding principles for RAY are;

- **Inclusion** - indicated through the planning process that stresses the community participation and stakeholder consultation.
- **No eviction and minimal relocation** -indicated through the suggested development options that promotes in-situ development. It suggests relocation only in case of 'untenable' slums (derived after due consideration to various parameters) to an alternative site, finalized in consultation with the concerned urban communities and, to the extent possible within the same ward or zone to minimize adverse effects on livelihoods and other important indicators of quality of life like access to health and educational facilities and community support.
- **Preventive Strategy** – is a mandatory component of Slum Free City Plan of Action (SFCPoA), which is expected to ensure adequate supply

of land and housing to the EWS and LIG households to prevent genesis of slums. Preventive strategy is an integral aspect of SFCPoA since it ensures that the milestones achieved through curative strategy of in-situ development and or relocation of slums are not eroded by creation of more slums.

The highlights of the planning approach as prescribed for SFCPoA under RAY are as followed:

- Bringing all existing slums, notified or non-notified within the formal system and enabling them to avail of the same level of basic amenities as the rest of the town;
- Redress the failures of the formal system that lie behind the creation of slums;
- Tackle 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.
- Adopt a “whole city, “all slums” approach
- Adopt an integrated approach, which includes provision of infrastructure, basic civic and social amenities and decent housing.
- Involve community at every stage, from planning through implementation to post-project sustenance stages.
- Allow flexibility to states and cities in deciding development options and solutions specific to the requirements of each slum.
- Encourage in-situ development as the programme of choice to ensure that development does not lead to a loss of job linkage; where relocated, there will be emphasis on active intervention to provide mobility or recreating livelihood linkages.

- Promote private sector participation for slum redevelopment, wherever feasible.
- The benefits of health, education, social security, workers welfare, livelihood and public transport linkages for holistic slum redevelopment will be provided through convergence of schemes.

1.3 Preparation of SFCPoA under RAY: Methodology

Rajiv Awas Yojana (RAY) that envisages a Slum Free India, also mandates the preparation of a “**Slum Free City Plan of Action (SFCPoA)**”, which is an important instrument for cities to attain the objectives of RAY. SFCPoA is a city wide plan of action that primarily consists of two parts:

1. **Curative Strategy:** that deals with the development/ improvement options and opportunities for the existing slums through participation of the slum dwellers and other stake holders in accordance with the resources and capabilities of the city and city administration.
2. **Preventive Strategy:** that deals with the supply constraint of land and housing stock for the urban poor and suggests policy, procedural as well as institutional reforms to remove the bottlenecks to enable access to affordable housing by the masses.

Ministry of Housing and Urban Poverty Alleviation (MoHUPA), Govt. of India, has prepared a toolkit that gives guidance and directions for an objective approach to the preparation of Slum Free City Plan of Action. The plan preparation basically comprises of 9 steps which are as follows:

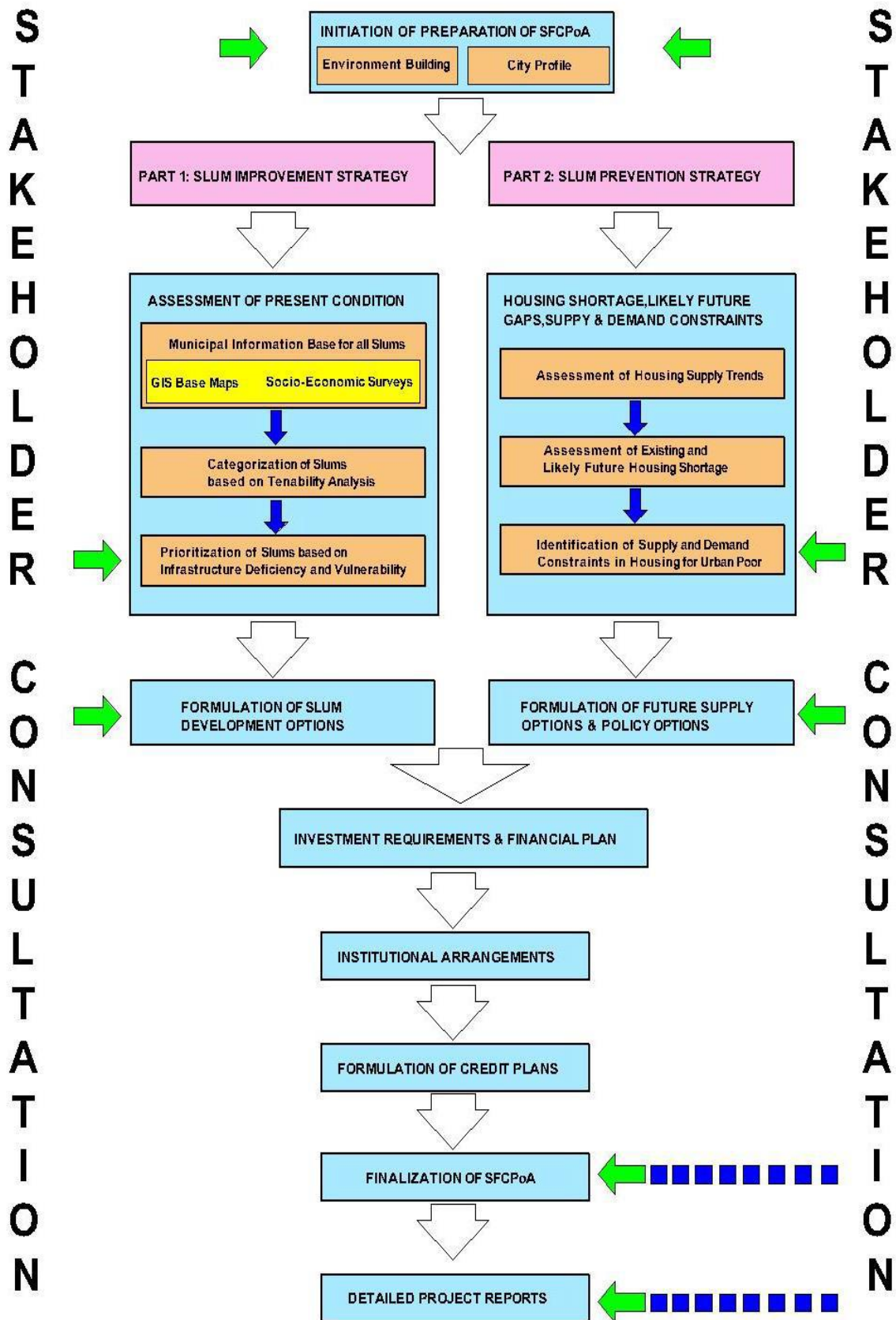
STEP 1: INITIATION OF SFCPoA

STEP 2: ASSESSMENT OF PRESENT STATUS OF SLUMS

- STEP 3:** FORMULATION OF SLUM DEVELOPMENT OPTIONS
- STEP 4:** ESTIMATING EXISTING HOUSING SHORTAGE, LIKELY FUTURE HOUSING GAPS, SUPPLY AND DEMAND CONSTRAINTS
- STEP 5:** FORMULATION OF FUTURE SUPPLY OPTIONS AND POLICY REFORMS
- STEP 6:** INVESTMENT REQUIREMENTS AND FINANCING PLAN
- STEP 7:** FORMULATING A CREDIT PLAN
- STEP 8:** INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION OF SFCPoA
- STEP 9:** FINALIZATION OF SLUM FREE CITY PLAN OF ACTION

Each step has been further elaborated by detailing the specific task to be carried out and the expected deliverables / outcomes. The methodology of preparation of Slum Free City Plan as prescribed by the Ministry of Housing and Urban Poverty Alleviation, Govt. of India is explained in the flow chart on next page.

Fig. 1: Methodology for Preparation of Slum Free City Plan of Action



Source: Toolkit for Preparation of SFCPoA, MHUPA, 2012

1.4 Slum Free Sikkim Objectives

1. Bringing all notified slums vide Sikkim gazette notification No.394/GOS/UD&HD/5(8)97-98 part II dated 17.06.03 and notification no.733/UD&HD/1(284)044 dated 23.08.04 and slum like situation within the formal system and enabling the slum dwellers to avail the same level of basic amenities and services as the rest of the places.
2. Rectification of the failure of the system that lie behind the creation of slums and slum-like situation.
3. Tackling the shortages of the government land and housing in the urban and semi- urban areas that keep the shelter out of reach of the urban poor and force them to inhabit in deplorable situation in a bid to retain sources of livelihood and employment

1.5 Slum Free City Plan for Gangtok; Strategies

The Slum Free City Plan of Action would include two strategies:-

1. Improvement of existing slums (curative strategy)
2. Prevention of formation of new slums (preventive strategy) by organising supply of affordable housing for the urban poor.

1.5.1 Curative Strategy

The curative strategy will include an assessment of the condition of existing slums, using data generated by the socio-economic profile and the spatial study. Various analyses such as tenability analysis, slum poverty profile, density profile, level of services etc. will be carried out to prioritise slums and assess their vulnerability.

Based on this assessment, slum redevelopment plans will be drawn up at the wards/zonal level. The final slum free city plan of action will include broad investment requirements of both preventive and curative

strategies, and implementation modalities for entire project. At different stages of the process, community involvement is paramount.

This process is depicted in the flow chart on next page.

Fig. 2: Preparation of Curative Strategy

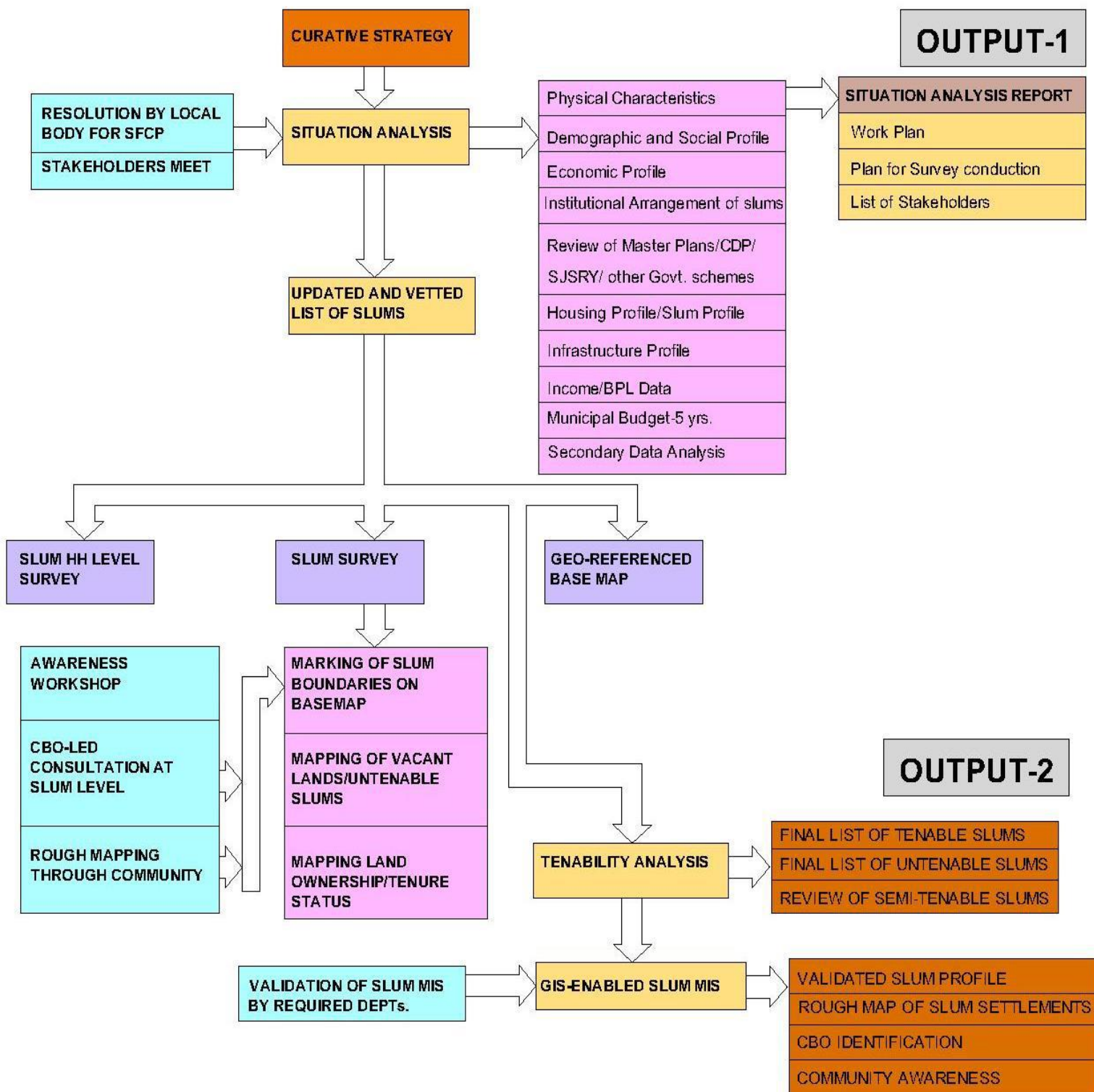
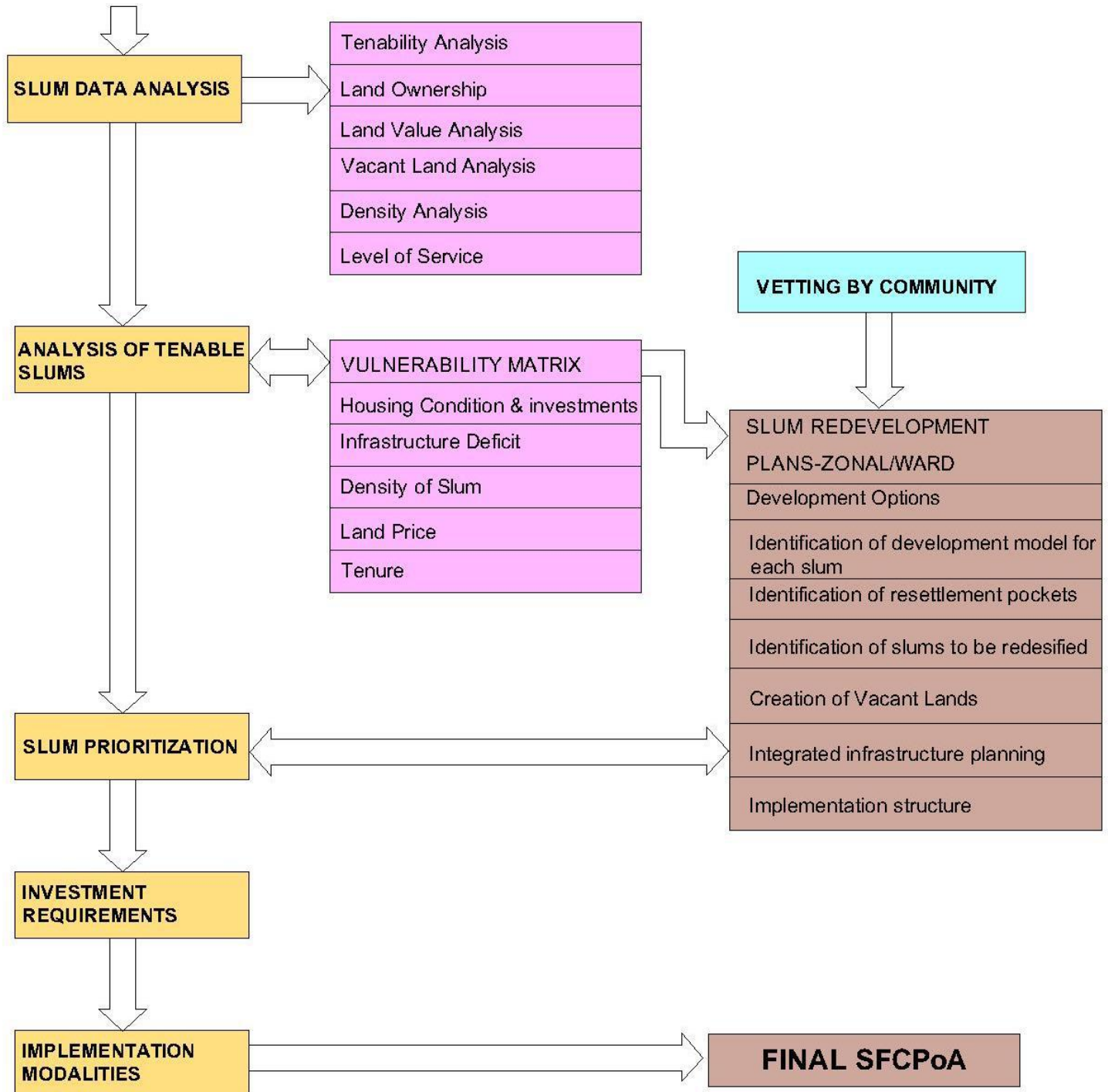


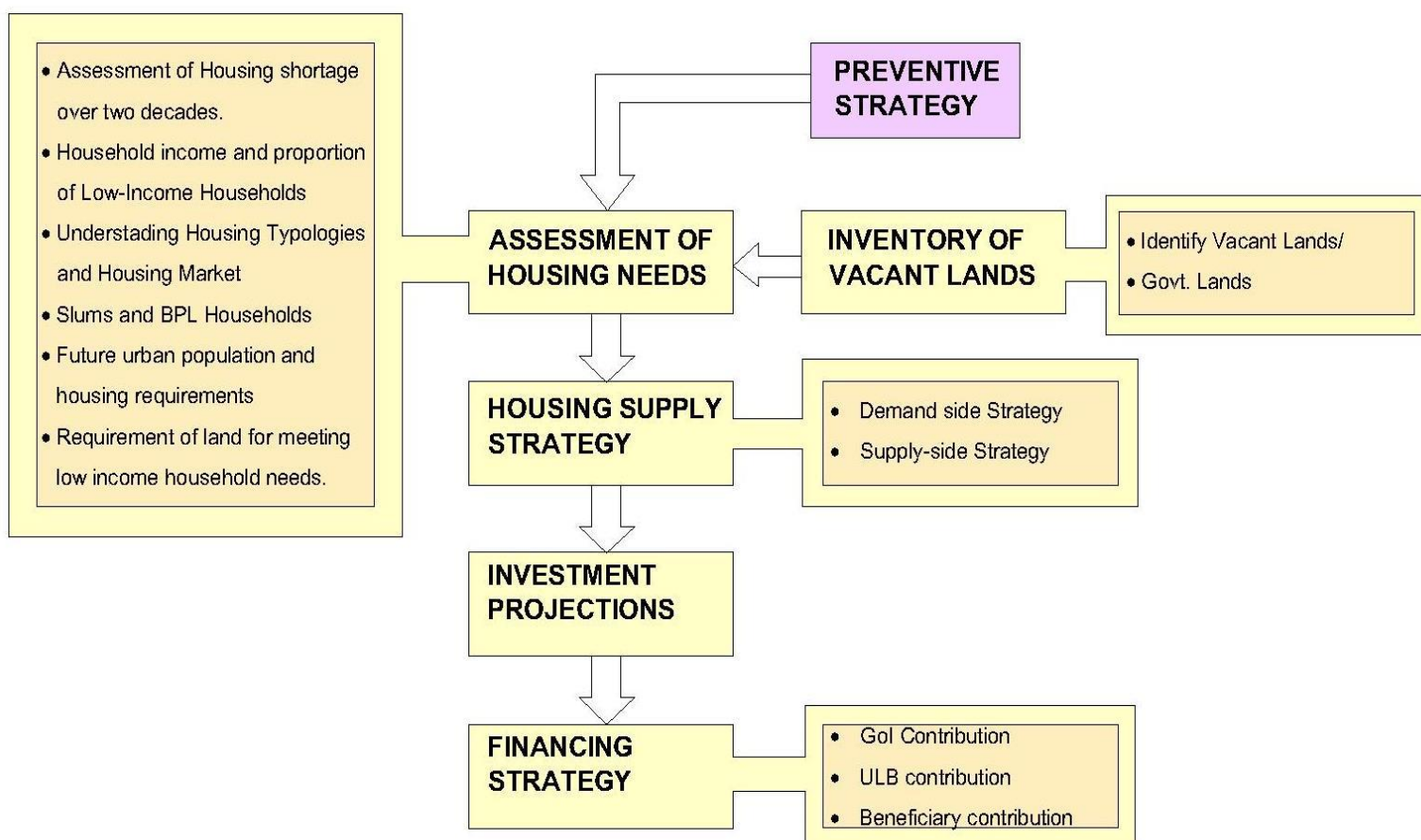
Fig. 3: Preparation of Curative Strategy



1.5.2 Preventive Strategy

Strategy for prevention of slums in future will include, on one hand, prevention of encroachments, illegal structures and supply of affordable housing on the other. The plan of action should encompass proposed action to be undertaken by the city to commensurate the lands and promote the construction of affordable housing in consonance with the housing demand. This plan of action would also need to outline the necessary legislative and administrative changes to enable urban land expansion, and in town planning regulations to stipulate reservations for EWS/LIG housing in all new developments and changes in building bye-laws and procedures to facilitate and incentivise affordable housing. This strategy will involve assessment of existing vacant lands, existing and future housing needs, assessment of housing supply, future strategy to meet the gap, assess future housing requirements, land requirements, and investment requirements in order to ensure that the future housing needs for low-income groups are met. The process is depicted in the flow chart below.

Fig. 4: Preparation of Preventive Strategy



1.6 Initiation of SFCPoA for Gangtok

1.6.1 Stakeholders Consultation Workshops

On initiation of the work related to SFCP of Gangtok, HUDCO were appointed as consultants by the UD&HD, Govt. of Sikkim for SFCP work under RAY. The initial phase of preparatory work to the project involved finalisation of definitional issues pertaining to slums, setting up of Ray technical cell, 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 councillors, 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 Gangtok.

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.

A timeline summary of the different interactions by SFCP preparation team is given below.

Table 1: Meetings of SFCP preparation team with various stakeholders:

Date	With whom	Purpose
16.04.12	UD&HD, Govt. of Sikkim	Submitted a Road Map for implementation of RAY in Sikkim as prepared by HUDCO, based on RAY guidelines for initiation of further work on SFCP.
17.04.2012	HUDCO and UD&HD, Govt. of Sikkim.	For issues related to socio-economic survey

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7 th to 11 th May, 2012	HUDCO officials and UD&HD, Govt. of Sikkim.	Preliminary Slum visit by SFCP preparation team to collect data/information etc.
7 th to 11 th May, 2012	Slum dwellers	Informal discussions with slum dwellers
23.8.2012	HUDCO had a meeting with the UD & Housing officials at Gangtok	To extend support on preparatory work for RAY and initiate action on preparation of SFCP.
20.9.2012	DFID/ SNPURR team on behalf of the Ministry, UD&HD officials and HUDCO officials.	Related to the details of survey and GIS map of slums.
07.11.12	Meeting with officials of UD &H Deptt., Govt of Sikkim and RAY Cell.	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 & other organisations like Gangtok Municipal Corporation, etc. for various data collection.
08.11.12	Meeting with Slum dwellers	Visit to the slums for understanding conditions in the slums.
10.11.12	Meeting with Commissioner & Secretary, UD&H Deptt, Govt. of Sikkim and HUDCO officials.	Plan of further course of action and suggestions for SFCP preparation.
1 st to 4 th May, 2013	RAY Cell Team Members, UD&HD officials, DFID team	Thematic maps on tenability analysis of slums based on disaster/land use prepared by HUDCO were submitted
2nd May, 2013	GMC officials	Discussions held with GMC officials regarding the present status of the slums, infrastructure facilities existing in the city.
3 rd May, 2013	Revenue Dept. &Shri C.K. Pradhan, Ex-Chief Secretary, Sikkim.	Meetings were held with Revenue Deptt. officials to ascertain the various land related issues, like purchase, sale, transfer, acquisition of land, etc.
4 th May, 2013	SDMA team	HUDCO team collected required data for finalization of SFCPoA of Gangtok.

The SFCP preparation team visited every slum in Gangtok, 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 of Gangtok, the interactions and surveys were conducted directly with the slum dwellers as stakeholders. The details of interactions with the slum dwellers are given in table 2 and detailed in Annexure 2. (**Refer Annexure 2: SFCP preparation team visit and meeting with stakeholders in Gangtok**)

Table 2: Visit to Slums by HUDCO team:

Date	Name of slums	Team	Purpose
02.11.2012	Diesel Power House - Hospital Jhora, Deorali - Deorali School Pocket, Upper MG Marg - Nam Nang Slum Pocket-II (below ChintanBhavan), Lower MG Marg -Star Hall Building/DC Building & Fringes, Syari - Khangu Area	Slums visit by consultants and RAY cell team members.	To identify the deficiencies as per the existing housing and infrastructure conditions.
08.11.2012	Lower MG Marg, Arithang, Arithang, Diesel Power House		
08.11.2012	Burtuk - Bakthang (I, II), Chandmari - Dui Mile, VikashGaon / Ganesh Mandir, Sunday Village,		
09.11.12	Above Tshewang Auto Works, Paanch Mile, Upper Housing + Lower Housing, Devi Thaan Area(Below Entel Motors), GairiGaon, Dhobi Dara, RaiGaon (Below Tibetan School), District Court Campus		

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10.11.12	ThapaGaon/TamangGaon, Kazi - Dara, Dui Mile, KatoosDara, Devi Thang area, GobareyDara		
17.04.2013	Bhanugram, Gangtok	HUDCO Team, RAY Cell Team Members, UD&H officials.	To visit the slum as the State Govt. is planning to prepare a Pilot Project.
02.05.2013	Slaughter house, Diesel Power House, Nam Nang, Masjid Area, Beside BhanuGram, Below Palzor Stadium, Bakhang -1, Bakhang -2, KajiDara, Dui Mile, DC Building & fringes.	HUDCO team along with team members of Lead NGO.	Site visit to have first-hand knowledge on hazardous zones to understand tenability.

1.6.2 Establishment of the RAY Technical Cell

RAY envisages each State to prepare a Slum Free City Plan of Action (SFPCoA) 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.

Centre for Urban and Regional Excellence (CURE) had been appointed from 21st February 2012 to 20th February 2013 as the Technical Cell by the Urban Development and Housing Department (UD&HD), Government of Sikkim to support the implementation of RAY in Gangtok. The present Technical Cell has been functioning with appointment of specialists done individually by the UD&HD and their contract period ends in 31st March 2013. 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.

Table 3: Stakeholder Consultation by RAY-Technical Cell, Sikkim

DATE	PARTICIPANTS/STAKEHOLDERS	SUMMARY OF ISSUES DISCUSSED
21 ST – 28 th FEBRUARY 2012	<p>Director, Centre for Urban and Regional Excellence (CURE), New Delhi: Dr. Renu Khosla</p> <p>State Level Nodal Agency-RAY, UD&HD – Government of Sikkim</p> <p>Gangtok Municipal Corporation (GMC)</p> <p>State/City -level RAY Technical Cell for Gangtok comprising of:</p> <ol style="list-style-type: none"> 1. Social Development Specialist 2. Capacity Building Specialist 3. MIS Specialist 4. Project Engineering 5. Town Planner 6. GIS Specialist 	<p>Initiation of RAY in Gangtok:</p> <ul style="list-style-type: none"> • Assessment of the existing scenario of urban slums in Gangtok esp., the 12 notified slums in the city and the strategy to be adopted to identify non-notified slums. • Reconnaissance trip to one of the 12 notified slums; Bhanugram to appraise the slum conditions in Gangtok followed by a discussion on the typical characteristics of slums in the city. • Preparation of the Action Plan for the implementation of RAY in Gangtok. • Research of existing data from various State departments like Power, PHED, UD&HD, DESMI, GMC. Mapping (coalition and review of existing spatial data, Preparation of terms of reference, Procurement of CARTOSAT II image), demographic profile of Gangtok was scrutinized and technical assessment of Water and Sanitation was phased. • Land Use Mapping (review of master structure plan, building bye laws etc.) • Preparation of NBO Data Sheet for the Socio-economic Household Survey on 12 notified slums. • Community Mobilization Strategy: Identifying NGO/Co-operatives, SHGs.
7 th – 8 th March, 2012	<p>RAY Technical Cell</p> <p>GMC Councilor – Arithang Ward</p> <p>Survey Volunteers – Arithang residents</p>	<p>Initiation of the socio-economic household survey on a pilot basis:</p> <ul style="list-style-type: none"> • Discussion about the importance of socio-economic household survey exercise to procure an updated baseline data for all existing slums in Gangtok. • Building up a strategy for pilot household survey. • Survey conducted in 15 households in Slaughter House, Arithang (one of the 12 notified slums) with an objective to assess the typical characteristics of slums in Gangtok and also for ground-truthing exercise.
17 th - 19 th	Mayor, GMC	<ul style="list-style-type: none"> • Capacity Building session for GMC stakeholders.

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March, 2012	Dy. Mayor, GMC Dy. Commissioner, GMC Special Secretary, UD&HD-GoS Ward Councillors - 15 GMC wards State Level Nodal Agency - RAY RAY Technical Cell	<ul style="list-style-type: none"> • 3-day capacity building training to 40 volunteers selected for conducting the socio-economic household survey in 12 notified slums. • Importance of an active Community Participation in all phases of RAY: pre-survey, post-survey, DPR and O&M phase.
27 th March, 2012	RAY Technical Cell Survey Volunteers	<ul style="list-style-type: none"> • Assessment of the quality of data collected in the first wave of the socio-economic household survey conducted by the volunteers. • Discussion of the ground realities faced by the volunteers and improvements in the survey methods for better efficiency. • Consultation with the volunteers on modifications to the survey questionnaire based on Gangtok's typical slum characteristics.
28 th – 30 th March, 2012	RAY Technical Cell Survey Volunteers	<ul style="list-style-type: none"> • Field visits to 12 notified slum pockets to monitor the conducting of the socio-economic household survey. • 1:1 appraisal sessions with volunteers, ward-wise, to discuss issues in the filling up of the survey forms and clarification of slum boundaries.
31 st March – 5 th April, 2012	RAY Technical Cell Survey Volunteers	<ul style="list-style-type: none"> • Retraining sessions for volunteers regarding efficient methods of quality data collection.
17 th April, 2012	State-level Nodal Agency HUDCO (SFCPoA Team) RAY Technical Cell	<ul style="list-style-type: none"> • Reconnaissance visit to Bhanugram to help the HUDCO team assess the slum conditions in Gangtok.
18 th – 30 th April, 2012	Mayor, GMC Dy. Mayor, GMC Commissioner, GMC Ward Councilors, GMC RAY Technical Cell	<ul style="list-style-type: none"> • Regular appraisals of the socio-economic household survey progress • Initiate discussions on the identification of non-notified slums in Gangtok with the ULBs.
1 st - 31 st May, 2012	GMC Ward Councilors: Arithang, Development Area, Burtuk, Chandmari, Daragaon, Syari-Tathangchen, Upper MG Marg, Lower MG Marg, Upper Sichey, Lower Sichey, Deorali, Diesel Power House and Tadong. RAY Technical Cell	<ul style="list-style-type: none"> • Strategy for the identification of non-notified slums in Gangtok. (GPS mapping of Non-notified slums, socio-economic survey, meeting between RAY team and Official regarding the matter and other stakeholders)

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5 th - 6 th June, 2012	<ul style="list-style-type: none"> • Dy. Mayor – GMC • Commissioner-GMC • SNPUPR • State-level RAY Nodal Agency • PHE Officials • Nagar Panchayats • Director, Centre for Urban & Regional Excellence (CURE), New Delhi • CUE, CEPT University-Ahmedabad 	State and City-level capacity building workshop for Slum Free City Planning under RAY organized by CEPT University and SNPUPR-MoHUPA in collaboration with UD&HD-GoS.
28 th - 29 th June, 2012	<ul style="list-style-type: none"> • Dr. Shailendra Kumar Gupta, General Manager (Projects) HSMI/HUDCO • Members of Self Help Groups, • RAY Technical Cell • UD & HD Officials. 	Capacity Building workshop organized by UD&HD in collaboration with Centre for Urban Poverty, Slums & Livelihood-Human Settlement Management Institute (HSMI), HUDCO at Hotel Tibet, Gangtok.
7 th - 11 th July, 2012	<ul style="list-style-type: none"> • Mr. Raj Narayan Pradhan (RAY Nodal Officer) Mr Siddharth Rasaily (Senior Town Planner, UD&HD) • Mr. Dipankar Lama (Head-IT Department, UD&HD) • Ms. Diki and Mr. Kesang (Junior Town Planners, UD&HD) • Mr. Jigme Wangchuk Bhutia (GMC Inspector) RAY Technical Cell. 	<p>Non-Notified slum inspection visit.</p> <ul style="list-style-type: none"> • Agenda: Finalization of non-notified slum pockets in 13 GMC wards. • Outcome: The number of non-notified slums decreased from 68 to 40 due to their rural characteristics per the stakeholders observations. • 18 slums clubbed into more than one clusters for an integrated development planning model. • 2 new slum pockets added to the list viz. 'Veterinary Complex' in Daragoan ward and 'Bakthang II' in Burtuk ward.
18 th July, 2012 24 th July, 2012 31 st July, 2012	<ul style="list-style-type: none"> • Nodal Officer, State-level Nodal Agency • RAY Technical Cell 	<ul style="list-style-type: none"> • Discussion on the registered NGO list procured by the Technical Cell from Law Department. This meeting was to initiate the exercise of bringing the lead NGO on board. • Sorting out NGO list for Gangtok and Meeting with Nodal Officer, RAY • Discussion on NGO list and feedback on Housing Typology Study report. • Meeting for Discussion regarding the NGO list, NGO tender, Community participation, Non-notified survey and volunteer list.
20 th July, 2012	<ul style="list-style-type: none"> • Mr. Jeewan Tamang, Asst. Director – State Level Nodal Agency • RAY Technical Cell • NJS Engineers India Pvt. Ltd. (GIS Agency) 	Transect walk to 2 new slum pockets in Lower Sichey ward. Semi-formal interviews and boundary verification with the slum community.
13 th August, 2012	<ul style="list-style-type: none"> • State Nodal Agency • RAY Technical Cell 	Initiated discussion on pilot projects to be taken up for Bhanugram and Nam Nang.
18 th – 20 th	<ul style="list-style-type: none"> • Upper MG Marg Councilor 	Environment building exercise with the slum community of Nam Nang I as a

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August, 2012	<ul style="list-style-type: none"> RAY Technical Cell 	precursor to the community mobilization workshop to be held on 20th August, 2012. Community participation meeting and implementation on Nam Nang.
23 rd August, 2012	<ul style="list-style-type: none"> Mr. Tobjor Dorji (Commissioner-cum-Secretary) Mr. Arun Kumar (Regional Chief, HUDCO-Kolkata) Mr. D.Chakraborty (DGM-P, HUDCO-Kolkata) Mr. Raj Narayan Pradhan (Chief Accounts Officer-cum-Nodal Officer, RAY) Mr. Jeevan Tamang (Assistant Director) Mr. Dinker Gurung (Town Planner-cum Deputy Nodal Officer, RAY) Mr. Prashant Pradhan (Town Planner, RAY Technical Cell) Ms. Pushpanjal Pradhan (Capacity Building Expert, RAY Technical Cell). 	Discussion with HUDCO about the preparation of Slum-Free City Plan of Action (SFCPoA) for Gangtok at Chamber of the Commissioner-cum-Secretary, (UD & HD) Gangtok-Sikkim.
24 th – 26 th August, 2012	<ul style="list-style-type: none"> Bhanugram Slum Community Bhanugram Ward Councilor State Nodal Agency RAY Technical Cell 	Environment building exercise with the slum community of Bhanugram as a precursor to the community mobilization workshop to be held on 26th August, 2012. Community participation meeting and implementation on Bhanugram.
28 th August – 1 st September, 2012	<ul style="list-style-type: none"> State Nodal Agency NJS Engineers India Pvt. Ltd RAY Technical Cell 	Reconnaissance survey for geo-referencing of non-notified slum boundaries.
4 th – 6 th September, 2012	<ul style="list-style-type: none"> Non-notified survey volunteers RAY Technical Cell 	Initiation of the socio-economic household survey for 46 non-notified slum pockets. Training of volunteers and environment building sessions on RAY
20 th -21 st September, 2012	<ul style="list-style-type: none"> Special Secretary, UD&HD-GoS SNPUPR HUDCO RAY Technical Cell 	<p>Assessment of the progress of RAY in Gangtok.</p> <p>Discussion on the existing Property and Building Laws in Sikkim</p> <p>Establishment of Urban Poverty Resource Centre (UPRC) in Gangtok.</p>
8 th - 10 th October, 2012	<ul style="list-style-type: none"> RAY Technical Cell Bhanugram Slum Community 	Community meeting with the slum dwellers to construct a socio-cultural profile of the slum.
7 th - 10 th November, 2012	<ul style="list-style-type: none"> Special Secretary, UD&HD-GoS State Level RAY Agency HUDCO RAY Technical Cell 	<p>Assessment of the SFCPoA progress for Gangtok.</p> <p>Reconnaissance visits to all the notified and non-notified slums in Gangtok.</p>

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30 th November, 2012	<ul style="list-style-type: none"> • RAY Technical Cell • State Nodal Agency • Lead NGO 	<p>Selection and Orientation of 'Sikkim Development Foundation' as the lead NGO for RAY.</p> <p>Training session for the NGO with an in-depth background about RAY, its mission statement and its current status in Gangtok.</p>
11 th December, 2012	<ul style="list-style-type: none"> • Bhanugram Community • RAY Technical Cell 	<p>Presentation of the housing design concept to the community members of Bhanugram.</p> <p>Feedback taken from the community on the housing design drawn for the community.</p>
19 th - 24 th December, 2012	<ul style="list-style-type: none"> • Bhanugram Community • CBO - Bhanugram • RAY Technical Cell 	Ratification of the beneficiary list for Bhanugram
8 th - 9 th January, 2013	<ul style="list-style-type: none"> • State Nodal Agency • SNPUPR • Commissioner, GMC • Town Planners - UD&HD • Engineers • CUE, CEPT University-Ahmedabad • RAY Technical Cell 	<p>Workshop on 'Approaches to Detailed Project Report (DPR)' was conducted in collaboration with Centre for Urban Equity (CUE), CEPT University, SNPUPR.</p> <p>Participatory and rental housing approach to DPRs was initiated by Senior Research Analyst (CUE).</p>
25 th January, 2013	<ul style="list-style-type: none"> • State Nodal Agency • Lead NGO • RAY Technical Cell 	Conducted the beneficiary ratification meeting with the community members of Bhanugram.
31 st January, 2013	<ul style="list-style-type: none"> • State Nodal Agency • Lead NGO • RAY Technical Cell 	Detailed orientation meeting with the Lead NGO
1 st - 2 nd February, 2013	<ul style="list-style-type: none"> • Mayor, GMC • Commissioner, GMC • State Nodal Agency • RAY Technical Cell 	<p>Discussion on the progress of RAY</p> <p>Bhanugram beneficiary list</p> <p>Commencement of pilot project in Greater Surya Gaon.</p>
15 th - 16 th March, 2013	<ul style="list-style-type: none"> • Mayor, GMC • State Nodal Agency • RAY Technical Cell • Lead NGO • Prashant Pradhan Architects (PPA), Technical Consultants for the pilot project DPR. 	Community participation workshop in Greater Surya Gaon.

1.6.3 Start of Socio-Economic Household Slum Survey

The RAY Technical Cell spent the first few days in doing the basic groundwork in Gangtok. This included meeting various government officials such as the Commissioner-cum-Secretary of the UD&HD, Mayor and the Commissioner of the Municipal Corporation, visiting other government departments and various slum locations to get an understanding of slums and squatter settlements in Gangtok. The major outcome of this exercise was an action plan spelling out various activities that the Technical Cell would undertake/facilitate over the next one year.

It was decided that RAY cell will directly undertake and conduct surveys. Consequently socio-economic and livelihood survey as well as survey for housing and other amenities for all notified and non-notified slums in Gangtok were undertaken to create the necessary information/database for preparation of SFCPoA of Gangtok.

1.6.4 GIS Mapping

a. Review of the Existing Spatial Data

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. The Technical Cell during its initial days of functioning in Gangtok realised that previous GIS and spatial data generation attempts in the city/state have been made earlier. Thus, collating and reviewing all the data was felt extremely necessary. Mainly, two data sets were reviewed as part of this process. AusAID (Australian Agency for International Development) data set which mainly covers Gangtok and was created for the Gangtok Water Supply & Sanitation Project (GWSSP) between 2004 and 2007. The other data set is a district level data set created as part of Government of India's Integrated Land Management and Administrative Planning Project and covers East and South Sikkim Districts. It is currently being used by the

IT Department. These data sets were reviewed in terms of their content, spatial extent and accuracy.

b. Preparation of Terms of Reference

Gangtok being in possession of substantial spatial data already, a precise scope of work was necessary for the prospective GIS consultants. 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.

c. Satellite Images

High resolution satellite images are needed as part of the base map creation. For this Cartosat-II scenes for Gangtok were identified and purchased from National Remote Sensing Agency (NRSA).

d. 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 pilot survey.

(ii) MIS Activities Flow planned

The data of the socio-economic slum survey was collected by the volunteers 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. In case of any in-accurate data the surveyors 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

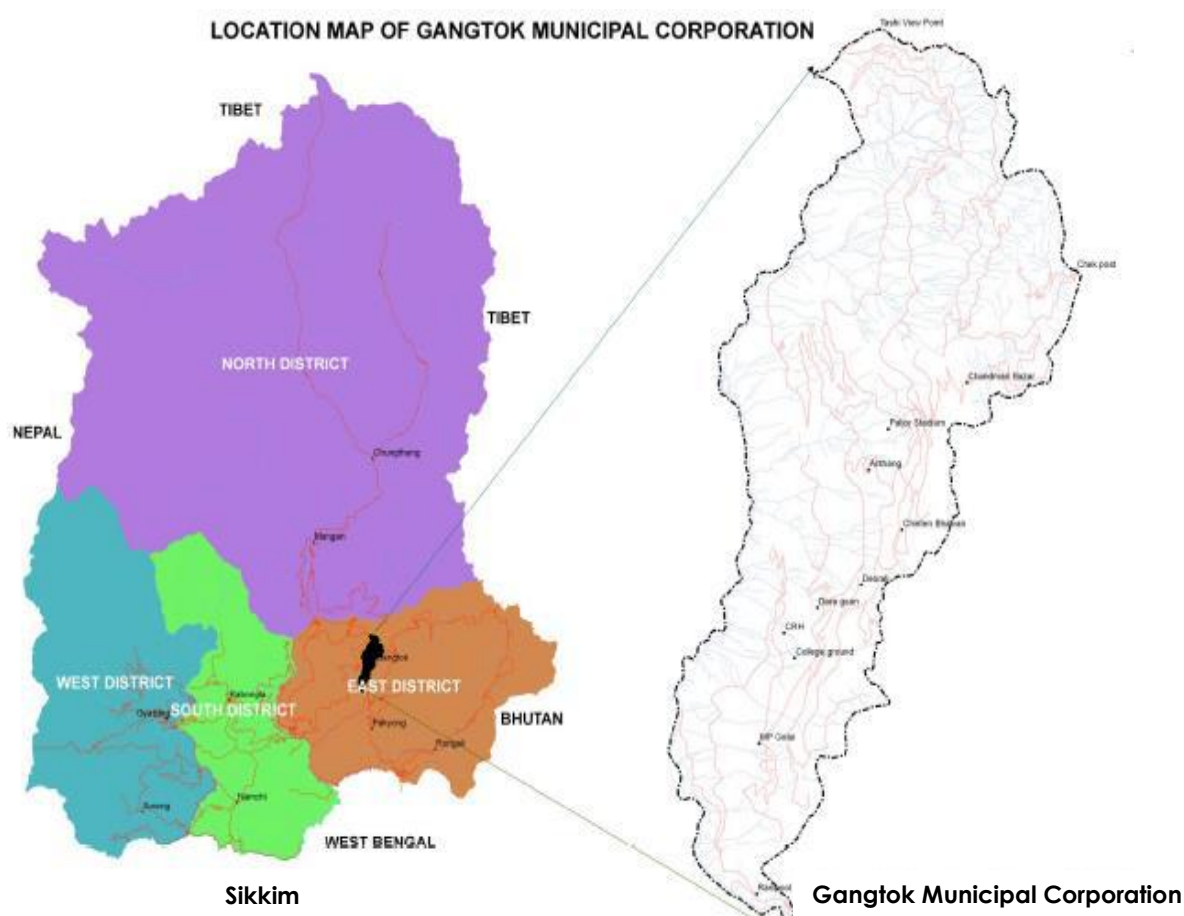
CGG, Hyderabad was requested for necessary modification to the data entry interface for Sikkim RAY Slum survey. Questions for adult education and non-formal education centre were added under the "Education Facility" section of the survey.

Chapter II: CITY PROFILE - GANGTOK

2.1 Physical characteristics:

Gangtok is the capital and largest city in the state of Sikkim. It is located in the East District of Sikkim, at an altitude of 5,800 feet (1,800 m) and lies between 27° 21" to 27° 16" N latitude and 88° 37" longitude. The city is flanked on east and west by two streams, namely Rorocho and Ranikhola. These two rivers divide the natural drainage into two parts, the eastern and western parts. The eastern part comprises of river Rorocho and 41 Jhoras draining into it. The western part comprises of river Ranikhola and 44 Jhoras discharging into it.

Fig. 5: Location Map of Gangtok Municipal Corporation



Gangtok is underlain by Precambrian rock containing foliated Phyllites and Schists and are therefore prone to landslides. According to the Bureau of Indian standards, the town falls under Seismic Zone-IV (on a scale of II to V, in order of increasing seismic activity), implying huge vulnerability of the city to potential earthquake of high intensity.

The defining physical characteristics of the city of Gangtok are:

- Existence of steep slopes,
- Vulnerability to landslides,
- Large forest cover and
- Inadequate access to most areas

These features have played a dominant role in the spatial growth and settlement pattern of Gangtok.

2.2 Social and Demographic Profile:

Sikkim is the least populous state in India with an estimated population of 6,10,577 of which 1,53,578 (25.15%) is urban as per Census 2011. The total population of Sikkim has grown from 5,40,851 in 2001 to 6,10,577 in 2011 implying a decadal growth rate of 12.89%, which is way below the national average of around 17%. However, what is phenomenal about the population growth of Sikkim is that, while the rural population growth rate registered a negative figure of (-)5.20% in 2001-11, the urban population growth rate for the same period is 153.43%. However this could be attributed to the reorganization of the urban boundaries of ULBs.

Table 4: Urban Population Growth in Sikkim 1950-2011

Year	Total Population	Rural Population	Urban Population	Urban Population growth rate
1951	1,37,725	1,34,981	2,744 (2%)	
1961	1,62,189	1,55,341	6,848(4.2%)	149.56
1971	2,09,843	1,90,175	19,668(9.4%)	187.21
1981	3,16,385	2,64,301	51,084(16.1%)	159.73
1991	4,06,457	3,69,473	37,006(9.1%)	-27.56
2001	5,40,851	4,80,981	59,870(11.1%)	61.78
2011	6,10,577	4,55,999	1,53,578 (25.15%)	156.52

Source: Census of India

The urban population of Sikkim as per Census 2011 is distributed over 9 urban centres viz.

1. Mangan Nagar Panchayat
2. Nayabazar Notified Town Area
3. Gyalshing Nagar Panchayat
4. Namchi Municipal Council
5. Jorethang Nagar Panchayat
6. Gangtok Municipal Corporation
7. Singtam Nagar Panchayat
8. Rangpo Nagar Panchayat
9. Rhenock Census Town

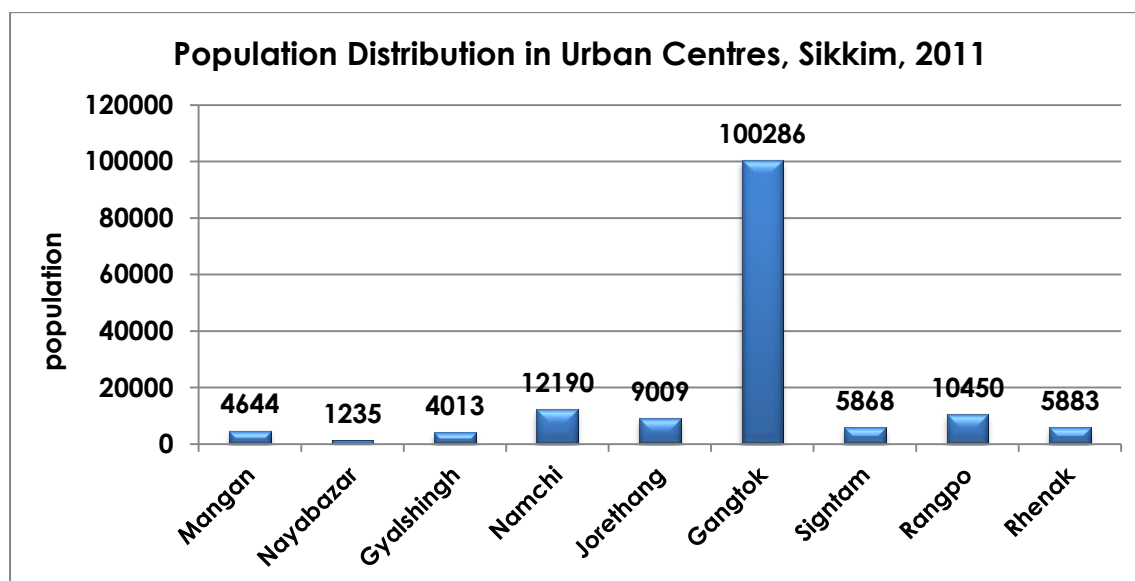
The number of urban centres in 2001 was also 9, however Rhenock Census Town is a new entry in the list and Upper Tadong, listed as a Census Town in 2001, has become part of Gangtok Municipal Area in 2011.

Table 5: Population Distribution in Urban Centres, Sikkim, 2011

Urban Centres	Population 2011	% to Total	Rank
Mangan Nagar Panchayat	4644	3.02	7
Nayabazar(Notified Bazar Area)	1235	0.80	9
Gyalshing (Nagar Panchayat)	4013	2.62	8
Namchi (Municipal council)	12190	7.94	2
Jorethang Nagar Panchyat	9009	5.87	4
Gangtok Municipal Corporation	100286	65.30	1
Singtam Nagar Panchayat	5868	3.82	6
Rangpo Nagar Panchayat	10450	6.80	3
Rhenak Census Town	5883	3.83	5
Total	153578	100	

Source: Census of India 2011

Gangtok is not just the largest city but can be described as the primate city of Sikkim accounting for more than 65% of the total urban population of Sikkim. In 2001, Gangtok's share in Sikkim's urban population had been 49%. The absolute increase of urban population in Sikkim for the decade 2001-2011 is 91,856 out of which 70,932 was in Gangtok. In other words, Gangtok accounted for over 77% of the total urban growth. The second largest town in Sikkim is Namchi (12,190) which accounts for 8% of the total urban population as per Census 2011. The above observations indicate that the urbanization structure in Sikkim is lopsided and concentrated in the capital city of Gangtok where the factor of primacy is as high as 8.

Fig. 6: Population Distribution in Urban Centres, Sikkim, 2011

Source: Census of India 2011

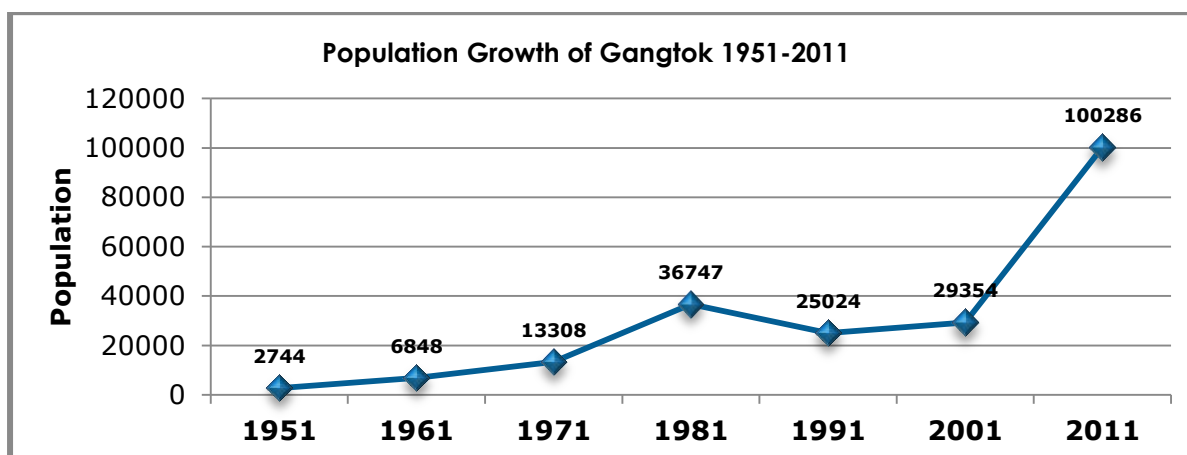
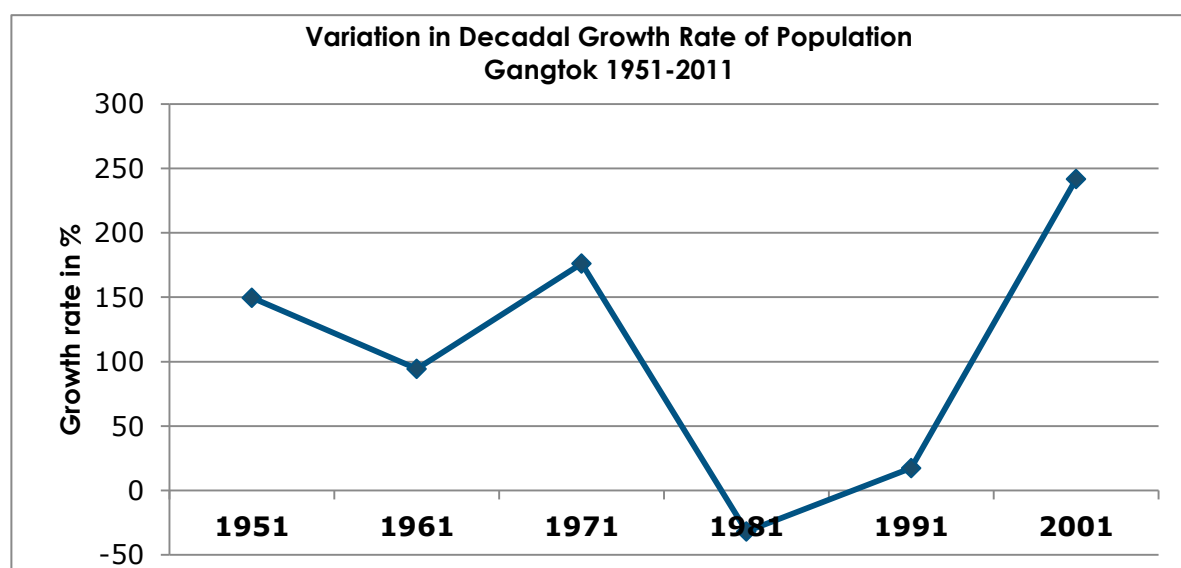
It has been noted that Gangtok, the capital city of Sikkim has historically and consistently recorded very high growth rate of population except for the decade 1981-91 which recorded a negative growth rate of 31.90%. The last decade i.e. 2001-2011 has shown the most phenomenal growth rate of 241.64%. This huge increase in population of Gangtok can partially be attributed to the reorganization of the Gangtok Municipal Corporation boundary. However, it also implies that the phenomenon of urbanization in Sikkim is Gangtok centric which reinforces the imbalanced urban structure and primacy of Gangtok City.

Table 6: Population Growth in Gangtok, 1951-2011

Year	Total Population	% Growth
1951	2744	
1961	6848	149.56
1971	13308	94.33
1981	36747	176.13
1991	25024	-31.90
2001	29354	17.30
2011	100286	241.64

Source: Census of India 2011, Town Directory 2001

(Note: It has been noted in the Gangtok CDP that the negative growth rate in 1981-91 is due to reduction in the urban area of Gangtok)

Fig. 7: Population Growth of Gangtok 1951-2011**Fig. 8: Variation in Decadal Growth Rate of Population of Gangtok (1951-2011)**

Currently, there are 15 wards in the city of Gangtok. Highest population is recorded in Syari-Tathangchen ward (11,028) followed by Burtuk (9957). The average density for the city of Gangtok is 52 persons / ha but it shows wide variation ranging from 301 pph in Lower M.G. Marg to 19 pph in Lower Sichey. The areas that show maximum density are M.G. Marg., Deorali, Arithang and Diesel Power House area of Gangtok.

*Slum-Free City Plan of Action for Gangtok***Table 7: Ward wise Population Distribution: Gangtok 2011**

Sl. No.	Name of the Ward	Population	Area	Density	Rank (Density)
			(in Ha)	(Persons / Ha)	
1	Burtuk	9957	433.20	23	13
2	Lower Sichey	5873	303.67	19	15
3	Upper Sichey	7979	72.54	110	7
4	Chandmari	6177	288.63	21	14
5	Development Area	6723	73.06	92	8
6	Diesel Power House	3987	17.38	229	4
7	Arithang	8212	34.32	236	2
8	Lower M.G. Marg	4032	12.20	330	1
9	Upper M.G. Marg	2664	12.98	205	5
10	Tibet Road	3266	28.66	114	6
11	Deorali	6938	29.8	233	3
12	Daragaon	9605	157.92	61	10
13	Tadong	9325	124.28	75	9
14	Ranipool	4520	101.61	45	12
15	Syari-Tathangchen	11028	238.64	46	11

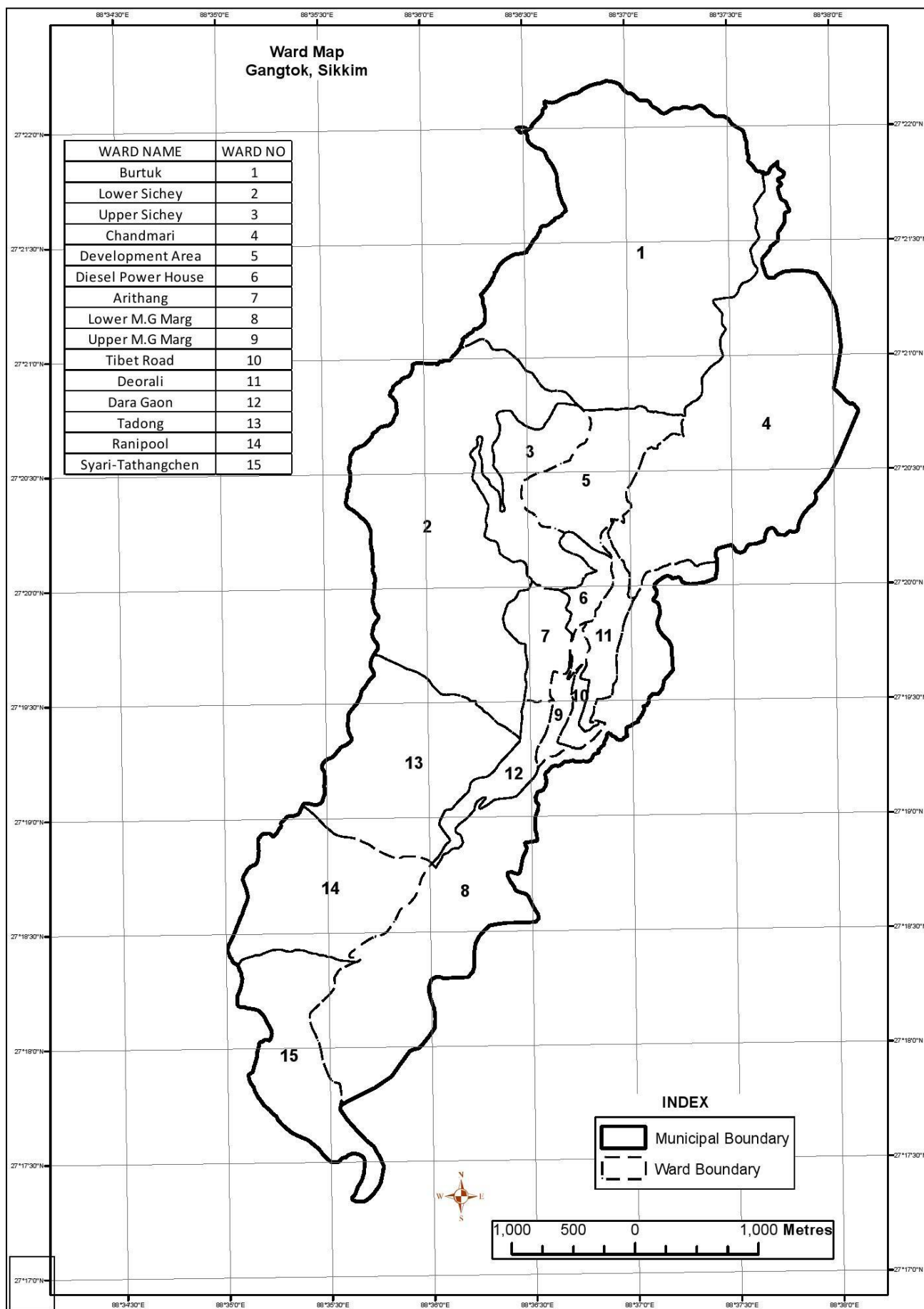
Source: Census of India, 2011

Table 8: City Profile of Gangtok

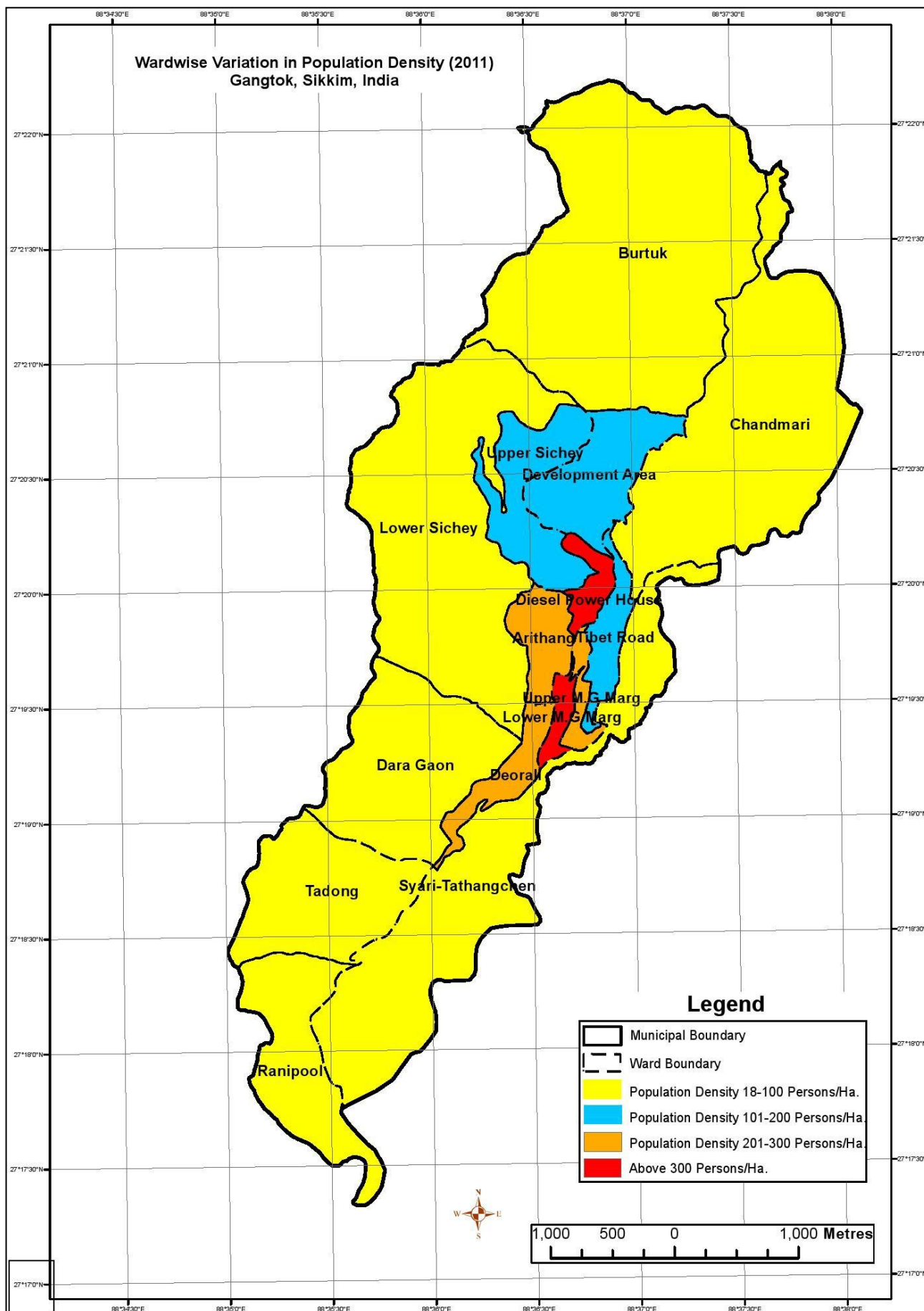
Sl.no	Indicator	2001	2011
1	Area (in Sq.Km)	na	19.28
1.1	Planning Area (Sq.Km)	na	-NONE-
1.2	Municipal Area (Sq.Km)	na	19.28
1.3	Area of Slums (Sq.Km)	na	1.15
2	Number of Municipal Wards	na	15
3	Population and Households		
3.1	Total Population (2011 census)	29,354	1,00,286
3.2	Number of Households (2001/2011 census)		23773
3.3	Density of Population (persons / ha)	na	52
3.4	Current Population (Year of Survey)		100286
3.5	Current Number of Households (Year of survey)		23773
3.6	Slum population as percentage of total population in city (primary survey 2012)	na	23.51
3.7	Slum households as percentage of total Households in city (primary survey 2012)		25.60

Source: Part A and B of (general information of city) NBO Formats and Census Data, 2011

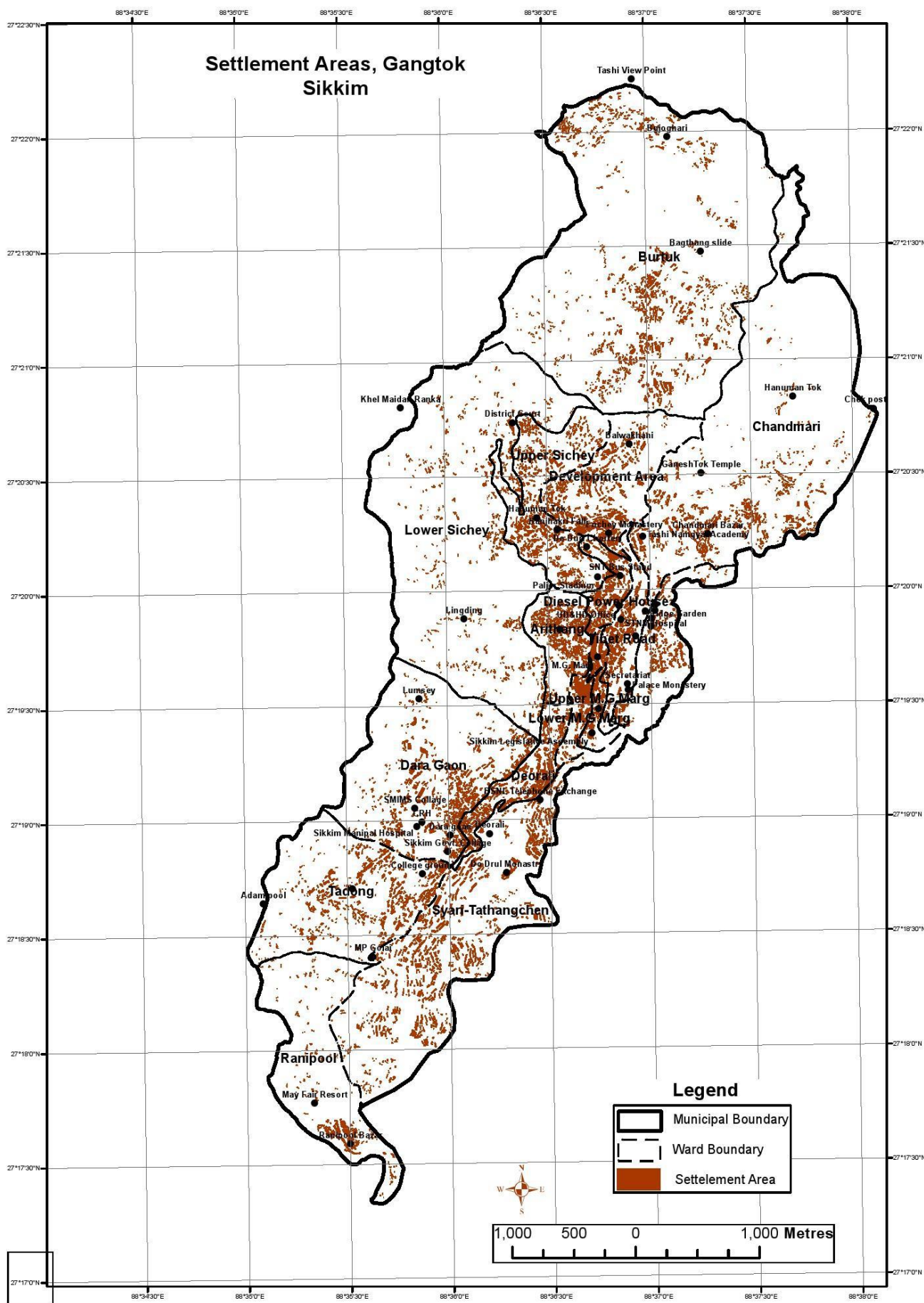
Slum-Free City Plan of Action for Gangtok



Slum-Free City Plan of Action for Gangtok



Slum-Free City Plan of Action for Gangtok



2.3 Economic Profile:

The hospitality industry is the largest industry in Gangtok as the city is the main base for Sikkim tourism. Summer and spring seasons are the most popular tourist seasons. Many of Gangtok's residents are employed directly and indirectly in the tourism industry, with many residents owning and working in hotels and restaurants. Eco-tourism has emerged as an important economic activity in the region which includes trekking, mountaineering, river rafting and other nature oriented activities.

Table 9: Workers Profile: Gangtok

Sl. No.	Categories	No. of Workers	%age
1	Farmers	417	1.19
2	Agricultural Labourers	144	0.41
3	Non-Agricultural Labourers	2361	6.73
4	Salaried State Govt.	10509	29.94
5	Salaried Central Govt.	2448	6.97
6	Salaried PSU	5202	14.82
7	Salaried Pvt.	462	1.32
8	Business	7422	21.15
9	Self Employed	4110	11.71
10	Contractor	570	1.62
11	Muster Roll	1209	3.44
12	Work Charged	243	0.69
	Total	35097	100.00

Source: State Socio-Economic Census, Sikkim, DESME, GoS: 2006

The Nathula Pass, located about 50 km (31 mi) from Gangtok, used to be the primary route of the wool, fur and spice trade with Tibet and spurred economic growth for Gangtok till the mid-20th century. In 1962, after the border was closed during the Sino-Indian War, Gangtok fell into recession. With the merger of the Kingdom of Sikkim as the 22nd State of India in 1975, the economy of Gangtok on being the capital of an Indian state revived. The pass was reopened in 2006 and trade through the pass is expected to boost the economy of Gangtok. Sikkim's mountainous terrain results in the lack of train or air links, limiting the area's potential for rapid industrial development.

Table 10: Monthly income of workers, Gangtok

Sl. No.	Per month Income (Rs.)	Workers (%)
1	0-2500	3.93
2	2501-5000	20.91
3	5001-10000	27.06
4	10001-25000	29.61
5	25001-Above	18.49
	Total	100

Source: State Socio-Economic Census, Sikkim, DESME, GoS:2006

The government is the largest employer in the city, both directly and as contractors. The main market in Gangtok provides many of the state's rural residents a place to offer their produce during the harvest seasons. As Sikkim is a frontier state, the Indian army maintains a large presence in the vicinity of Gangtok. This leads to a population of semi permanent residents who bring money into the local economy.

2.4 Housing Profile:

The estimated population of Gangtok (MC) as per Census 2011 is 1,00,286 and the number of Households is 23773. In addition, the average Household Size as of 2011 is 4.22. The table below shows the housing situation in the town.

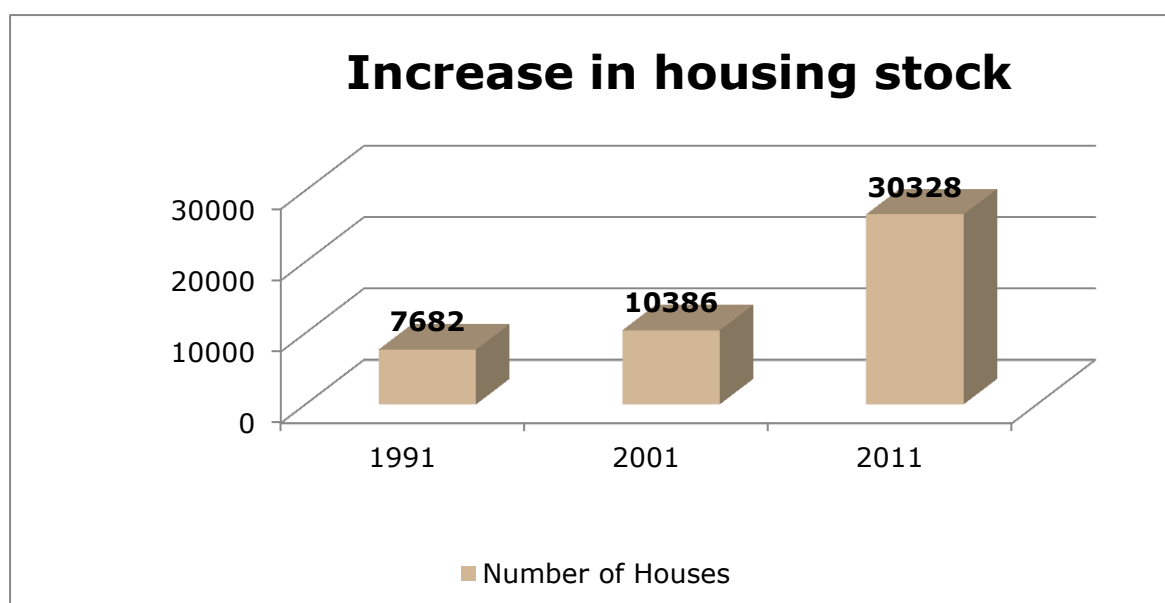
Table 11: Housing situation in Gangtok (Census 91-11)

Year	Population	Number of Households	Number of Census houses	Average Household Size
1991	25024	7103	7682	3.52
2001	29354	9655	10386	3.04
2011	100286	23773	30328	4.22

Source: Census of India, UD & HD, Govt. of Sikkim

There has been a considerable increase in no. of census houses in past decade, as per the census data depicted here. There has been an increase in the permanent houses in Gangtok, with 85% of houses being permanent structures as per census 2001. With the increase in

Fig. 9: Increase in housing stock



permanent structures over the decades (from 62% in 1981 to 85% in 2001) has also seen a corresponding decline in semi-permanent houses. The percentage of temporary houses has not changed much over the decades.

Table 12: Distribution of Houses according to type of structure

Year	Total Number of Houses	Type of Houses		Temporary		
		Permanent	Semi-Permanent	Total	Serviceable Kutcha	Non Serviceable Kutcha
1981	4654	2895	1635	124	83	41
1991	6926	4917	1801	208	139	69
2001	9442	8031	1209	202	135	67
		In Percentage				
1981	4654	62.2	35.1	2.7	1.8	0.88
1991	6926	71.0	26.0	3.0	2.0	1.00
2001	9442	85.1	12.8	2.1	1.4	0.71

Source: Census of India

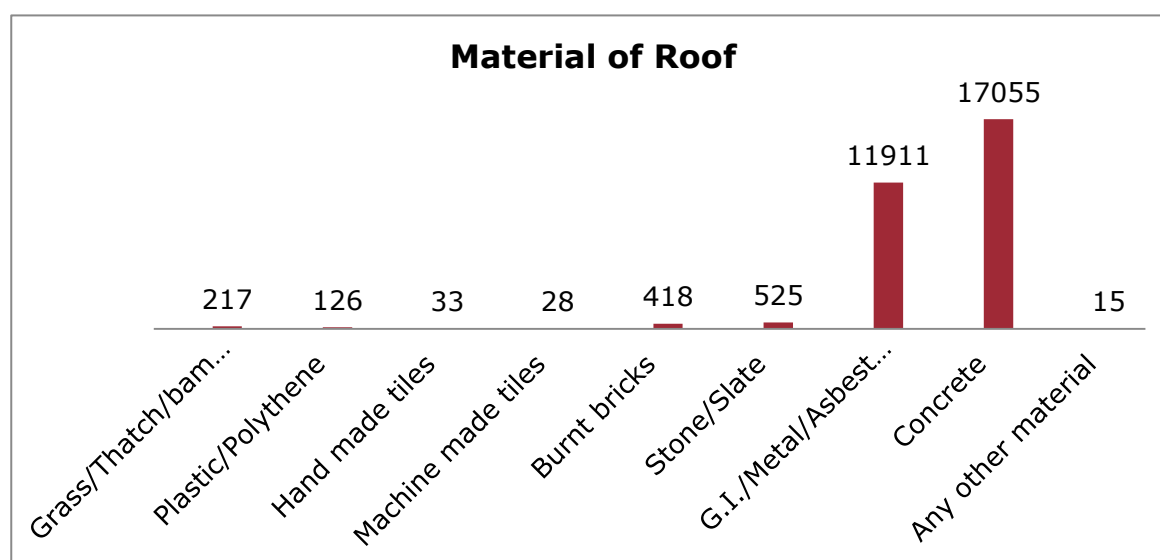
Following bar graphs show the materials used for housing structures according to Census 2011:

Table 13: Distribution of census houses according to material of roof

	Material of roof									
	Total No of census houses	Grass/Thatch/bamboo/wood/mud etc	Plastic/Polythene	Hand made tiles	Machine made tiles	Burnt bricks	Stone/Slate	G.I./Metal/Asbestos sheets	Concrete	Any other material
Gangtok M Corp	30328	217	126	33	28	418	525	11911	17055	15

Source: Census of India 2011

Fig. 10: Material of Roof



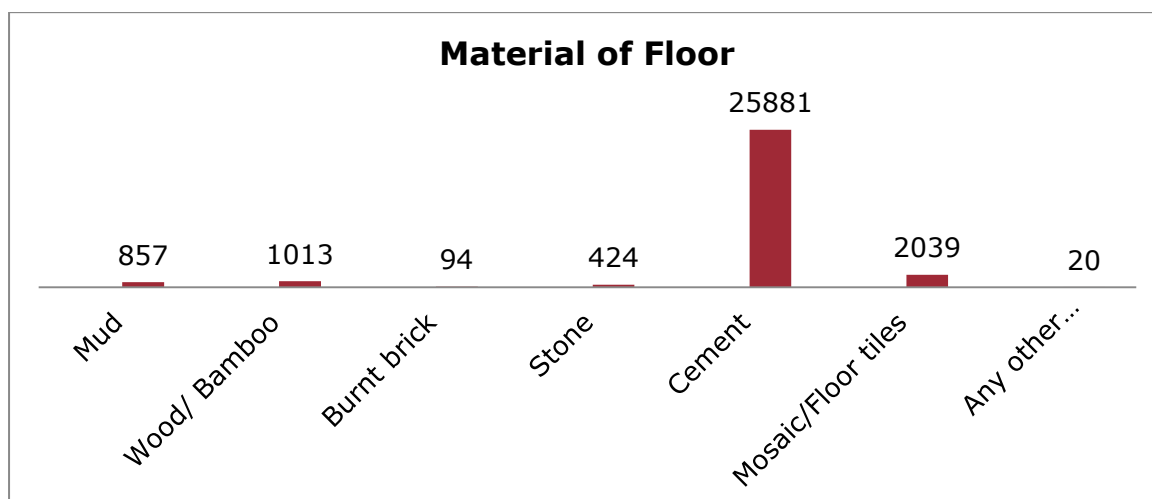
The figures show that majority of houses have concrete roofs followed by asbestos sheets.

Table 14: Distribution of census houses according to material of floor

	Material of floor							
	Total No of census houses	Mud	Wood/Bamboo	Burnt brick	Stone	Cement	Mosaic/Floor tiles	Any other material
Gangtok M Corp	30328	857	1013	94	424	25881	2039	20

Source: Census of India 2011

Fig. 11: Material of Floor



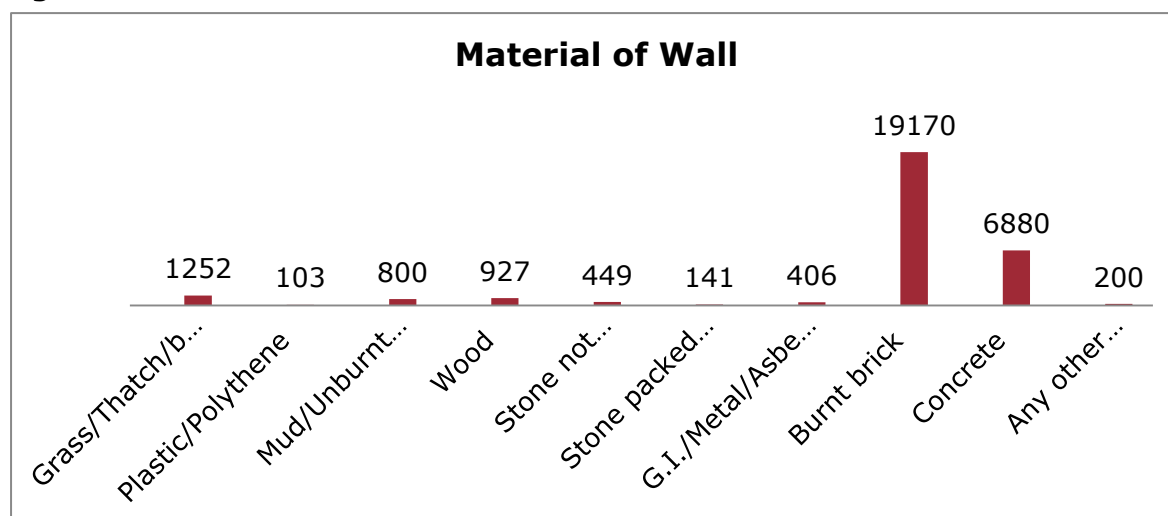
It has been observed that 85% of the houses have pucca floor and have predominantly used cement as a flooring material.

Table 15: Distribution of census houses according to material of roof.

Material of Wall (Excluding locked/Vacant houses)											
	Total No of census houses	Grass/Thatch/bamboo etc.	Plastic/Polythene	Mud/Unburnt brick	Wood	Stone not packed with mortar	Stone packed with mortar	G.I./Metal/Asbestos sheets	Burnt brick	Concrete	Any other material
Gangtok M Corp	30328	1252	103	800	927	449	141	406	19170	6880	200

Source: Census of India 2011

Fig. 12: Material of Wall



From the above Graph it can be inferred that 64% of the houses have used burnt bricks for constructing wall.

Table 16: Material of wall and roof of Census houses (Residence and Residence cum other use)

Material of wall	Total number 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	Concrete	Any other
All material	30,328	23,927	173	103	26	16	287	440	9,582	13,288	12
Grass/thatch/bamboo etc.	1,252	1,154	70	42	2	2	4	34	1,000	-	-
Plastic/ Polythene	103	84	4	6	-	-	-	26	48	-	-
Mud/unburnt brick	800	727	36	10	3	4	26	51	498	95	4
Wood	927	765	20	17	1	-	10	25	691	-	1
Stone not packed with mortar	449	382	2	1	1	-	44	30	159	145	-
Stone packed with mortar	141	111	2	-	-	-	1	3	43	62	-
G.I./metal/asbestos sheets	406	315	4	12	-	2	2	23	264	8	-
Burnt brick	19,170	15,171	25	8	13	4	194	185	5,293	9,444	5
Concrete	6,880	5,038	4	7	6	4	6	51	1,430	3,529	1
Any other	200	180	6	-	-	-	-	12	156	5	1

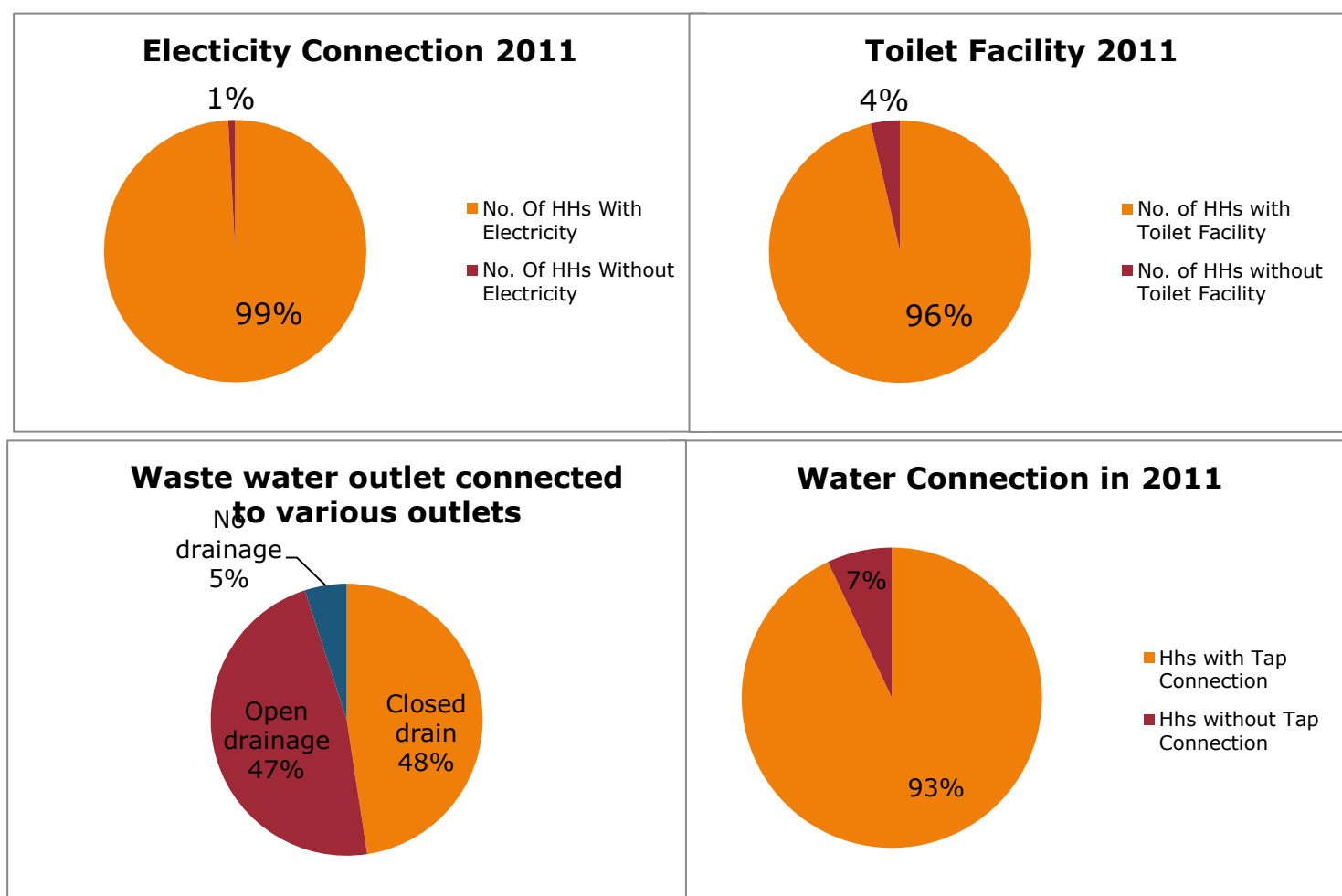
The above table shows that a number of residential census houses still have roof or walling materials which are temporary in nature, such as grass/ thatch/ bamboo, plastic/polythene and Mud/ un-burnt brick. A total of 1965 houses have walls made of temporary materials.

A study of housing amenities shows that there is a very good coverage of electricity, water supply and Tap connections in 2011, with considerable increase over the decades.

Table 17: Housing Amenities Status

Year	Total Number of Households	No. Of HHs With Electricity	In %	No. of HHs with Toilet Facility	In %	HHs with Tap Connection	In %
1981	5030	3754	74.6	2924	58.1	3852	76.58
1991	7103	5432	76.5	4088	57.6	6401	90.12
2001	9655	9475	98.1	9405	97.4	9394	97.30
2011	23938	23736	99.1	23075	96.4	22260	93.00

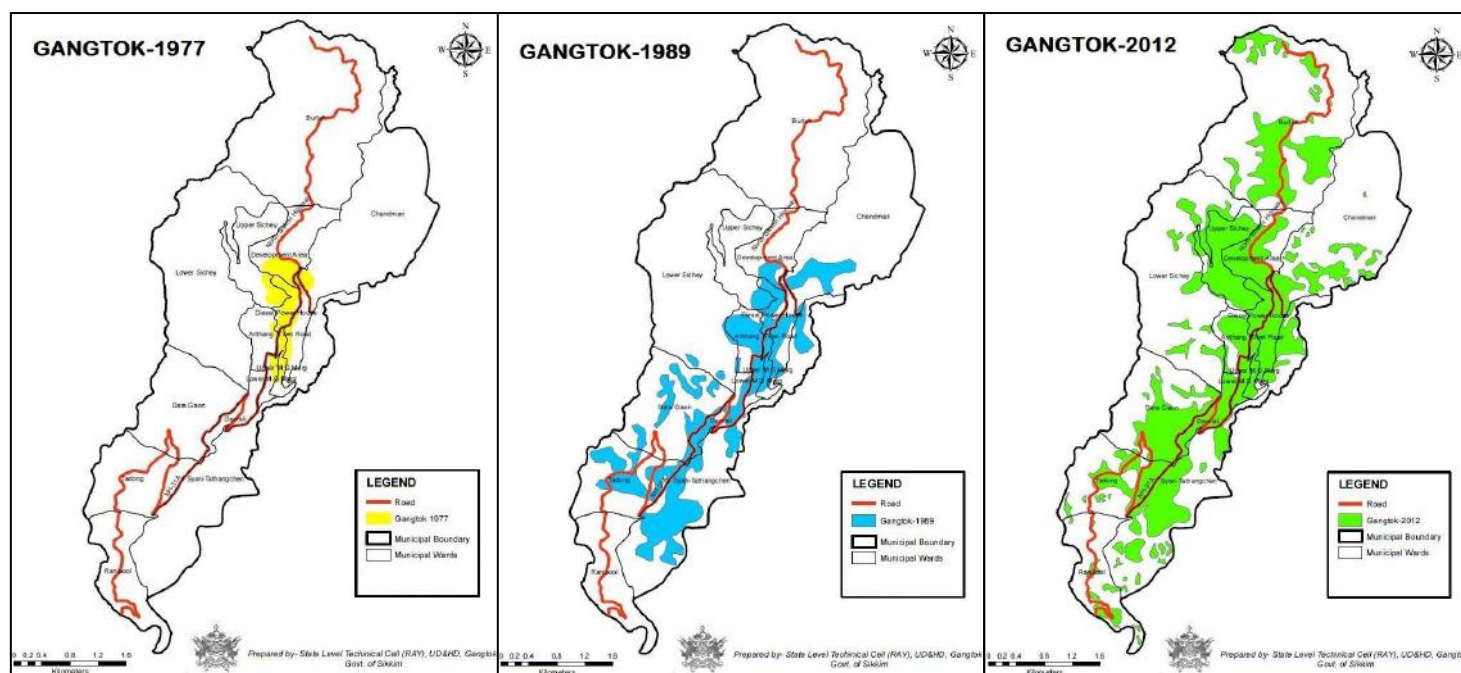
Source: Census of India 2011

Fig. 13: Pie charts showing housing amenities status

2.5 Spatial Growth of Gangtok:

Gangtok, the State capital exhibits linear pattern of development, where growth has been accelerated as a response to increased economic opportunities. The primary growth axis for Gangtok is towards the South and South west direction, along the NH 31A on Selep-Ranipool axis. The terrain in this axis is relatively more favourable; and accessibility is enabled by the NH 31A. Gangtok's growth as a response to accessibility in the absence of proper planning intervention has been organic. This has resulted in a mixed land use pattern where no specific activity has been earmarked. Gangtok Integrated Development Plan 2000 by GILCON, 1987 was planned for an area of 725 Hectares. Of this 725 Hectares, 70% of the area has already been covered while the remaining area comprises of vacant land, Jhoras, cultivation areas and areas under tree cover.

Fig. 14: Evolution of Gangtok Town (1977 to 2012)



The existing land use distribution of Gangtok is as follows:

Residential - 43%	Public and Semi-public - 15%
Commercial - 4%	Roads - 19%

Source: CDP; NERUDP, Final Report, 2006

The following table gives the details of spatial growth and change in landuse in Gangtok.

Table 18: Change in Landuse, 1975-1995

S.No.	Land use (Ha)	Year			Percentage Growth	
		1975	1985	1995	1975-85	1985 - 95
1	Residential	119.5	132	225	10.5	70.5
2	Commercial	12.5	15.3	21	24.5	37.3
3	Industrial	1	4.1	19	24.5	37.3
4	Public and Semi-Public	24.5	29.4	48	20	63
5	Recreational	2	17.5	41	775	134
6	Transport	23	42.5	100	85	135
	Total Developed	182.5	240.8	454	26	90
7	Cultivation	–	48.5	–	–	–
8	Undeveloped	58	85.5	–	–	–
9	Vacant	–	50.5	–	–	–

Source: City Development Plan-Gangtok; NERUDP, ADB Report, 2006

The Gangtok Structure Plan has identified a Gangtok Planning Area for the future growth of the town. The structure plan has planned for an additional 7.2 sq. km area to accommodate the existing population. It has identified the eastern side of Gangtok as a logical growth area, and proposed the future spatial growth in the rural corridor on the eastern side.

2.6 Physical Infrastructure:

The City Development Plan of Gangtok city developed in 2006 gives an account of the physical infrastructure facilities in the city.

Water Supply: Water is supplied in Gangtok by the PHED, RM&DD and spring sources. While one pays for water supplied by the PHED, water supplied from RM&DD sources is free. The three major sources of water supply identified by Community Engagement by GWSSP in Gangtok are:-

- a) Treated and piped water supply by the PHED; access coverage ranges between 70- 85%
- b) Treated and piped water supply by the RMⅅ 21%
- c) Private piped water supply from other sources

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 the population has access to PHED's piped water supplies, only a few have individual water taps. There is widespread sharing of PHED connections and some population get their water from community taps.

Sewerage and Sanitation: Gangtok sewer lines were laid around 20 years ago and have a length of around 45 km. Gangtok is one of the few cities in the North East India who have sewerage service. Around 40 % of the population is currently connected to sewers.

The existing sewerage system covers Central Business District (New Market, Old Market, Kazi Road, and Tibet Road Areas), as well as many other developed areas like Development Area, GICI Area, Diesel Power House Area, Arithang Area, Church Road Area, parts of Sichey Area, etc. Certain areas lack in sanitary system where people are using conventional methods such as septic and soak pits, or directly disposing waste into nearby drains. Besides this, there are a large number of developing areas that are still to be covered by the sewerage system namely Upper Sichey, Development Area, TNA area, Burtuk, some parts of Tadong and Lower Tadong area.

Though there is considerable population growth, Gangtok has developed without a proper sanitation system. The practice of disposing sewage through septic tanks and direct discharging into Jhoras and open drains is prevalent. The entire city drains into the two rivers, the Ranikhola to the west and the Roro Chu to the east through numerous small streams and Jhoras. Ranikhola and Roro Chu rivers confluence with River Teesta are the major source of drinking water to the population downstream. The sewage from the city ultimately drains into these rivers and pollutes them.

Drainage: At present, densely populated urbanized area of Gangtok does not have a combined drainage system to drain out the storm water, and wastewater from the buildings. With the increasing pace of urbanization, more and more built up and paved areas are coming up and therefore, the runoff volume is increasing. Volume of wastewater is also increasing with the increase of population density. Gangtok is vulnerable to annual recurrence of landslides due to unregulated constructions on the fragile slopes and an improperly planned drainage network including obstruction of the flows in the Jhoras. Further, the telephone cables and water supply lines running in the Jhoras cause the clogging of jhoras and cause overflowing and infiltration of storm water in subsoil, triggering landslides.

2.7 Review of Existing Policies, Programmes & Projects related to Slum Improvement & Housing

2.7.1 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 vide 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. These include slum localities in three districts. Earlier there were only three slums notified in Gangtok Notified Town Area (NTA), but currently the number of notified slums in Gangtok is 12.

2.7.2 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 Bhutias and Lepchas 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 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 Act 1894 for infrastructure projects. Registration of flats or separate floors in a building permitted. There is no minimum area criterion for inheritance of ancestral land or sale.

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 Bhutias and Lepchas 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 is 0.5 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 re-development & 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:

<p>A. Classification of different types of forest land : As per the Champion and Seth Classification the Forest of East Division is broadly classified into 6 (six) broad forest types</p> <ol style="list-style-type: none"> 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). <p>The forest in and around Gangtok area falls within the Middle hill - Sub-tropical Mixed broad leaved Hill Forest (900m–1800m) and Upper hill – Himalayan Wet Temperate Forest – (1800m-2400m).</p> <p>That as per the Sikkim Forest Water Courses Road Reserve (Preservation & Protection) Act, 1988, the Forest land has been classified and defined as under:-</p> <ol style="list-style-type: none"> 1. Reserved Forest. 2. Khasmal & Gorucharan Forest. 3. River Banks, Slip Reserve, Road Reserve etc. 4. Private Forest. <p>B. Types of construction allowed in different types of forest land:-</p> <ol style="list-style-type: none"> 1. 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 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.
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However, General Approval under Section-2 of Forest (Conservation) Act, 1980 upto the diversion of 1ha 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 Up-Gradation/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 laying 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.

2.7.3 Evaluation of CDP and structure plan proposals for urban poor

2.7.3.1 The City Development Plan- Existing Situation

The City Development plan has broadly examined the issues related to slums, and the urban poor. The issues are broadly identified as follows:

- There has been an upsurge in the absolute numbers of the urban poor, as is the trend, engaged in informal services, due to urbanisation. This has also led to the formation of squatter settlements and there is a steady emergence of urban slums where people have little or no access to basic amenities such as water and sanitation facilities.
- Gangtok's BPL households are vulnerable from economic, social and physical standpoints. Most of the poor depend upon work as unskilled or semi-skilled hired for labour on daily wages, or small business such as fish or egg vending. The poor are less literate than the general population, and more vulnerable to suffer from communicable diseases.
- The slums in Sikkim differ from the slums in the plain areas due to topographical conditions. The definition of urban poverty requires to be studied in the light of the following indicators that may be altered to suit local conditions. Slum or squatter settlements as generally understood in other parts of India, are not visible in Gangtok
- Slums of Gangtok are characterised by poor sanitation, hygiene and toilet facilities.
- Settlements are usually located on steep, unstable and landslide prone slopes, thus increasing the vulnerability of the poor people in terms of health, natural hazards and safety.
- Solid Waste Management is a major issue within Gangtok. Garbage from the slum areas are generally thrown in the Jhoras and slopes creating environmental pollution.
- Spatial Characteristics of Poverty is that neither all BPL population are concentrated in the slum areas nor the notified slum areas constitute only BPL population. Prioritizing the areas for community

up-gradation and targeting of the poor for the poverty alleviation programmes, therefore, becomes a critical issue.

- Poverty Alleviation and Slum Up-gradation programmes have so far had minimal impact on the poor.

The CDP has estimated that about 8% of Gangtok's population live in the nine notified slums and squatter settlements, all on Government land. The CDP has identified the notified slums as follows:

Table 19: Notified Slums of Gangtok, CDP (2006)

SL.NO	SLUM	POPULATION (persons)
1	Old Slaughter House (Arithang Area)	723
2	Diesel Power House(DPH) + Bhanugram (Arithang Area)	1339
3	Munshi Colony (Development Area)	916
4	Area Between Kazi Road and Tibet Road	149
5	Namnang (Adjacent to Lal Bazar, GurungGaon)	355
6	Tathangchen	791
7	Chandmari, Below Ganesh Tok	1031
8	Burtuk	1334
9	Ranipool (3 pockets)	1355
	TOTAL	7993

Issues related to up-gradation of these nine slums were as follows:

- 6 out of 9 slums are located in steep, landslide prone and subsidence areas
- No public toilets; those present are non-functional.
- Water supply from spring sources
- Solid waste and sewerage disposal in the jhoras
- Accessibility by footpaths that require up-gradation

The CDP proposals have concentrated on the notified slums, and the non-notified slums issues have not been addressed.

2.7.3.2 Slum Improvement Proposals

The CDP has proposed re-introduction of the Community Small Grants Scheme, where the poor could be a part of the development process, introduced during the Aus-AID GWSS project in Gangtok. Provision of basic amenities to the urban poor was given priority. Up-gradation of slums involved the following initiatives:

- Construction of community water taps close to cluster of houses.
- Construction of community public toilets in all the notified slum areas.
- Providing child care centres or crèche facilities for small children living in slums,
- Construction of community and marriage halls in slum areas especially in Tadong (at the SNT Colony complex where land from the SHDB has been transferred to UD&HD) and Tathangchen.
- Land tenure and social housing has to be encouraged with the involvement of private sector participation.
- Improvement in the footpaths, street-lighting and drainage system in localities exhibiting slum like characteristics.
- Training of jhoras in Arithang where there are three slums located should be taken up immediately.
- Formation of Community Based Organizations and Self Help Groups for convergence of various poverty alleviation programmes.
- CBOs and SHGs to be the conduits for IEC campaigns.
- Re introduction of Community Small Grants Scheme for community participation.

2.7.3.3 Project Scope and Cost Estimates

Based upon the urgent improvement needs as identified in the SWM master plan, detailed cost estimates have been worked out for the identified project components. The components in this regard considered with the base year cost of 2005-2006 financial year. The proposed cost estimates on SWM of Gangtok is given below:

SL.NO	PROJECT	COST ESTIMATE (in lakhs)
1	up-gradation of slums - facility for urban poor	6200
2	Social housing	3000

Table 20: Prioritization and Phasing of Projects

SN	ITEMS	TYPE OF FUNDING	YEAR 2007-08	YEAR 2008-09	YEAR 2009-10	YEAR 2010-11	YEAR 2011-12	YEAR 2012-13	TOTAL
1	Up-gradation of slums - facility for urban poor	State	1550	1550	1550	1550	0	0	6200
2	Social Housing	State	750	750	750	750	0	0	3000

Table 21: Suggestive Amendments In Legal Framework

SLNO	OBJECTIVE	STATUS/ISSUES	INSTITUTIONAL DEVELOPMENT ACTION PLANS
1	To strengthen the existing capacity of the UD&HD so that it could execute better coordination in planning, designing and implementing programs / schemes for slum up-gradation in Gangtok	There are 9 notified slums within Gangtok. The UD & HD has implemented Urban Poverty Alleviation Programs (UPA) such as the EIUS, UBSP, SJSRY etc. There is a definite need for (i) strengthening of the existing unit with technical, managerial and entrepreneurial skills for planning, designing and implementation of slum up-gradation schemes. (ii) Need for strengthening the neighborhood committees to develop a community-based approach for selection of beneficiary and project implementation.	Agencies Responsible: UD&HD <ul style="list-style-type: none"> Up gradation of the existing arrangements by creating Social Coordination and Community Development Unit within the UD&HD which can perform as the coordinating cell for all activities pertaining to slum up-gradation. For the notified slums, on a priority basis the infrastructure in terms of minimum basic services need to be assessed. These shall be prioritized adopting a community-based strategy, incorporating the concerns and felt needs of the communities, NGOs etc. Evolve a community-based process for beneficiary identification for the various programs. Develop in-house technical skills and participatory appraisal skills through induction of civil engineer with required experience.

2.7.4 State Initiatives for Urban Poverty Reduction

In the absence of an urban local body, the implementation of the poverty alleviation schemes of the central and state governments is done through the UD&HD. Slum up-gradation also falls within the purview of the UD&HD. The UEPA cell deals with SJSRY and NSDP, the only two programmes being availed of by the state. Neighbourhood Committees (NHCs) are formed as per the SJSRY programme which was launched in Gangtok in 1999. (CDP, 2006)

At present several registered self-help groups have been formed in the notified slums.

The primary roles of these groups include:

- Identification of beneficiaries
- Identification of issues and priorities of people
- Project preparation and forwarding the same to the UD&HD
- Monitoring of projects

2.7.5 Review of Existing Institutional Set-up for Slum Improvement Programmes and Projects

2.7.5.1 Institutional Set-up

Municipal Administration

After Sikkim's merger with India in 1975, the Gangtok Municipal Corporation Act was enacted and the Gangtok Municipal Corporation formed for looking after the obligatory functions for Gangtok town. However, the Gangtok Municipal Corporation was abolished under the **Sikkim (Repeal and Miscellaneous Provision) Act 1985** and its power and functions reverted to Local Self Government Department. Later, vide Government Notification No.7 (17)/Home dated 28th July

1990; the Local Self Government Department was rechristened **Urban Development and Housing** Department.

As the mandatory reform under the JnNURM to adhere to the spirit of the 74th Constitutional Amendment Act, the Sikkim Municipalities Act, 2007 was enacted for the creation of Urban Local Bodies in the State of Sikkim. Accordingly, the Gangtok Municipal Corporation was notified under the Sikkim Municipal Act 2007. The first election to the GMC was held on April 2010. The Gangtok Municipal Corporation, which is divided into 15 different wards, has its legislative head as the Mayor and the Municipal Commissioner deputed from Government of Sikkim as the executive head. Presently the GMC has only been handed over the responsibility of the issue of Trade License and Solid Waste Management. The Urban Development & Housing Department, Government of Sikkim which is the nodal Department overlooking the functioning of the Urban Local Bodies is responsible for the other Municipal functions in the city of Gangtok.

2.7.5.2 Institutions Related To Planning and Delivery of Housing

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

The Urban Development & Housing Department is responsible for all the physical planning in the state of Sikkim including the city of Gangtok. Instead of a statutory master plan for the city as in practice in other parts of India, a Structure Plan for the city of Gangtok prepared on behalf of the UD&HD by Surbana International Consultants Pvt. Ltd., Singapore is in place. The Gangtok Structure Plan is a non-statutory Development Guide Plan, which guides the use of future land use in the city of Gangtok. The Gangtok Structure Plan was finalized in 2009. The Plan proposes the creation of different neighbourhoods within Gangtok 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. As per the priorities listed out in the CDP, projects under BSUP and

UI&G have already been sanctioned for Gangtok and are under implementation.

Urban Development & Housing Department, Government of Sikkim is also the Department responsible for most of the Municipal functions in Gangtok and other urban areas in Sikkim. 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 in Gangtok.
- 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.

ii. 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 and the GMC.

iii. 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.

2.7.5.3 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 the state of Sikkim. This is the same department, which supplies water in an intermittent system to the city of Gangtok through piped distribution (gravitational) system. The WS&PHED is responsible for the sanitation i.e. construction and maintenance of the sewerage system in Gangtok. The improvement and expansion of water supply & sewerage system in Gangtok, which had been proposed to be undertaken under the Non-Lapsable Central Pool of Resources during the 11th plan, is underway.

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 jhora training works. The large number of jhora network within the city of Gangtok is properly trained and channelled by this Department in addition to the works carried out by the UD&HD.

iii. Roads & Bridges Department (R&B)

Apart from the city roads which are looked after by the UD&HD within Gangtok, the R&B Department which is also a wing of the State Public Works Department looks after the State highways that connect Gangtok to rest of the State.

iv. Energy & Power Department

The Energy & Power Department of Sikkim is engaged in the generation of electricity, its transmission to various load centres 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. The National Highway 31A, Indira by-pass road, Eastern by-pass road and the J.N. Road is maintained by the BRO.

Chapter III: ASSESSMENT OF PRESENT STATUS OF SLUMS

3.1 Preparation of Municipal Information base for slums

After the introduction of RAY programmes to all stakeholders, including the intended and expected beneficiaries, and brief analysis of the existing institutional framework and policies and programmes for slum improvement, a comprehensive assessment of the current situation / scenario with respect to slums in Gangtok has been made. The assessment includes social, economic, housing and amenities as well as infrastructure situation of slums in Gangtok.

3.2 Preparation of Updated List of Slums

The first task undertaken for this is preparing an updated list of slums as per the agreed upon definition and their spatial distribution in the city of Gangtok. The primary objective of this exercise is to understand:

- The extent of the problem
- The spatial distribution / pattern of the slum phenomenon.

The Ray technical cell has identified the following 58 slums in Gangtok through primary survey, stakeholders' consultations and site verification.

Table 22: Wardwise List of Slums with Slum Name & Population

Sl. No.	Name of Ward	Name of Slum	No. of Household	Total Population
1	Burtuk	Burtuk	376	1440
2		Selep waterworks complex	112	459
3		Bakthang-i	14	78
4		Bakthang-ii	21	91
5		Gurung gaon	11	39
6	Lower sichay	Lingding rai gaon	14	57
7		Kanchan colony	17	74
8		District court colony	17	73

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9	Upper sichey	Raigaon-below tibetan school	11	46
10		Greater sushant gram	34	147
11		Below paljor stadium	4	15
12		Greater suryagaon	106	444
13	Chandmari	Chandmari	538	2073
14		Tamanggaon - thapa gaon	26	112
15		Kazi dara	13	62
16		2nd mile	77	324
17		Katoosdara	5	23
18		Gobareygaon	10	65
19		Dichiling pocket	4	23
20		Devithan area	16	59
21		Chongthong busty	13	52
22		Parichandmari	11	48
23		Goskhaandara	2	7
24		Above Zero Point	3	12
25	Development area	Munshi Colony	555	1945
26	Diesel power house	Diesel Power House	252	948
27		Bhanugram	378	1462
28		Hospital jhora area	7	45
29	Arithang	Slaughter house	1316	4572
30		Beside Bhanugram	24	83
31		Ramudamu Busty	26	102
32		Dhobi dara	6	29
33		Masjid area	29	175
34	Lower MG Marg	Nam nang	196	763
35		Lower Lall Bazar area	61	259
36		Star Hall	15	52

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37		DC building and fringes	58	291
38	Upper MG Marg	Nam nang slum ii-below chintanbhawan	2	7
39		Nam nang slum i-below ropeway	31	123
40	Tibet Road	Area stretched between kazi road and tibet road	88	428
41	Deorali	Kharkey line - raigaon - below krishna company	43	176
42		Above Amdogolai i and ii	14	57
43		Deorali school pocket	3	12
44	Daragaon	Paanch mile	9	45
45		Tsewang auto works	31	124
46		Milan gaon	7	35
47		Gairigaon	12	49
48	Tadong	Above tadong school	37	146
49		College valley	22	81
50		Bhutiagaon	37	137
51		Upper housing and lower housing	14	48
52		Devi than area below entel	38	163
53		Below MP Golai and metro point	64	181
54	Ranipool	Above NH-31A	399	1551
55		Shanti complex	171	769
56		Area between NH-31A	80	346
57	Syari-Tathangchen	Tathangchen	518	2219
58		Khangu area	87	334
	Total		6085	23580

Source: Primary Household Survey 2012, RAY Cell, Gangtok

There are 58 slums spread across 15 wards of Gangtok. Total number of slum households is 6085. The total slum population is estimated to be 23,580 out of the total population of 1,00,286. This means that about 23.51% of the total population is living in slums. In terms of households 26% are living in slums. This figure is way above the national average of 17% slum households of the total urban households. (Note: The total number of HHs in Gangtok Municipal Area for 2011 is estimated to be 23773 by Census of India, 2011).

3.2.1 Conducting Socio-economic Survey of Slum Pockets

With this list as the basis for understanding the slum scenario in Gangtok, a comprehensive / full count survey as per the RAY formats was carried out by RAY Cell, Gangtok, which is the basis of information on which the analysis as well as recommendations has been formulated.

As mentioned earlier, the slum scenario has been assessed mainly on the following broad aspects:

- Spatial distribution
- Demographic features
- Socio-economic conditions
- Physical infrastructure

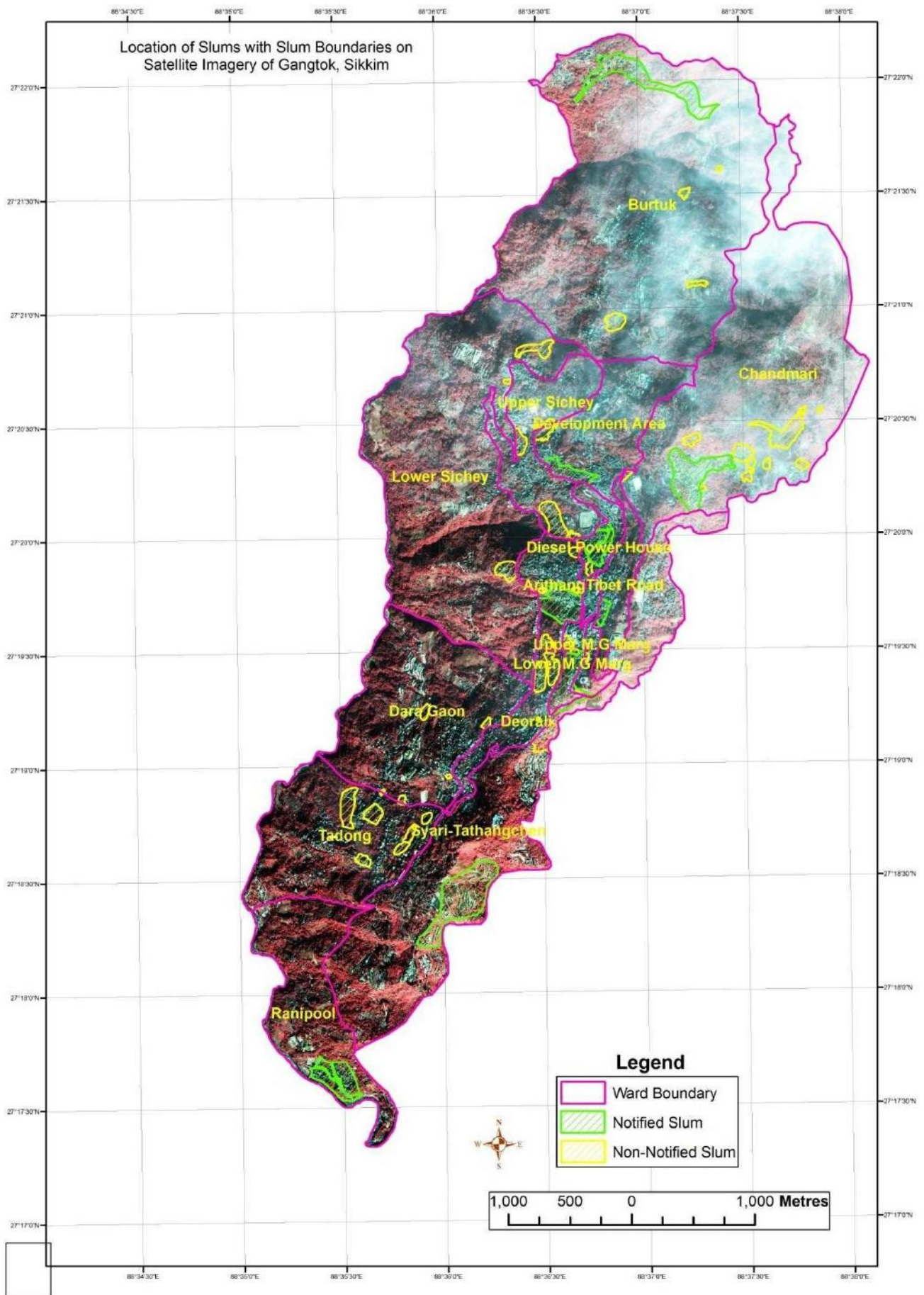
The detailed analysis of the slum situation is explained in the coming sections. The maps on next page show the location of slums in Gangtok.

3.3 Slum Typology Study

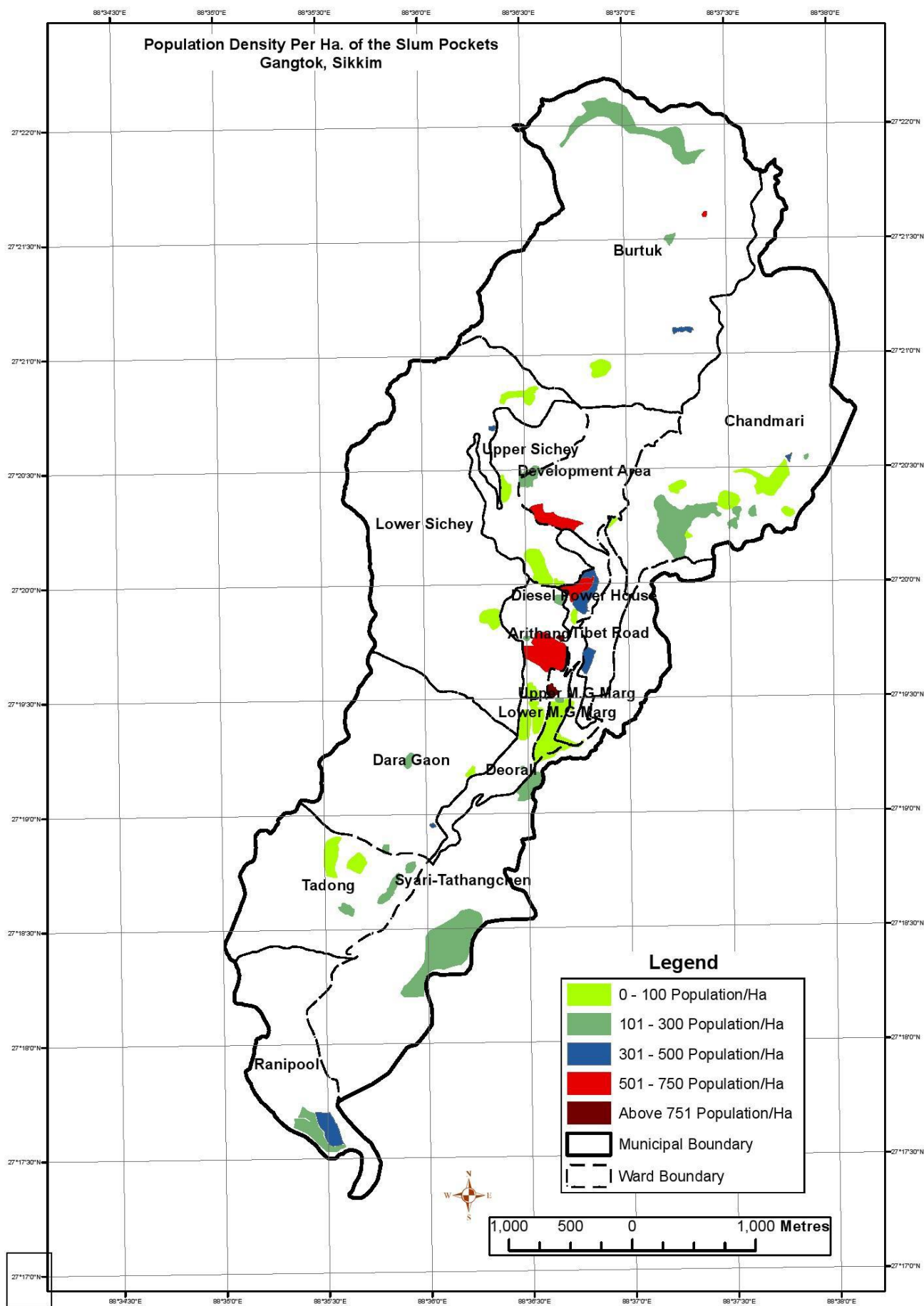
3.3.1 Locational Analysis of Slums

Slums are present in varying degrees in all 15 wards of Gangtok City. Ward Chandmari has the highest number of slums (12) while Ward Arithang has the highest population concentration accounting for 21% of slum population and 23% of the total slum household. The first five wards

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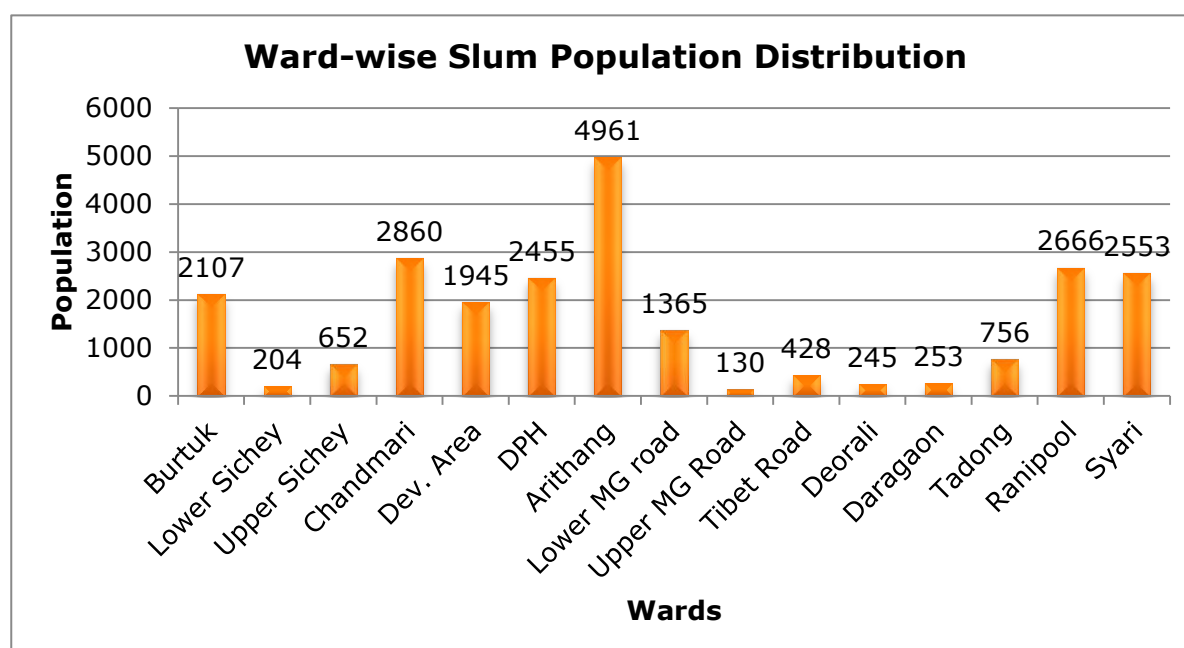
in terms of % of slum HHs to total slum Households accounts for 65% of the total slum households revealing a concentrating trend in the locational pattern of slums in Gangtok. Wards with major slum presence are Arithang, Chandmari, Ranipool, Syari-Tathangchen and Diesel Power House (DPH).

Table 23: Wardwise Distribution of Slums & Slum HHs with Population

Sl No.	Ward Name	No of Slums	% to Total No. of Slums	Total Slum Pop.	% to Total Slum Pop	Total Slum HHs	% to total Slum HHs	Total Population	% Slum population to total population
1	Burtuk	5	8.6	2107	8.9	534	8.8	9957	21.16
2	Lower Sichey	3	5.2	204	0.9	48	0.8	5873	3.47
3	Upper Sichey	4	6.9	652	2.8	155	2.5	7979	8.17
4	Chandmari	12	20.7	2860	12.1	718	11.8	6177	46.30
5	Dev. Area	1	1.7	1945	8.2	555	9.1	6723	28.93
6	DPH	3	5.2	2455	10.4	637	10.5	3987	61.58
7	Arithang	5	8.6	4961	21	1401	23	8212	60.41
8	Lower MG road	4	6.9	1365	5.8	330	5.4	4032	33.85
9	Upper MG Road	2	3.4	130	0.6	33	0.5	2664	4.88
10	Tibet Road	1	1.7	428	1.8	88	1.4	3266	13.10
11	Deorali	3	5.2	245	1	60	1	6938	3.53
12	Daragaon	4	6.9	253	1.1	59	1	9605	2.63
13	Tadong	6	10.3	756	3.2	212	3.5	9325	8.11
14	Ranipool	3	5.2	2666	11.3	650	10.7	4520	58.98
15	Syari-Tathangch	2	3.4	2553	10.8	605	9.9	11028	23.15
	Total	58	100	23580	100	6085	100	100286	

Source: Primary Survey 2012, RAY Cell, Gangtok

Fig. 15: Ward-wise Slum Population Distribution

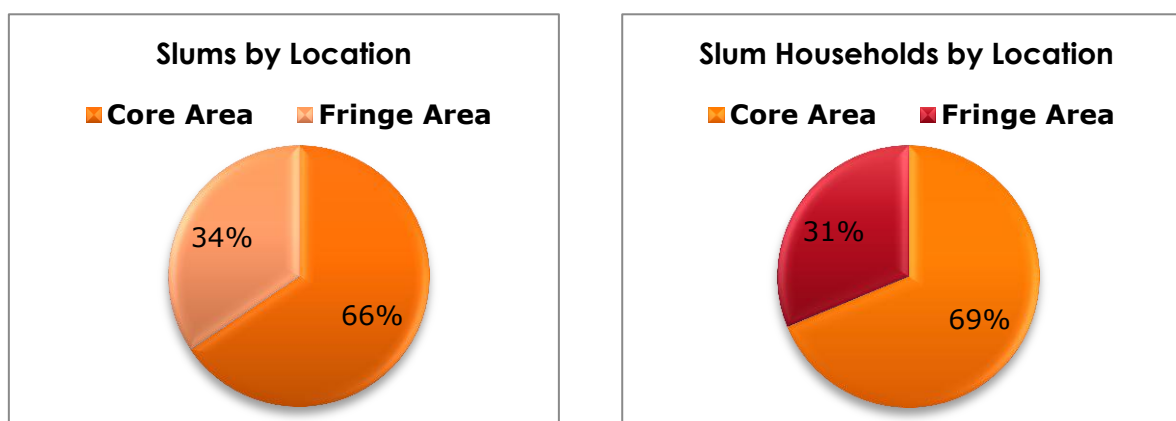


In order to understand the locational dynamics of the slums, the primary survey format / questionnaire included information on location of slum in 'core' or 'fringe' area. The pattern as derived from the primary survey data indicates that slums in Gangtok tend to concentrate in the city or core region of Gangtok. The number of slums in Fringe Area is only about 34% while the percentage of slum-households in fringe areas to total slum households in Gangtok is even less, 31.3%.

Table 24: Location-wise distribution of Slums & Slum HHs in core or fringe area

Location Category	No. of Slums	in %	No. of HHs	in %
Core Area	38	65.5	4183	68.7
Fringe Area	20	34.5	1902	31.3
Total	58	100.0	6085	100.0

Source: Primary Survey 2012, RAY Cell, Gangtok

Fig. 16: Pie diagrams showing slums and slum households by location

3.3.2 Slum Profile

The survey format also included information on notified and non-notified slums in Gangtok. Out of the total 58 slums, 12 are notified slums and rest 46 are non-notified. Year of Notification for all 12 notified slums is 2003. Slum wise details of notified and non-notified slums are given below.

Table 25: Total number of notified and non-notified slums

Notification Status of Slums	No. of Slums
Notified	12
Non-Notified	46
Total	58

Source: Primary Survey 2012, Ray Cell, Gangtok

Table 26: Total number of notified and non-notified slums

Notification Status of Slums	Core Area			Fringe Area			Slum HH in terms of % of Total Slum HHs	Slum Population in terms of % of Total Slum Population
	No. of Slums	No. of HHs	Population	No. of Slums	No. of HHs	Population		
Notified	7	3303	12340	5	1564	6179	79.98	78.53
Non-Notified	31	869	3565	15	349	1499	20.02	21.47
Total	38	4172	15905	20	1913	7678	100.00	100.00

Source: Primary Survey 2012, Ray Cell, Gangtok

Table 27: Slum Location and Area Status

Notification Status of Slums	Core Area		Fringe Area		Area in % to total Slum Area
	No. of Slums	Area in Sq. mts	No. of Slums	Area in Sq. mts	
Notified	7	443784.4	5	316502.6	65.98
Non-Notified	31	249196.6	15	142885.2	34.02
Total	38	692980.9	20	459387.8	100.00

Source: Primary Survey 2012, Ray Cell, Gangtok

Slums in Gangtok are mostly located in Core Areas. While there is not much difference in number of notified slums in core and fringe areas, for non-notified slums, it is predominantly in the core areas, which account for 31 out of total of 46 non-notified slums (67%). The tables above indicate that although the number of non-notified slums outweighs the number of notified slums, non-notified slums are comparatively smaller in size both in terms of area and population.

- ❖ Notified slums (12 nos.) account for about 66% of the total area under slum

- ❖ Notified slums account for about 80% of the total slum households
- ❖ Notified slums account for 78% of the total slum population.

To summarize, it can be said that, although notified slums are less in numbers they have greater presence / significance in the slum scenario of the Gangtok City.

3.3.3 Variation in slums size by number of households, areas and densities

3.3.3.1 Variation in Slum Size in terms of Number of Slum Households

The slum size expressed in terms of no. of HHs in the slums show wide variation. It ranges from 2 HHs in Nam Nang Slum II-Below Chintan Bhawan, in the ward Upper M.G. Marg to 1316 in the Arithang slum. Maximum numbers of slums are of the size 11 to 50 HHs. There are 27 slums in this category i.e. 46% slums.

Table 28: Household Distribution of Slums

No. of HHs in slum	No. of Slums	% to total
<5	6	10.34
6 to 10	6	10.34
11 to 50	27	46.55
51 to 100	7	12.07
100 to 500	8	13.79
>500	4	6.90
All	58	100.00

Source: Primary Survey 2012, RAY Cell, Gangtok

Big slums with number of households more than 500 are 4 with only one slum i.e. Arithang with no. of HHs exceeding one thousand. There are 6 slums with no. of HH less than 5. This category of slum deserves a special mention since the size is less than the definitional criteria of slum in

Sikkim, i.e. 5HHs. Another 6 slums have number of HHs ranging from 6 to 10.

3.3.3.2 Variation in Slum Size in terms of Area of slums

Slums account for 1152368.70 sq. m (1.15 sq. Km) of area, which is about 6% of the total area of Gangtok Municipal Corporation (19.28 Sq. Km). In other words, while slums account for 6% of the total area in Gangtok, it accounts for 23.51% of the population of Gangtok, implying significantly higher residential density in slums compared to non-slum areas of Gangtok.

A detailed analysis of slum size in terms of area is given in the table below.

Table 29: Size of Slums in terms of Area

Status of Slums	Number of Notified Slums			Number of Non-Notified Slums			Total Number of Slums			Area Category of Slums in % terms of Total number of Slums
Location of Slums	In Core City (A)	In Fringe Area (B)	Total (C)	In Core City (D)	In Fringe Area (E)	Total (F)	In Core City (G)	In Fringe Area (H)	Total (I)	
Category of Slums as per area										
0<1000 sqm	0	0	0	4	1	5	4	1	5	8.62
1000<3000 sqm	0	0	0	10	5	15	10	5	15	25.86
3000<6000 sqm	0	0	0	5	4	9	5	4	9	15.52
6000<9000 sqm	0	0	0	3	0	3	3	0	3	5.17
9000<12000 sqm	0	0	0	2	1	3	2	1	3	5.17
>12000 sqm	7	5	12	7	4	11	14	9	23	39.66
Total Number of Slums	7	5	12	31	15	46	38	20	58	100.00

Location-wise Slum as % of total number of Slums	12.07%	8.62%	20.69%	53.45%	25.86%	79.31%	65.52%	34.48%	100.00%	
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Source: Primary Survey 2012, Ray Cell, Gangtok

The slums of Gangtok are mostly in the category of over (larger than) 12000sq.m. Out of the total slums of 58, there are 23 slums in this category, followed by 15 numbers of slums in the category 1000 to < 3000 sq. m.

3.3.3.3 Variation in Slum Size in terms of Density of slums

An analysis of density patterns of slums shows that the average slum density is 205 persons per hectare. Table below shows the average density pattern in slum areas.

Table 30: Density of Slums according to Location and Notification Status

Notification Status of Slums	Core				Fringe			
	No. of Slums	Population	Area (in sq.m)	Density (persons / hectare)	No. of Slums	Population	Area (in sq.m)	Density (persons / hectare)
Notified	7	12340	443784.39	278	5	6179	316503	195
Non-Notified	31	3565	249196.56	143	15	1499	142885	105
Total	38	15905	692980.94	230	20	7678	459388	167
Average Density	205 persons / hectare							

Source: Primary Survey 2012, Ray Cell, Gangtok and area calculation from geo referenced base map

The fringe slums register density below the city average of 205 pph while in core areas the average density is 230 pph. Notified slums register higher density compared to their equivalent counterpart in the non-notified category.

Table 31: Wardwise Density Pattern of Slums in Gangtok

Sl. No.	Ward Name	Area (in Sq. m.)	No. of HHs	Population	Population Density (persons / Ha)
1	Burtuk	158665.38	534	2107	133
2	Lower Sichey	39407.41	48	204	52
3	Upper Sichey	64488.34	155	652	101
4	Chandmari	205608.94	718	2860	139
5	Development Area	45748.81	555	1945	425
6	Diesel Power House	50523.33	637	2455	487
7	Arithang	90196	1401	4961	550
8	Lower Mg Marg	94522.12	330	1365	144
9	Upper M.G. Marg	6753.22	33	130	193
10	Tibet Road	13077.4	88	428	327
11	Deorali	22539.15	60	245	109
12	Daragaon	10198.57	59	253	248
13	Tadong	59582.61	212	756	127
14	Ranipool	75409.97	650	2666	354
15	Syari-Tathangchen	215647.47	605	2553	118
	Total	1152368.7	6085	23580	205

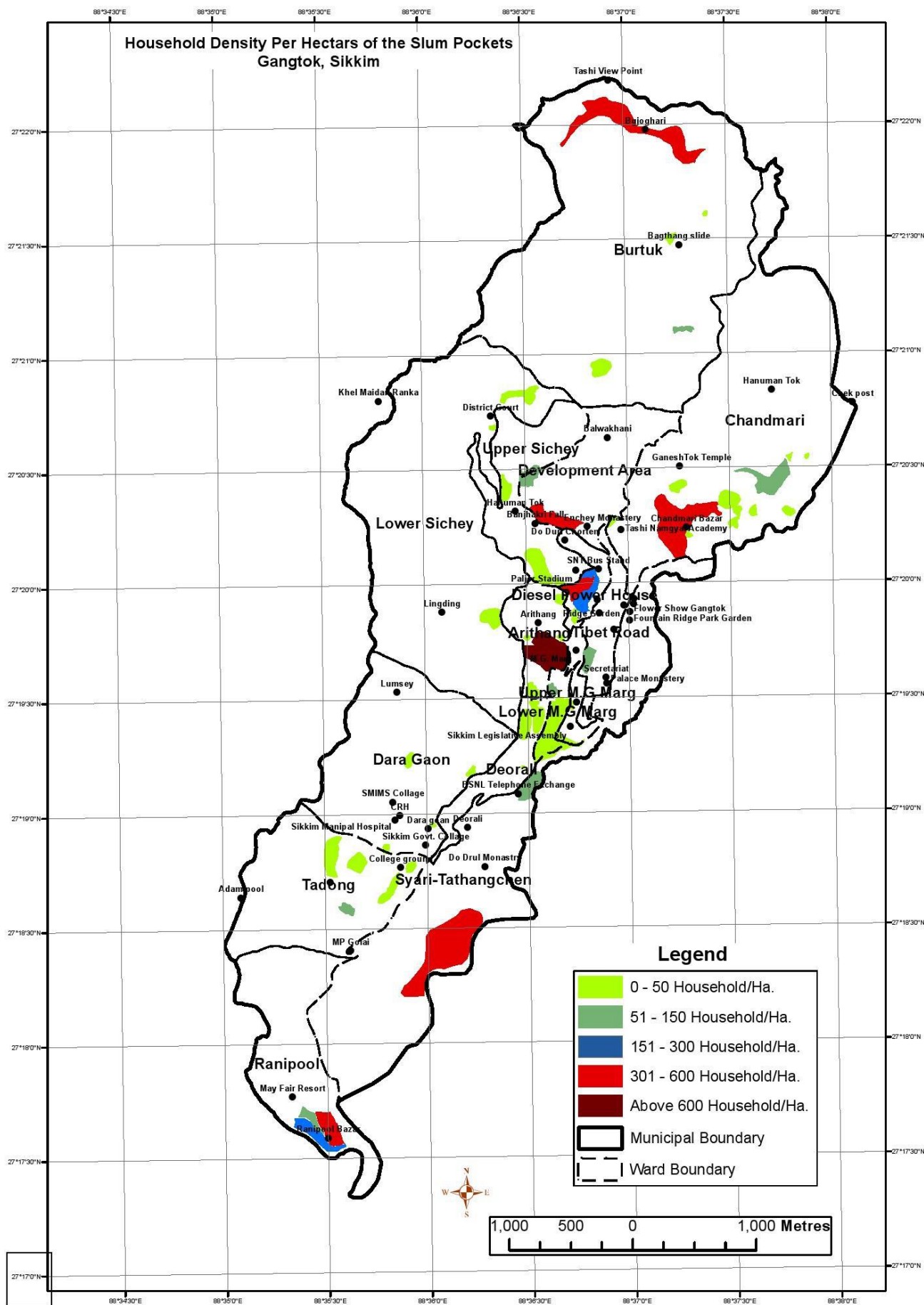
Source: Primary Survey 2012, Ray Cell, Gangtok and area calculation from geo referenced base map

Ward wise slum density data shows wide variation ranging from 52 pph in Lower Sichey to 550pph in Arithang. The top five wards in terms of high slum density are Arithang, Diesel Power House, Development Area, Ranipool, and Tibet Road.

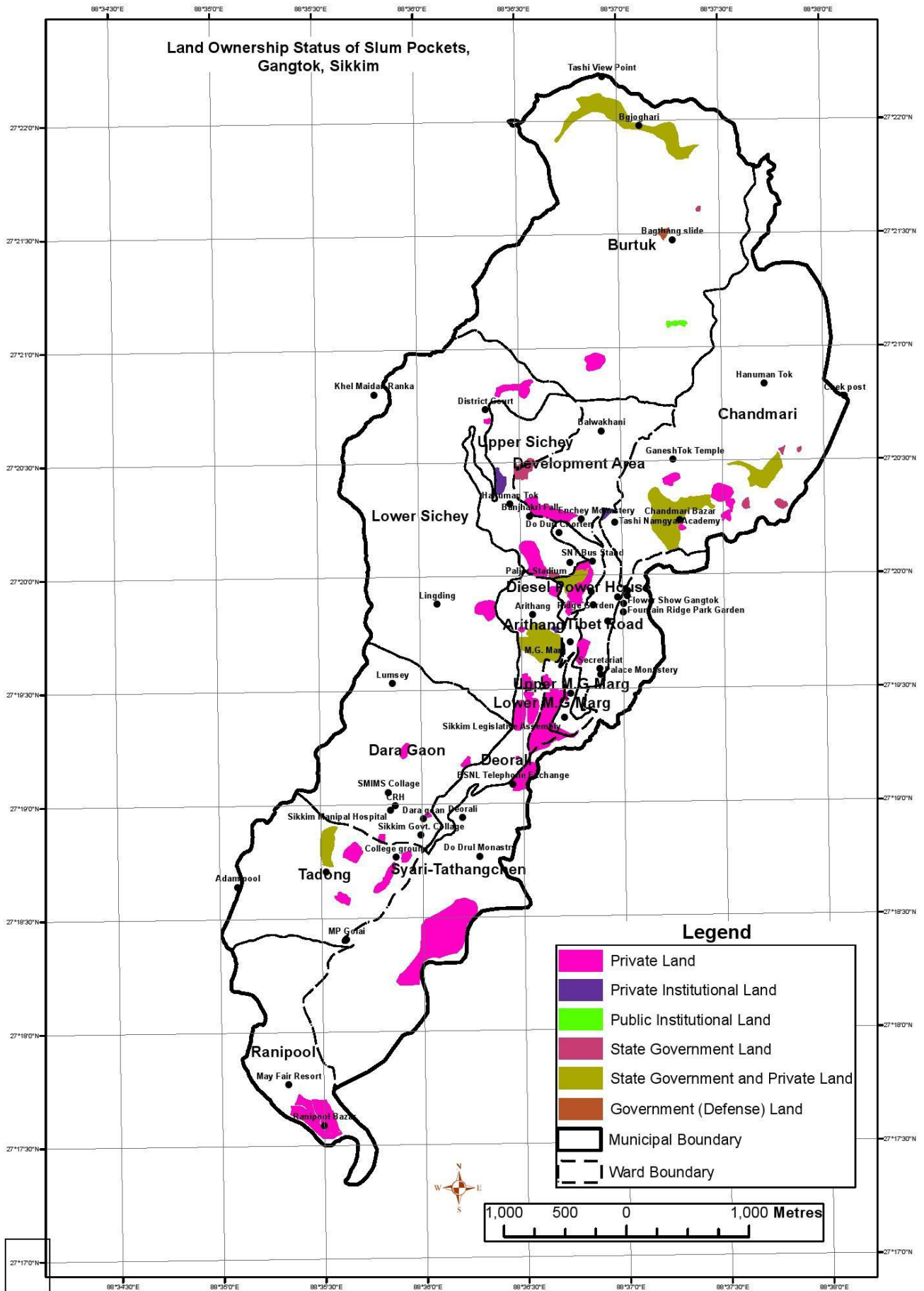
3.3.4 Ownership Status of Slum Areas

An analysis of the ownership of land on which the slums have developed shows that percentage share of slums in government land is quite low. There are only 9 slums that are on government land (15.52%) compared to 75.86% in private land. The Category 'Private & Govt. Land' has contiguous slum development, with part of land being owned by the Govt. and part by private owners. This category has 5 slums and accounts for 8.62% of the total urban households.

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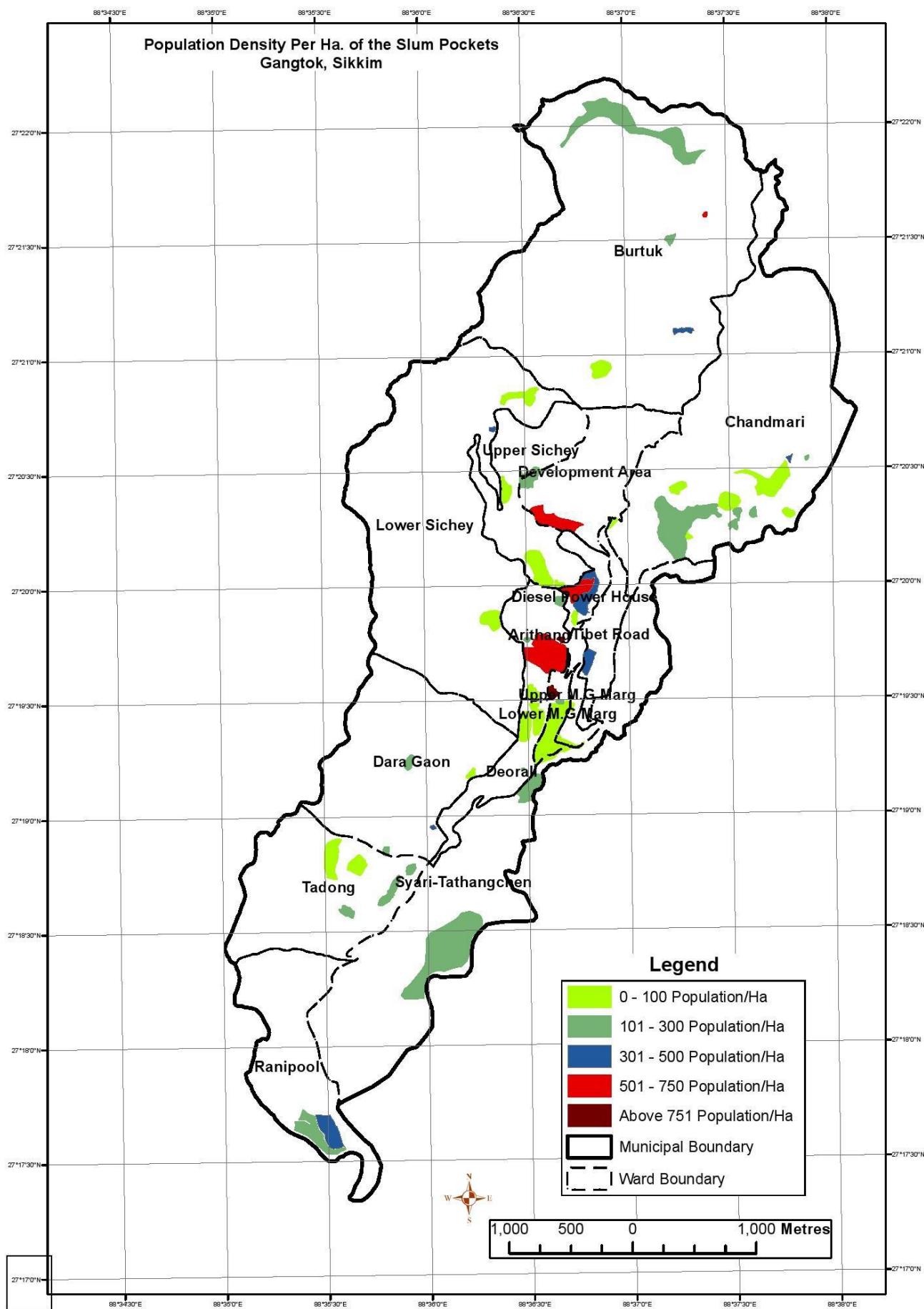
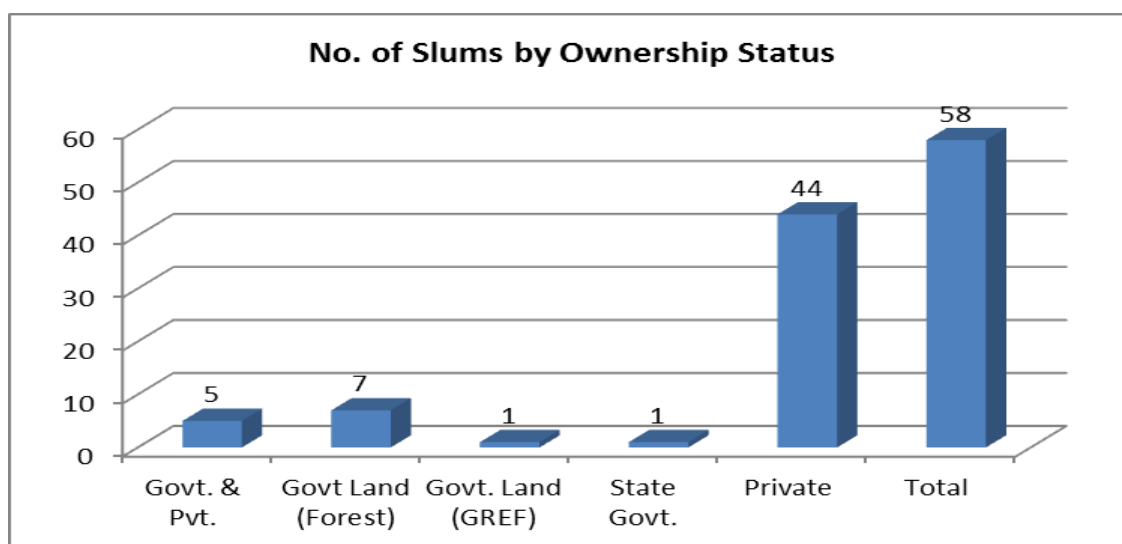


Table 32: Land ownership of Slums

Category Of Ownership	No. of Slums	In %
Govt. & State Govt.	9	15.52
Private	44	75.86
Govt. & Private	5	8.62
Total	58	100.00

Source: Primary Survey, RAY Cell, Gangtok

Fig. 17: Number of Slums by ownership status

Irrespective of the notification status and location status, the slums of Gangtok are predominantly in private lands and concentration of slum HHs are also higher in slums of this category.

It is pertinent to mention here that these slums in 'private' land are not encroachments but are private rental housing with improper housing standards and inadequate housing amenities resulting in slums-like condition.

The landownership status of slums in Gangtok is indicative of the complex challenge of implementing slum free city plan of action in Gangtok. The reason being, it requires:

- ❖ Willingness of the private owner to participate in slum redevelopment programmes
- ❖ Govt. spending for improved housing on such slums, where the benefit may be restricted to the 'owners' may not be practicable.

3.3.5 Economic Profile of Slum Dwellers

Total number of BPL HHs reported as per the survey conducted is 504 out of the total slum households of 6085. The proportion of BPL Households in slum is about 8%. The same for the notified category is about 3% and for the non-notified category is about 5%.

(Note: BPL families listed here are not mandatorily BPL cardholders. The number of HHs with BPL card is substantially less, 281 compared to total the figure of total number of BPL households which is estimated to be 504)

Table 33: Economic Profile of Slum BPL Households

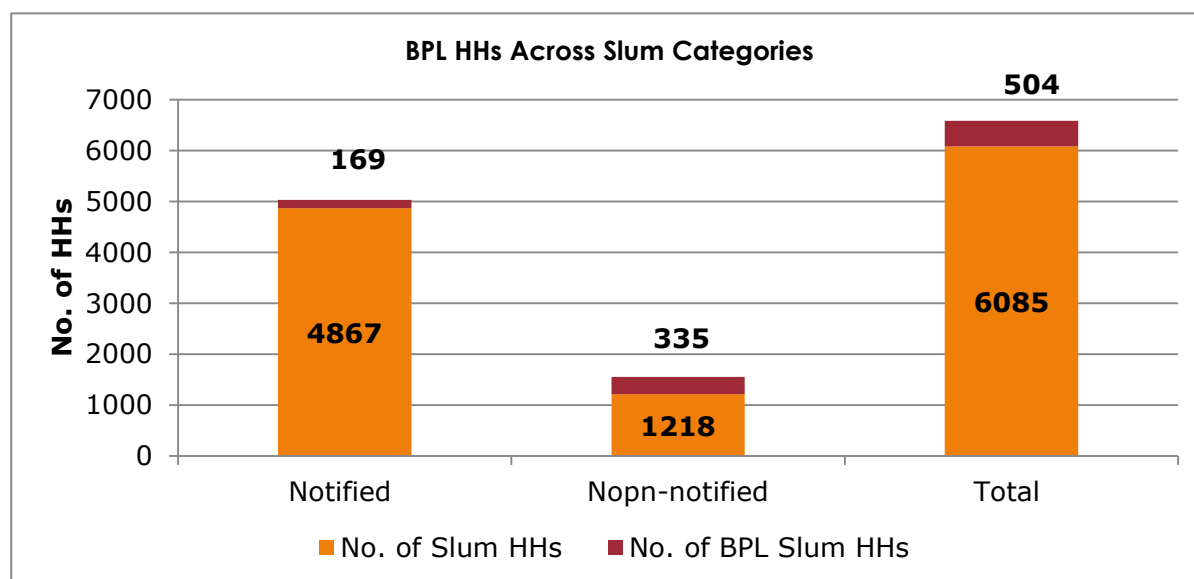
Notification Status of Slums	Core Area		Fringe Area		% of BPL HHs to total Slum HHs
	No. of Total Slum HHs	No. of BPL HHs	No. of Total Slum HHs	No. of BPL HHs	
Notified	3303	102	1564	67	2.78
Non-Notified	869	179	349	156	5.51
Total	4172	281	1913	223	8.28

Source: Primary Survey 2012, Ray Cell, Gangtok

Table 34: Profile of Workers living in GMC area

	Total Workers			Marginal workers			Main workers			Non workers		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Gangtok (GMC)	43776	30937	12839	37854	27202	10652	5922	3735	2187	56510	21522	34988

Source: Census of India 2011

Fig. 18: Number of BPL Slum HHs across number of Slum HHs

As per the primary survey estimates absolute poverty reported is limited and therefore not the prime area of concern for the Gangtok city administrators. It is particularly noteworthy, given the economic and poverty status has a direct bearing on:

- ❖ The beneficiary willingness to participate in redevelopment programmes as well as
- ❖ Ability to pay and credit worthiness of the intended beneficiary.

To have a better understanding of the above two points, the monthly income of slum dwellers has also been assessed.

Table 35: Slumwise Details of Average Monthly Income of Slum Households

Ward Name	Name of Slum	Total No. of HHs	No. of HHs as per monthly income category of						Monthly Income Below 3000
			Rs.0-999	Rs. 1000-1999	Rs. 2000-2999	Rs. 3000-4999	Rs. 5000-10000	Rs. >10000	
Burtuk	Burtuk	376	0	0	1	27	139	209	1
Burtuk	Selep Waterworks Complex	112	1	0	0	19	60	32	1
Burtuk	Bakthang-I	14	0	0	0	0	8	6	0
Burtuk	Bakthang-Ii	21	0	0	0	5	12	4	0

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Burtuk	GurungGaon	11	0	0	0	1	9	1	0
Lower Sichey	LingdingRaiGaon	14	0	0	0	3	10	1	0
Lower Sichey	Kanchan Colony	17	0	0	1	2	11	3	1
Lower Sichey	District Court Colony	17	0	0	2	2	10	3	2
Upper Sichey	RaiGaon-Below Tibetan School	11	0	0	2	0	5	4	2
Upper Sichey	Greater Sushant Gram	34	0	0	2	4	18	10	2
Upper Sichey	below paljor stadium	4	1	0	0	1	0	2	1
Upper Sichey	Greater Surya Gaon	106	1	0	7	23	52	23	8
Chandmari	Chandmari	538	15	1	5	56	194	267	21
Chandmari	TamangGaon - ThapaGaon	26	0	0	0	3	13	10	0
Chandmari	KaziDara	13	0	0	0	1	11	1	0
Chandmari	Dui Mile	77	0	0	0	17	48	12	0
Chandmari	KatoosDara	5	0	0	0	2	2	1	0
Chandmari	GobareyGaon	10	0	0	0	2	5	3	0
Chandmari	Dichiling Pocket	4	0	0	0	0	3	1	0
Chandmari	Devi Than Area	16	0	0	0	4	11	1	0
Chandmari	Chongthong Busty	13	0	0	0	1	9	3	0
Chandmari	PariChandmari	11	0	0	0	1	7	3	0
Chandmari	GoskhaanDara	2	0	0	0	1	1	0	0
Chandmari	Above Zero Point	3	0	0	0	0	3	0	0
Development Area	Munshi Colony	555	2	0	1	19	108	425	3
Diesel Power House	Diesel Power House	252	0	1	1	5	41	204	2
Diesel Power House	Bhanugram	378	0	1	3	19	118	237	4
Diesel Power House	Hospital Jhora Area	7	0	0	0	0	3	4	0

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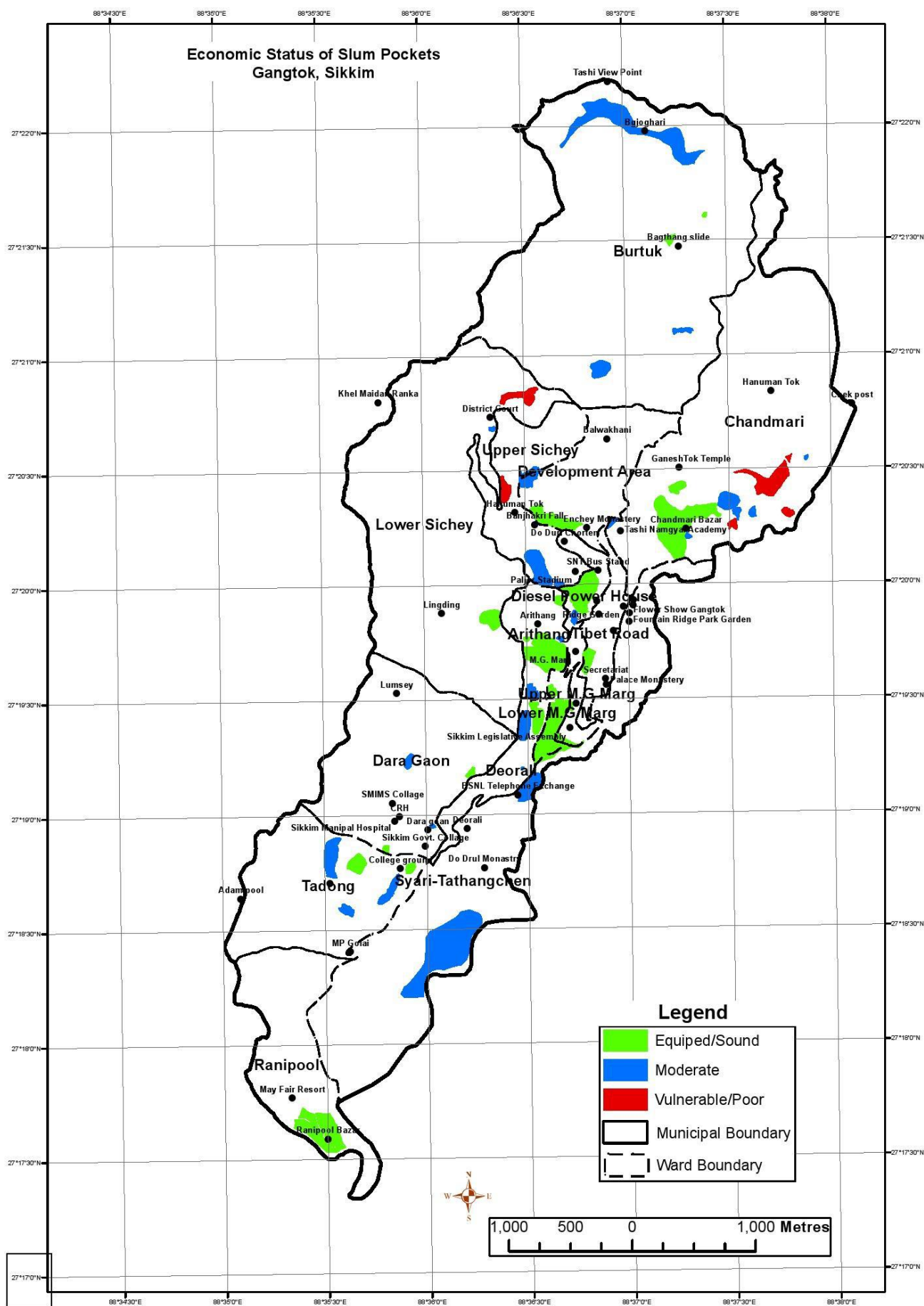
Arithang	Slaughter House	1316	0	4	6	100	688	518	10
Arithang	Beside Bhanugram	24	0	0	0	5	15	4	0
Arithang	RamuDamu Busty	26	0	0	0	2	24	0	0
Arithang	Dhobi Dara	6	0	0	0	2	4	0	0
Arithang	Masjid Area	29	0	3	0	0	19	7	3
Lower MG Road	Nam nang	196	0	0	2	5	44	145	2
Lower MG Road	Lower Lall Bazar Area	61	0	0	0	10	48	3	0
Lower MG Road	Star Hall	15	0	1	0	6	6	2	1
Lower MG Road	Dc Building And Fringes	58	0	0	0	0	55	3	0
Upper m.g. Marg	Nam nang Slum Ii-Below ChintanBhawan	2	0	0	1	0	1	0	1
Upper m.g. Marg	Namnang Slum I-Below Ropeway	31	0	2	1	12	13	3	3
Tibet Road	Area Stretched Between Kazi Road And Tibet Road	88	0	0	0	2	23	63	0
Deorali	Kharkey Line - RaiGaon - Below Krishna Company	43	0	0	1	8	24	10	1
Deorali	Above AmdoGolai I And Ii	14	0	1	0	3	8	2	1
Deorali	Deorali School Pocket	3	0	0	0	0	3	0	0
Daragaon	Paanch Mile	9	1	0	0	2	6	0	1
Daragaon	Tsewang Auto Works	31	0	0	0	4	20	7	0
Daragaon	Milan Gaon	7	0	0	0	0	4	3	0
Daragaon	GairiGaon	12	0	0	0	1	7	4	0
Tadong	Above Tadong School	37	0	0	0	16	18	3	0
Tadong	College Valley Tadong	22	0	0	1	8	9	4	1
Tadong	BhutiaGaon	37	0	0	0	13	18	6	0
Tadong	Upper Housing And Lower Housing	14	0	0	0	1	10	3	0

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Tadong	Devi Than Area Below Entel	38	0	0	0	5	29	4	0
Tadong	Below MpGolai And Metro Point	64	1	0	0	9	49	5	1
Ranipool	Above NH31A	399	1	1	3	20	111	263	5
Ranipool	Shanti Complex	171	0	0	0	1	31	139	0
Ranipool	Area Between NH31A	80	0	0	0	4	21	55	0
Syari-Tathangchen	Tathangchen	518	0	0	2	21	123	372	2
Syari-Tathangchen	Khangu Area	87	0	0	0	11	64	12	0
Total		6085	23	15	42	489	2406	3110	80
In %			0.38	0.25	0.69	8.04	39.54	51.11	1.31

Source: Primary Survey 2012, Ray Cell, Gangtok

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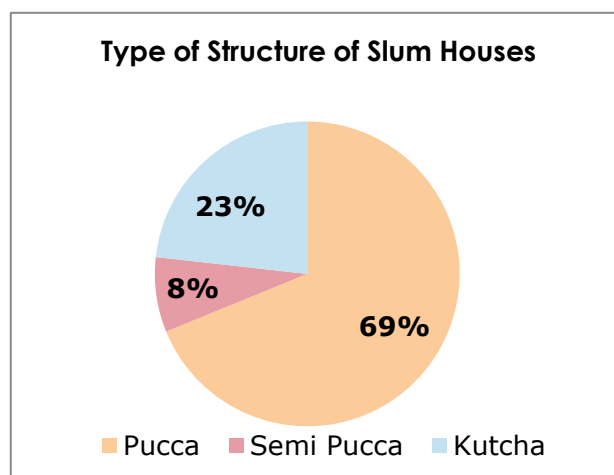
3.3.6 Assessment of Housing Condition in Slums

The assessment of housing and amenities has been done based on information collected through primary survey. The primary objective is to understand the extent and nature of housing and amenities issues in the slum. In this section a synoptic view of ward-wise housing condition of slums is presented.

Table 36: Wardwise Variation of Type of Slum Houses

Sl. No.	Slums		Housing Condition				In %		
	Ward Name	No. of HHs	Pucca	Semi Pucca	Kutcha	Total DUs	Pucca	Semi Pucca	Kutcha
1	Burtuk	534	252	143	139	534	47.19	26.78	26.03
2	Lower Sichey	48	0	1	47	48	0	2.08	97.92
3	Upper Sichey	155	0	4	151	155	0	2.58	97.42
4	Chandmari	718	373	74	271	718	51.95	10.31	37.74
5	Development Area	555	523	23	9	555	94.23	4.14	1.62
6	Diesel Power House	637	533	55	49	637	83.67	8.63	7.69
7	Arithang	1401	1168	53	180	1401	83.37	3.78	12.85
8	Lower MG Marg	330	246	32	52	330	74.55	9.7	15.76
9	Upper M.G. Marg	33	0	0	33	33	0	0	100
10	Tibet Road	88	66	5	17	88	75	5.68	19.32
11	Deorali	60	0	10	50	60	0	16.67	83.33
12	Daragaon	59	0	6	53	59	0	10.17	89.83
13	Tadong	212	0	8	204	212	0	3.77	96.23
14	Ranipool	650	545	35	70	650	83.85	5.38	10.77
15	Syari-Tathangchen	605	482	34	89	605	79.67	5.62	14.71
	Total	6085	4188	483	1414	6085	68.82	7.94	23.24

Source: Primary Survey 2012, RAY CELL, Gangtok

Fig. 19: Type of Structure of Slum Houses

About 70% of the slum houses are pucca, but shows wide wardwise variation with 3 wards namely Upper MG Road, Doragaon and Deorali having no pucca houses. Development Area, Ranipool, Arithang and Diesel Power House have maximum proportion of Pucca houses. On the other hand, at Upper MG road, all the slum houses are kutcha.

3.3.7 Tenure Status of Slum Houses

An Analysis of slums with regard to status of tenure is given below:

Table 37: Wardwise Variation in Tenure Status of Slum Households

Sl.No.	Slums		Tenure Status of HH		Tenure Status in %	
	Ward Name	No. of Household	Poss Cert./Occupy Right	Rented	Poss Cert./Occupy Right	Rented
1	Burtuk	534	98	436	18.35	81.65
2	Lower Sichey	48	2	46	4.17	95.83
3	Upper Sichey	155	6	149	3.87	96.13
4	Chandmari	718	186	532	25.91	74.09
5	Development Area	555	168	387	30.27	69.73
6	Diesel Power House	637	150	487	23.55	76.45
7	Arithang	1401	124	1277	8.85	91.15

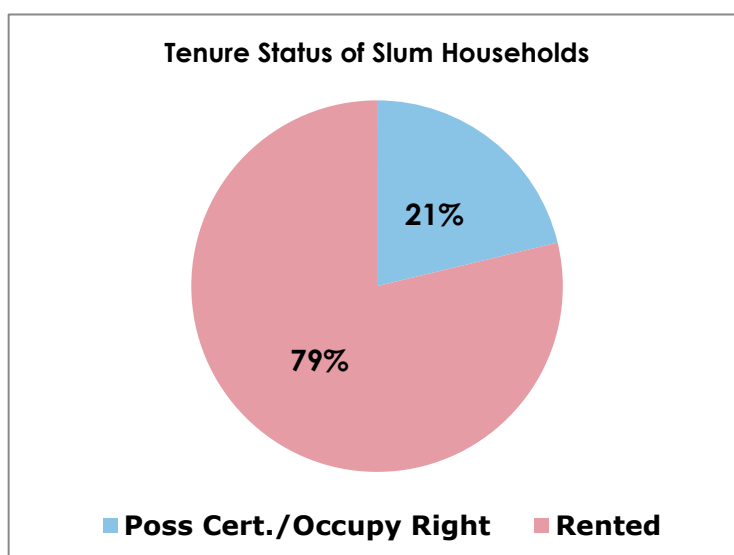
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8	Lower MG Road	330	29	301	8.79	91.21
9	Upper M.G. Marg	33	21	12	63.64	36.36
10	Tibet road	88	26	62	29.55	70.45
11	Deorali	60	3	57	5	95
12	Daragaon	59	21	38	35.59	64.41
13	Tadong	212	46	166	21.7	78.3
14	Ranipool	650	219	431	33.69	66.31
15	Syari-Tathangchen	605	193	412	31.9	68.1
	Total	6085	1292	4793	21.23	78.77

Source: Primary Survey 2012, RAY Cell, Gangtok

The striking feature of the tenure status of slum households as per the primary survey is the overwhelming proportion of 'rented' households. The city average is about 79% with wards like Upper & Lower Sichey, Arithang, Deorali and Lower MG Road registering proportion of rented households well over 90%.

Fig. 20: Tenure Status of Slum Households

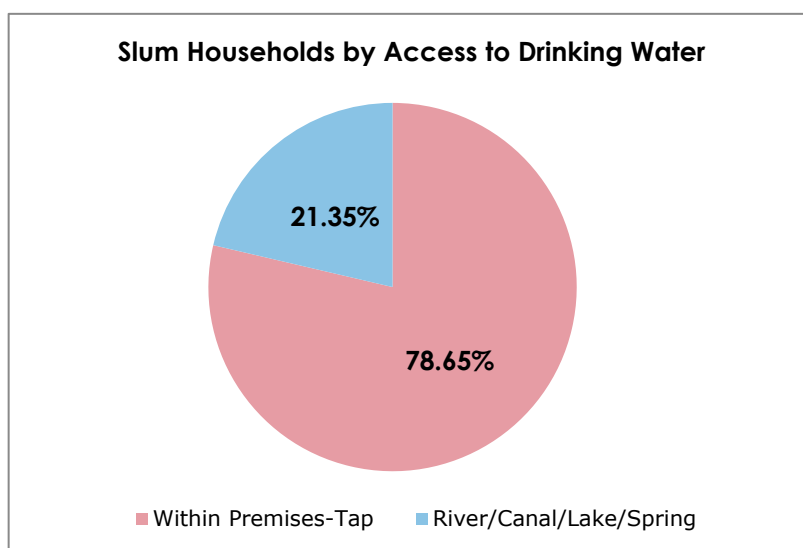


3.3.8 Assessment of Housing Amenities

Source of Drinking water

About 79% of the total households in slums of Gangtok City have access to tap water connection within premises. Slum HHs in wards like Upper Sichey and Development Area have 100% access to tap water. Ward wise analysis is given below.

Fig. 21: Distribution of Slum HHs by access to drinking water



However, slum HHs in wards like Lower Sichey and Burtuk have distressed condition regarding access to water with about 70 – 90% HHs depending on sources of water other than tap.

Table 38: Ward-wise slum profile by source of drinking water

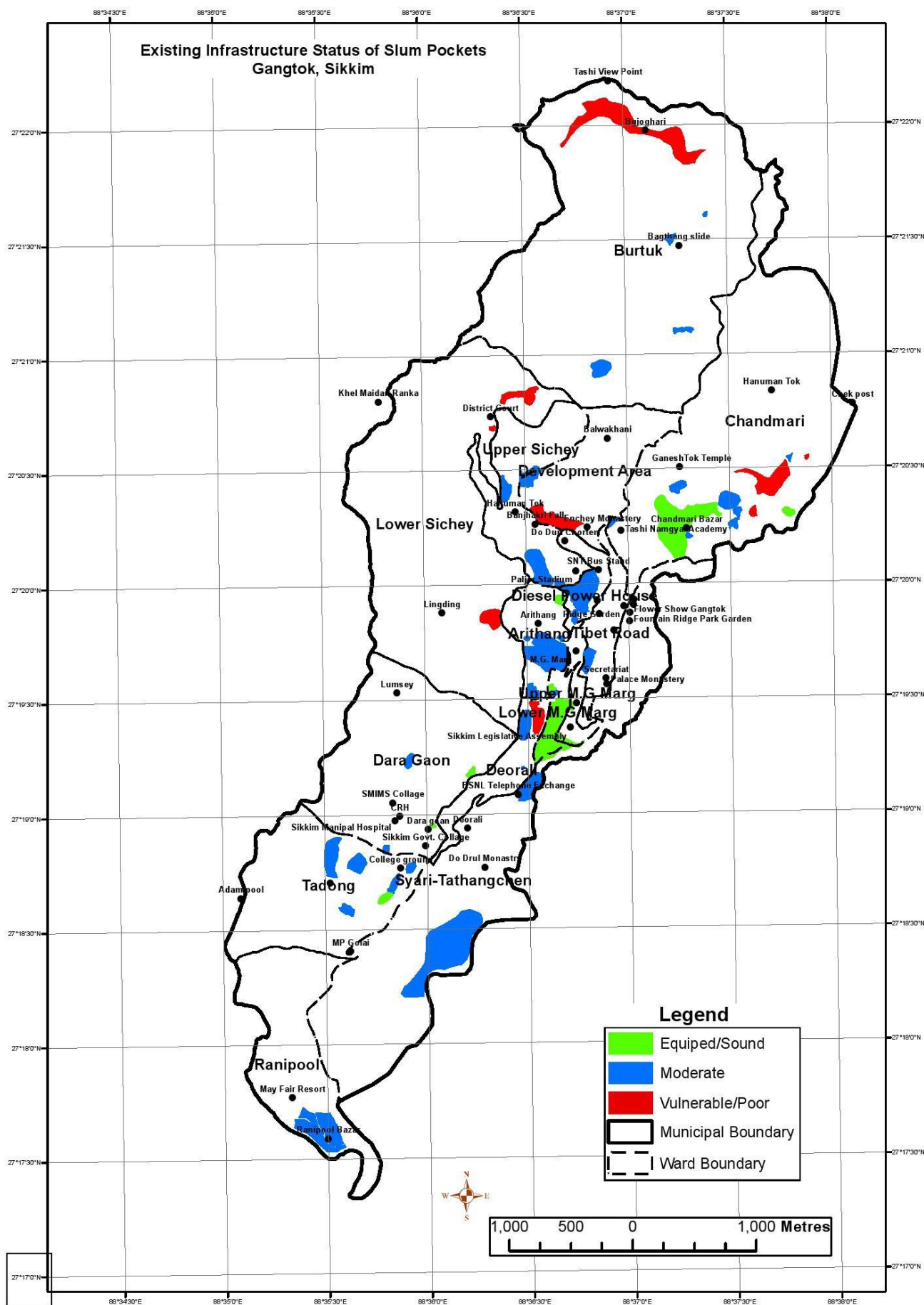
Sl.No.	Slums		Source of Drinking Water		In %	
	Ward Name	No of HHs	Within Premises-Tap	River/Canal/	Within Premises-Tap	River/Canal/
				Lake/Spring		Lake/Spring
1	Burtuk	534	143	391	26.78	73.22
2	Lower Sichey	48	5	43	10.42	89.58

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3	Upper Sichey	155	67	88	43.23	56.77
4	Chandmari	718	556	162	77.44	22.56
5	Development Area	555	555	0	100	0
6	Diesel Power House	637	520	117	81.63	18.37
7	Arithang	1401	1275	126	91.01	8.99
8	Lower MG Road	330	297	33	90	10
9	Upper M.G. Marg	33	33	0	100	0
10	Tibet road	88	87	1	98.86	1.14
11	Deorali	60	17	43	28.33	71.67
12	Daragaon	59	29	30	49.15	50.85
13	Tadong	212	92	120	43.4	56.6
14	Ranipool	650	573	77	88.15	11.85
15	Syari-Tathangchen	605	537	68	88.76	11.24
	Total	6085	4786	1299	78.65	21.35

Source: Primary Survey 2012, Ray Cell, Gangtok

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3.3.9 Summarisation of Slum Assessment

The assessment of slum scenario of Gangtok can be summarized as follows:

- 1) Although the extent of slums appears to be limited in terms of numbers (58), the proportion of slum households to total households in Gangtok is 23.51% which is much higher than the national average of 17% as per Census 2011.
- 2) The slums are present all over the city but in varying degrees. Percentage of slum population varies from 2.63% of total population in the Daragaon Ward to 61.58% of the population (Deisel Power House).
- 3) Arithang Ward records the maximum number of slum dwelling HHs in Gangtok.
- 4) Most of the slums are of small, when expressed in terms of no. of HHs in slums.
- 5) Out of the 58 slums, only 12 are notified but most of the slum population is concentrated in these 12 notified slums. Notified slums account for 78% of the total slum population.
- 6) In terms of location of slums, the distribution is skewed in favour of core areas which account for 38 out of 58 slums and for 69% of the total slum households.
- 7) The BPL HHs to slum households are also less, averaging around 8% of the city.
- 8) In terms of absolute numbers of slums and slum households, the slum scenario of Gangtok may not look demanding but the fact that the slums are scattered, mostly in private land and a constrained land supply for residential development makes the slum free action plan of Sikkim a demanding exercise.

3.4 Tenability Analysis of Slums: Gangtok City

Tenability analysis of slum is carried out to determine the development options to be identified for the specific slum. If the slum is tenable, in-situ up-gradation / redevelopment are recommended while for untenable slum 'relocation' is perceived to be the viable option.

The basis for tenability analysis is not constant or uniform but depends of multitude of factors which are city specific. The primary objective of tenability analysis of slums, as the name suggests is to have an objective view as to the development options and possibilities of slum in the existing site. The tenability analysis decides on the slums that would require relocation plans. The host of defining and explaining criteria used for tenability analysis of slums are as follows:

- ❖ Located in ecologically fragile land or marginal lands.
- ❖ Located in hazard prone areas (e.g. landslide, flood, flash floods etc.).
- ❖ Non-compatible land use in the surrounding areas (e.g. polluting industries etc)
- ❖ Violation of the land use as shown in master plan
- ❖ Designated land for other public or semi-public use
- ❖ Designated land for infrastructure.

The objective of the tenability analysis is to strike a balance between ecological and sustainable development concern, reduce the vulnerability to potential hazards and disasters as well as protect the housing and livelihood concerns of the slum dwellers.

Tenability Analysis is the most challenging job in the whole process of preparation of slum free city plan since:

- ❖ To some extent it is governed by criteria that are subjective and subject to interpretation.
- ❖ It poses a challenge of choice between long term gains and immediate disturbances.

In conducting the tenability of slums in Gangtok, the guiding principle has been to

- ❖ Minimise the choice of relocation i.e. listing of untenable slums thereby restrict the possible 'disturbance' to the inhabitants of the slum
- ❖ Limit the relocation / untenable stage to only those slums that poses a threat to the life of the inhabitants by virtue of it being located in areas/ sites that have very high vulnerability to natural disasters and are ecologically fragile and unsuitable for residential development.

Consequently, the Tenability Analysis of Slums of Gangtok is predominantly based upon the 'multi hazard disaster' map for the city of Gangtok as prepared by SDMA (Sikkim Disaster Management Agency). The map has been created based on micro level spatial variation data of various types of natural disasters relevant for Gangtok like:

- ❖ Earthquake
- ❖ Flash Flood
- ❖ Landslide
- ❖ Slope
- ❖ Hailstorm

Each area has been assigned a composite score and has been assigned category as follows:

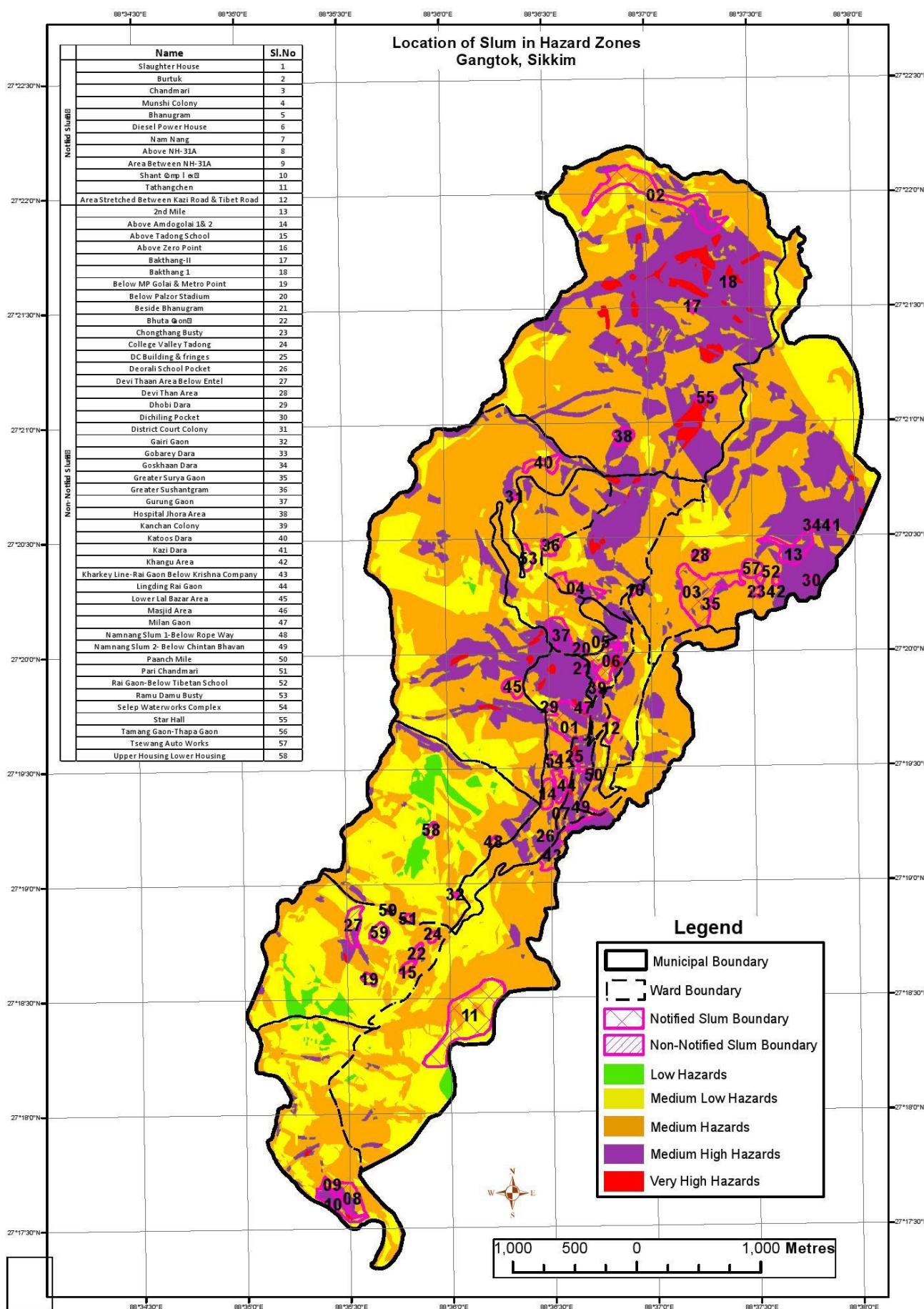
- ❖ Low
- ❖ Medium Low
- ❖ Medium
- ❖ Medium High
- ❖ Very High.

Only those slums falling in the last two categories i.e. Medium High and Very High have been recommended as “Untenable”. The reason for first three categories retained as ‘tenable’ being, Gangtok is a hilly town in the Himalaya and therefore, the possibility of any site that would not return a low or medium value in terms of multi hazard would be difficult to find. The underlying assumption is that the development options to be proposed in these slums would take into account micro level engineering solutions that would reduce the vulnerability to the extent possible.

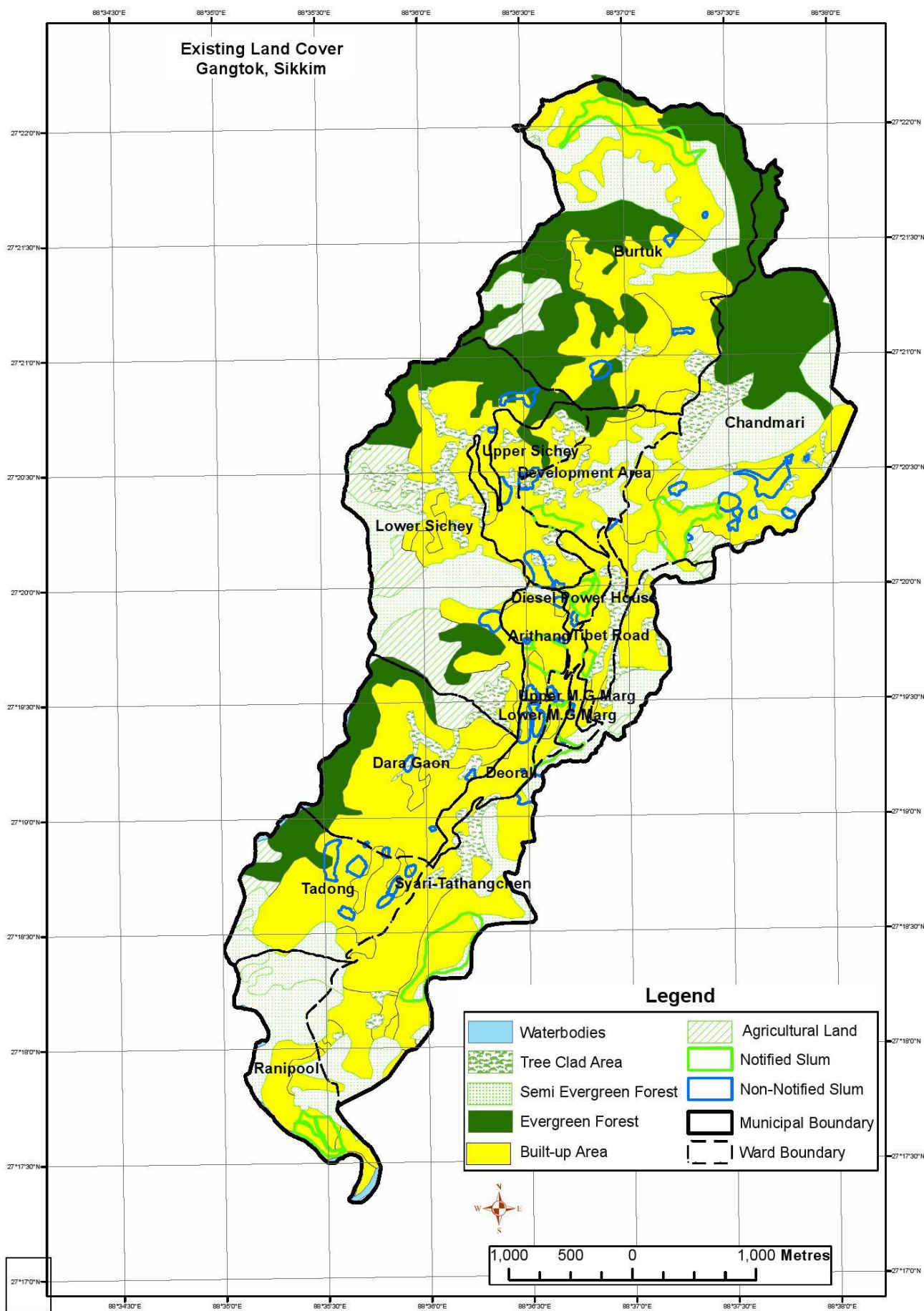
(Note: Since the multi hazard map is based on micro level data it has been observed that slums return composite score of more than one category. In such cases, the category that has the maximum percentage area is taken as the deciding category for that slum.)

Other than the vulnerability index of the slum area, based on the inputs received from city managers, the ‘defense’ land, as ownership status of the slum, is also being considered as untenable.

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Based on these criteria the slums of Gangtok have been accordingly listed as tenable and untenable.

Table 39: Slums as per Vulnerability Status

Sl. No.	Slum Name	Ward Name	Status
1	Bakthang 1	Burtuk	Medium High Hazards
2	Bakthang-II	Burtuk	Medium Hazards
3	Burtuk	Burtuk	Medium Hazards
4	GurungGaon	Burtuk	Medium Hazards
5	Selep Waterworks Complex	Burtuk	Medium Hazards
6	District Court Colony	Lower Sichey	Medium Hazards
7	Kanchan Colony	Lower Sichey	Medium Hazards
8	LingdingRaiGaon	Lower Sichey	Medium Hazards
9	Below Palzor Stadium	Upper Sichey	Medium Hazards
10	Greater Sushantgram	Upper Sichey	Medium Hazards
11	RaiGaon-Below Tibetan School	Upper Sichey	Medium Hazards
12	Greater Surya Gaon	Upper Sichey, Development Area	Medium Hazards
13	2nd Mile	Chandmari	Medium Hazards
14	Above Zero Point	Chandmari	Medium Hazards
15	Chandmari	Chandmari	Medium Hazards
16	Chongthang Busty	Chandmari	Medium Hazards
17	Devi Than Area	Chandmari	Medium Hazards
18	Dichiling Pocket	Chandmari	Medium High Hazards
19	Gobareygaon	Chandmari	Medium High Hazards
20	GoskhaanDara	Chandmari	Medium Hazards
21	KatoosDara	Chandmari	Medium High Hazards
22	KaziDara	Chandmari	Medium Hazards
23	PariChandmari	Chandmari	Medium Hazards
24	TamangGaon-ThapaGaon	Chandmari	Medium Hazards
25	Munshi Colony	Development Area	Medium Hazards
26	Bhanugram	Diesel Power House	Medium Hazards
27	Diesel Power House	Diesel Power House	Medium Hazards
28	Hospital Jhora Area	Diesel Power House	Medium Hazards
29	Beside Bhanugram	Arithang	Medium High Hazards

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30	Dhobi Dara	Arithang	Medium Low Hazards
31	Masjid Area	Arithang	Medium Hazards
32	RamuDamu Busty	Arithang	Medium Hazards
33	Slaughter House	Arithang	Medium Hazards
34	DC Building & fringes	Lower M.G Marg	Medium Hazards
35	Lower Lal Bazar Area	Lower M.G Marg	Medium Hazards
36	Nam Nang	Lower M.G Marg	Medium Hazards
37	Star Hall	Lower M.G Marg	Medium Hazards
38	Namnang Slum 1-Below Rope Way	Upper M.G Marg	Medium Hazards
39	Namnang Slum 2- Below ChintanBhavan	Upper M.G Marg	Medium Hazards
40	Area Stretched Between Kazi Road & Tibet Road	Tibet Road	Medium Hazards
41	Above Amdogolai 1& 2	Deorali	Medium Hazards
42	Deorali School Pocket	Deorali	Medium Hazards
43	Kharkey Line-RaiGaon Below Krishna Company	Deorali	Medium Hazards
44	GairiGaon	DaraGaon	Medium Hazards
45	Milan Gaon	DaraGaon	Medium Hazards
46	Paanch Mile	DaraGaon	Medium Hazards
47	Tsewang Auto Works	DaraGaon	Medium Hazards
48	Above Tadong School	Tadong	Medium Hazards
49	Below MP Golai& Metro Point	Tadong	Medium Hazards
50	BhutiaGaon	Tadong	Medium Hazards
51	College Valley Tadong	Tadong	Medium Hazards
52	Devi Thaan Area Below Entel	Tadong	Medium Hazards
53	Upper Housing Lower Housing	Tadong	Medium Hazards
54	Above NH-31A	Ranipool	Medium Hazards
55	Area Between NH-31A	Ranipool	Medium Hazards
56	Shanti Complex	Ranipool	Medium Hazards
57	Khangu Area	Syari-Tathangchen	Medium Hazards
58	Tathangchen	Syari-Tathangchen	Medium Hazards

Source: Compiled from SDMA information & map

As is evident from the table, there are 5 (five) slums which fall in the medium high hazard category and have been adjudged 'Untenable'. It may be clarified that most of the slums had fragmented character in terms of hazard proneness, i.e. while one part is medium hazard, another may be low or very high. The slum character has been arrived at by taking the hazard category that has the maximum area coverage of the said slum. Therefore, while broadly 5 slums show 'untenable' character, some of the slums may be partly tenable / un tenable which may be studied in detail at the DPR level.

Tenability based on land use

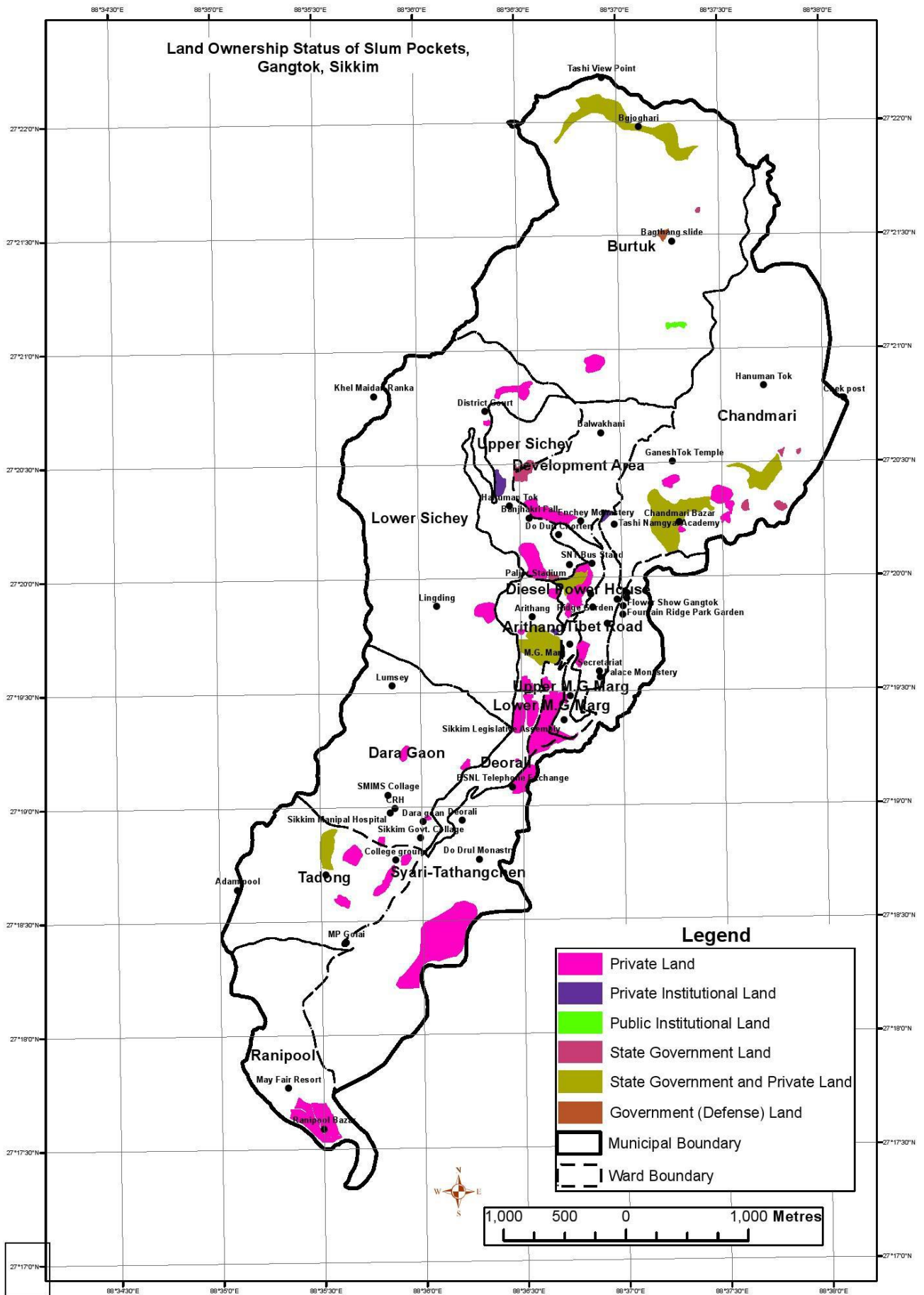
In terms of guidelines slum located on central Govt. Land. In terms of guidelines, slum located on Central Govt. land should to be considered untenable. In the city of Gangtok there is no Master Plan in force. In absence of same, a land use plan as obtained from Department of Science and Technology, Govt. of Sikkim has been analysed in terms of location of slums. It is observed that some of the slums are located on forest areas of State Government. Development interventions especially housing in such areas would necessarily require clearance and due approval from the competent authority which may be State Forest Department or Central Ministry of Environment, depending on the nature of interventions proposed. In case of non-receipt of permissions of Competent Authority for redevelopment of slums on such sites, relocation of slum would be the only option. The slum namely, Bakthang II located on defence land needs to be relocated as per guidelines.

Table 40: List of Untenable Slums

Sl. No.	Slum Name	Ward Name	Status	Remarks	No. of HHs	Slum Population
1	Bakthang 1	Burtuk	Medium High Hazards	Physical vulnerability to disaster	14	78
2	Bakthang-II	Burtuk	Medium Hazards	Land ownership: defence land	21	91
3	Dichiling Pocket	Chandmari	Medium High Hazards	Physical vulnerability to disaster	4	23
4	Gobareygaon	Chandmari	Medium High Hazards	Physical vulnerability to disaster	10	65
5	Katoos Dara	Chandmari	Medium High Hazards	Physical vulnerability to disaster	5	23
6	Beside Bhanugram	Arithang	Medium High Hazards	Physical vulnerability to disaster	24	83

Total number of slums found to be 'untenable' as per the chosen criteria is 6. 3 out of these 6 slums are located in Chandmari ward, followed by 2 in Burtuk. It is may be noted that the slums are small with 2 slums having 5 and 4 households. The total population under these slums are 363 which is just about 1.5% of the total slum population in the city. Therefore, land requirement for alternative sites would also be minimal and the affected population for the perceived disturbance due to relocation is expected to be limited.

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3.5 Prioritization of Slums:

3.5.1 Vulnerability Matrix

The essence of slum free city plan is that it mandates to address development option of each and every slum irrespective of its notification status. Slums have conspicuous presence in the Indian city-scape, across various city sizes. Therefore, addressing development options and implementing the same for all slums implies voluminous work. The financial and manpower resources required for slum development projects make it imperative for the implementation strategy to prioritize slums to be taken up in phases.

The prioritization of slums needs to be an objective decision. To achieve that, the slums of Gangtok has been prioritized based on the composite vulnerability index of each slum. The guiding principle of the prioritization is to give high priority to slums that registers most vulnerability in terms of the chosen indicator. The vulnerability has been assessed on three aspects, each being represented by list of chosen indicators derived from the information available from the primary survey done by RAY Cell, Gangtok as per the RAY survey formats.

❖ Socio-Economic Vulnerability reflected through:

- 1) Percentage of unemployed population to total population in the slum.(1.5)
- 2) Percentage of HHs with monthly income less than Rs. 3000/-, to total households in the slum. (4)
- 3) Percentage age of Illiterate population to total population in the slum.(1.5)
- 4) Percentage of BPL HHs to total households in the slum. (2)
- 5) Percentage age of ST+SC HHs to total households in the slum. (0.5)

- ❖ Housing Vulnerability reflected through:
 - 1) Percentage of Kutcha Dwelling Units to totals DUs in the slum (6)
 - 2) Percentage of Semi-pucca Dwelling Units to totals DUs in the slum (6)
- ❖ Infrastructure Vulnerability reflected through:
 - 1) Percentage of HHs without Tap water to total households in the slum. (3)
 - 2) Percentage HHs engaged in Open Defecation to total HHs in the slum. (1.5)
 - 3) Percentage of HHs with access to Kutcha Roads to total HHs in the slum. (1)
 - 4) Percentage HH not connected to drainage facilities to total HHs in the slum. (1.5)
 - 5) Percentage HHs connected to sewerage facilities to total HHs in the slum. (1.5)
 - 6) Availability of street light facility within the slum (1)

(Note: Figures in the bracket indicate the weightage given to the respective indicator while calculating the score for the relevant category.)

The individual score of all key indicators within the category have been added to arrive at the final score of vulnerability for all 58 slums in Gangtok.

The final score of each category was then divided into three ranges which are coded as follows:

Final Range Code 1: Capable

Final Range Code 2: Medium

Final Range Code 3: Vulnerable

Locating Slums in Vulnerability Matrix (3X3X3 Matrix)

After assigning the final range code to all 58 slums they have been located in a **3X3X3 Matrix** to easily comprehend its vulnerability status in terms of the chosen category separately as well the composite vulnerability. If a slum has 3 as final range code for all three categories it implies that the slum is 'vulnerable' in all three categories.

Table 41: Location of Slums in 3x3x3 Matrix

Sl.No.	Ward Name	Name of Slum	Total Socio Economic Range	Housing Final Range Code	Infrastructure Final Range Code
1	Burtuk	Burtuk	2	2	3
2	Burtuk	Selep WWs Complex	2	3	2
3	Burtuk	Bakthang-I	1	3	2
4	Burtuk	Bakthang-II	1	3	2
5	Burtuk	GurungGaon	2	3	2
6	Lower Sichey	LingdingRaiGaon	1	3	3
7	Lower Sichey	Kanchan Colony	3	3	3
8	Lower Sichey	District Court Colony	2	3	3
9	Upper Sichey	Greater Sushant Gram	2	3	2
10	Upper Sichey	Below Paljor Stadium	2	3	2
11	Upper Sichey	Greater Surya Gaon	2	3	2
12	Chandmari	Chandmari	1	1	1
13	Chandmari	TamangGaon - ThapaGaon	2	3	2
14	Chandmari	KaziDara	2	3	3
15	Chandmari	Dui Mile	3	3	3
16	Chandmari	KatoosDara	2	3	3
17	Chandmari	GobareyGaon	3	3	2
18	Chandmari	Dichiling Pocket	3	3	1
19	Chandmari	Devi Than Area	2	3	2
20	Chandmari	Chongthong Busty	3	3	2

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21	Chandmari	PariChandmari	2	3	2
22	Chandmari	GoskhaanDara	2	3	2
23	Chandmari	Above Zero Point	2	3	2
24	Dev. Area	Munshi Colony	1	1	3
25	Diesel Power House	Diesel Power House	1	1	2
26	Diesel Power House	Bhanugram	2	3	2
27	Diesel Power House	Hospital Jhora Area	2	3	2
28	Arithang	Slaughter House	1	1	2
29	Arithang	Beside Bhanugram	1	3	1
30	Arithang	RamuDamu Busty	2	3	2
31	Arithang	Dhobi Dara	1	3	2
32	Arithang	Masjid Area	2	3	2
33	Lower MG Road	Nam nang	1	1	2
34	Lower MG Road	Lower Lall Bazar Area	1	3	2
35	Lower MG Road	Star Hall	1	1	1
36	Lower MG Road	DC Building And Fringes	1	2	1
37	Upper MG Marg	Nam nang II-Below ChintanBhawan	1	3	1
38	Upper MG Marg	Nam nang Slum I-Below Ropeway	1	3	1
39	Upper Sichey	RaiGaon-Below Tibetan School	3	3	2
40	Tibet Road	Area Between Kazi Road & Tibet Road	1	1	2
41	Deorali	Kharkey Line - Rai Gaon	1	3	3
42	Deorali	Above AmdoGolai I and II	2	3	2
43	Deorali	Deorali School Pocket	2	3	2
44	Daragaon	Paanch Mile	1	3	2
45	Daragaon	Tsewang Auto Works	2	3	2
46	Daragaon	Milan Gaon	1	3	1

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47	Daragaon	GairiGaon	2	3	1
48	Tadong	Above Tadong School	2	3	1
49	Tadong	College Valley Tadong	1	3	2
50	Tadong	BhuliaGaon	2	3	2
51	Tadong	Upper Housing And Lower Housing	1	3	2
52	Tadong	Devi Than Area Below Entel	1	3	2
53	Tadong	Below MP Golai And Metro Point	2	3	2
54	Ranipool	Above NH31A	1	1	2
55	Ranipool	Shanti Complex	1	1	2
56	Ranipool	Area Between NH31A	1	1	2
57	Syari-Tathangchen	Tathangchen	2	1	2
58	Syari-Tathangchen	Khangu Area	2	3	2

Source: Calculations based on primary survey data of RAY Cell, Gangtok

A summary of this table is given below in Table 42 that gives the matrix category code explanation / inference as well as the number and name of slums observed in the respective combination of final range code.

Table 42: Summary of Vulnerability Matrix

Range Code / Matrix Category Inference	Final Score Range Code			No. of Slums	Name of the Slums
	Socio Economic	Housing	Infrastructure		
Capable in all	1	1	1	2	Star Hall, Chandmari
Medium in infrastructure and capable in others	1	1	2	7	Slaughter House, Area Between Kazi Road & Tibet Road, Diesel Power House, Nam nang, Above NH31A, Shanti Complex, Area Between NH31A
Vulnerable in infrastructure and capable in others	1	1	3	1	Munshi Colony
Medium in Housing and capable in others	1	2	1	1	DC Building And Fringes

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Vulnerable in Housing and capable in others	1	3	1	4	BesideBhanugram, Milan Gaon, Nam nang II-Below ChintanBhawan, Nam nang Slum I-Below Ropeway
Vulnerable in Housing and medium in infrastructure, capable in socio-economic	1	3	2	8	Dhobi Dara, Paanch Mile, College Valley Tadong, Upper Housing And Lower Housing, Devi Than Area Below Entel, Lower Lall Bazar Area, Bakthang-I, Bakthang-II
Vulnerable in infrastructure and Housing and capable in socio-economic	1	3	3	2	Kharkey Line - RaiGaon, LingdingRaiGaon
Capable in housing medium in socio-economic and infrastructure	2	1	2	1	Tathangchen
Medium in socio-economic and housing and vulnerable in infrastructure	2	2	3	1	Burtuk
Medium in socio-economic, vulnerable in housing and equipped in infrastructure	2	3	1	2	GairiGaon, Above Tadong School
Medium in socio-economic and infrastructure and vulnerable in housing	2	3	2	20	RamuDamu Busty, Masjid Area, Tsewang Auto Works, Above AmdoGolai I And Ii, Deorali School Pocket, Greater Sushant Gram, Below Paljor Stadium, Greater Surya Gaon, Hospital JhoraAreaKhanguArea Below MP Golai And Metro PointBhutiaGaon, Selep WWs Complex, GurungGaon, TamangGaon - ThapaGaon, Devi Than Area, PariChandmari, GoskhaanDara, Above Zero Point,Bhanugram

Vulnerable in housing and infrastructure and medium in socio-economic	2	3	3	3	District Court Colony, KaziDara, KatoosDara
Vulnerable in socio-economic and housing, equipped in infrastructure	3	3	1	1	Dichiling Pocket
Vulnerable in socio-economic and housing and medium in infrastructure	3	3	2	3	RaiGaon-Below Tibetan School, GobareyGaon, Chongthong Busty
Vulnerable in all three aspects	3	3	3	2	Kanchan Colony, Dui Mile

3.5.2 Prioritization of Slums

The range code combination possibilities have been categorized into three priority groups. The range code combination being indicative of the vulnerability the categories are as follows:

The First Priority Slums: score value of 2 and 3 in all three parameters. The most vulnerable being slum with 3 X 3 X 3 score. There are two in this category viz. Kanchan Colony and Dui Mile.

The Second Priority Slums: Score value 2 and 3 for housing and infrastructure and 1 for economic status. There are 20 slums in this category.

The Third priority slum: Slums that registers score value 1 in at least one parameter. There are 20 slums in this category. Slum Star Hall and Chandmari have a matrix score of 1*1*1 implying they are the least vulnerable slums in Gangtok in terms of economic, housing and infrastructure condition.

*Slum-Free City Plan of Action for Gangtok***Table 43: Priority Wise List of total slums in Gangtok**

Sl. No.	Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code
Priority I					
1	Arithang	RamuDamu Busty	2	3	2
2	Arithang	Masjid Area	2	3	2
3	Daragaon	Tsewang Auto Works	2	3	2
4	Deorali	Above AmdoGolai I & II	2	3	2
5	Deorali	Deorali School Pocket	2	3	2
6	Upper Sichey	Greater Sushant Gram	2	3	2
7	Upper Sichey	Below Paljor Stadium	2	3	2
8	Upper Sichey	Greater Surya Gaon	2	3	2
9	Tadong	BhutiaGaon	2	3	2
10	Tadong	Below MP Golai And Metro Point	2	3	2
11	Syari-Tathangchen	Khangu Area	2	3	2
12	Diesel Power House	Hospital Jhora Area	2	3	2
13	Diesel Power House	Bhanugram	2	3	2
14	Burtuk	Selep WWs Complex	2	3	2
15	Burtuk	GurungGaon	2	3	2
16	Chandmari	Tamang Gaon – Thapa Gaon	2	3	2
17	Chandmari	Devi Than Area	2	3	2
18	Chandmari	PariChandmari	2	3	2
19	Chandmari	GoskhaanDara	2	3	2
20	Chandmari	Above Zero Point	2	3	2
21	Lower Sichey	District Court Colony	2	3	3
22	Chandmari	KaziDara	2	3	3
23	Chandmari	KatoosDara	2	3	3
24	Upper Sichey	RaiGaon-Below Tibetan School	3	3	2
25	Chandmari	GobareyGaon	3	3	2
26	Chandmari	Chongthong Busty	3	3	2
27	Lower Sichey	Kanchan Colony	3	3	3
28	Chandmari	Dui Mile	3	3	3
Priority II					
1	Burtuk	Burtuk	2	2	3
2	Arithang	Dhobi Dara	1	3	2
3	Daragaon	Paanch Mile	1	3	2
4	Tadong	College Valley Tadong	1	3	2
5	Tadong	Upper Housing And Lower Housing	1	3	2
6	Tadong	Devi Than Area Below Entel	1	3	2

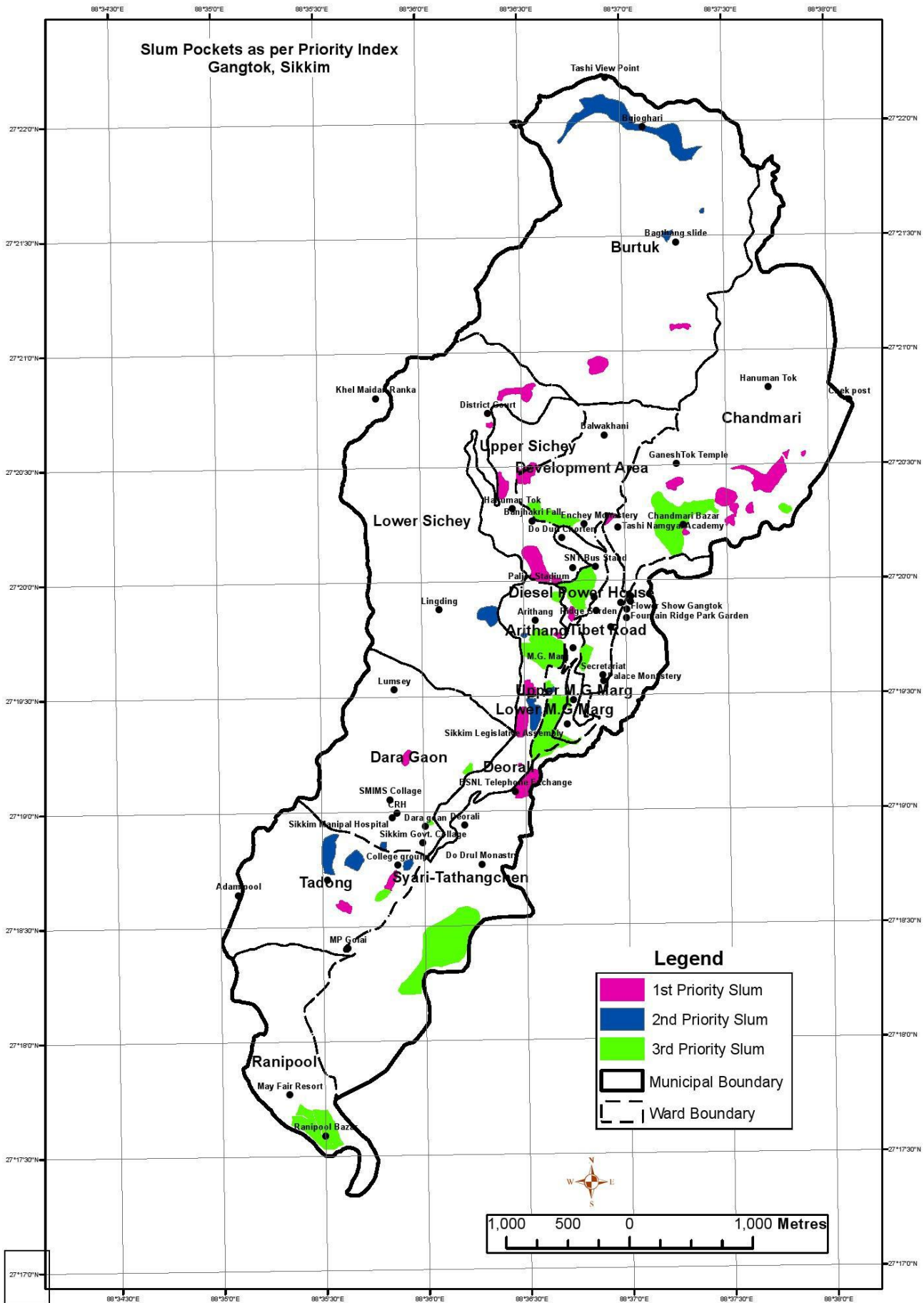
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7	Lower MG Road	Lower Lall Bazar Area	1	3	2
8	Burtuk	Bakthang-I	1	3	2
9	Burtuk	Bakthang-II	1	3	2
10	Deorali	Kharkey Line - RaiGaon	1	3	3
11	Lower Sichey	LingdingRaiGaon	1	3	3
Priority III					
1	Lower MG Road	Star Hall	1	3	1
2	Chandmari	Chandmari	1	1	1
3	Arithang	Slaughter House	1	1	2
4	Tibet Road	Area Between Kazi Road & Tibet Road	1	1	2
5	Diesel Power House	Diesel Power House	1	1	2
6	Lower MG Road	Nam nang	1	1	1
7	Ranipool	Above NH31A	1	1	2
8	Ranipool	Shanti Complex	1	1	2
9	Ranipool	Area Between NH31A	1	1	2
10	Dev. Area	Munshi Colony	1	1	3
11	Lower MG Road	DC Building And Fringes	1	2	1
12	Arithang	Beside Bhanugram	1	3	1
13	Daragaon	Milan Gaon	1	3	1
14	Upper MG Road	Nam nang II-Below ChintanBhawan	1	3	1
15	Upper MG Road	Nam nang Slum I-Below Ropeway	1	3	1
16	Chandmari	Dichiling Pocket	3	3	1
17	Daragaon	GairiGaon	2	3	1
18	Tadong	Above Tadong School	2	3	1
19	Syari-Tathangchen	Tathangchen	2	1	2

Source: Calculations based on primary survey data of RAY Cell, Gangtok

(**Note:** The Slum Free City Plan of Action tool kit suggests prioritization of slums by their categorization i.e. tenable, untenable, and semi-tenable. Since Untenable slums are only 6 and of very small sizes in terms of Slum HHs in each slum, a separate list has not been provided. However, they have been highlighted in the priority list table).

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Chapter IV: FORMULATION OF DEVELOPMENT OPTIONS

4.1 Analysis of the Prioritized Slums

In preparing Slum free city plan it is imperative that all slums in the city are taken up for required intervention. While deficiency and vulnerability analysis gives an objective inference of the slums to be taken up on priority, it is as much important to follow it up with further analysis of the prioritized slum for two fundamental reasons. The first being to deduce and decide the optimal development options and strategy for each slum. Secondly, the required intervention is often not restricted to the analyzed deficiency or vulnerability. It often necessitates other tangible and intangible interventions like resolving ambiguity or inconsistencies in land ownership, following due procedure for land use conversion approvals building up willingness of the people and institutionalizing peoples' participation, which besides giving development options also impacts the prioritization process.

The attribute that has been studied in detail for the refinement of priority as well as development options is the 'Land ownership' status of each slum.

Table 44: Analysis of Slum Ownership

Ownership Type	No. of Slum	in %
Private	38	65.52
State Government	9	15.52
Government (Forest or Defence)	1	1.72
Private and State Government	6	10.34
Private Institutional	3	5.17
Public Institutional	1	1.72
Total	58	100.00

Land ownership status of the slums is a vital parameter for assessment of slum up gradation / redevelopment opportunities. Slums often come up in marginal land lying vacant, irrespective of its land ownership status. However, it

has been observed across cities and states that the most critical hurdle in implementation of slum redevelopment / up-gradation projects is the ownership status of the slum land.

The ownership status of slums in Gangtok shows that majority of the slums are in private lands. While only '**private**' accounts of 65.52% of the total slums (38 Nos.), slums that are in partly private and partly state land described as '**private and state government**' accounts for another 10% of the slum. Only 15.52% (9 nos.) are in government land.

Although the data on land ownership do not systematically detail out the department / body of the government that owns the land, it has been estimated that some of the slums on '**Government**' or '**Private and state Government**' category of ownership are actually on forest land or defence land (estimated to be around 8nos. out of the total number of 16 in these categories).The land ownership status thus becomes a critical and decisive issue with regard to slum up-gradation and redevelopment strategies for the city of Gangtok.

Charting out development options and strategies is difficult in 'private' owned lands since it primarily depends on:

- ❖ Willingness of the owner to participate.
- ❖ Ability of the project to reach out to the slum dwellers who are tenants.

Similarly, development intervention especially 'redevelopment option' in govt. lands but with the forest department would necessitate clearance and approvals.

(Note: The clarification forwarded by the Office of the Divisional Forest Officer, Govt. Of Sikkim with regard to use of forest land for slum up-gradation are as follows:

- No Construction of Non-Forestry Purpose is allowed in the Reserve Forest / Khasma IGorucharan land unless and until Forest Clearance is obtained under Section – 2 of the Forest (Conservation) Act 1980.
- The conversion to non-forest uses would require approval of the Regional Office of the Ministry of Environment and Forest, Government of India through a proper process and channel.

- State Government can approve diversion of upto 1ha of forest land to non-forest uses but limited to the diversion to the following listed activities only:
 - ❖ School
 - ❖ Dispensaries / Hospital
 - ❖ Electrical & Telecommunication lines
 - ❖ Drinking water
 - ❖ Water / rain water harvesting structures
 - ❖ Minor Irrigation canal
 - ❖ Non-Conventional Sources of Energy
 - ❖ Skill Up-gradation / vocational training Centre
 - ❖ Power Sub-station
 - ❖ Rural Roads
 - ❖ Communication posts
 - ❖ Police Establishment
- Any unauthorized occupation of the forest land is liable to be evicted by the Forest Officer, not below the Rank of the Deputy Conservator of Forest after being provided / given reasonable opportunity of being heard.

The above clarifications imply:

- Any up-gradation / redevelopment strategies in the slums that belong to Forest Department would require project clearance from the concerned Ministry for conversion to non-forest uses.
- The permissible non-forest activities in upto 1 ha of land with approval from concerned State Department is restricted to few uses and although access to water is included in that, construction of toilets either community or individual is not included in that list. Clarification for the same needs to be sought from the concerned departments.)

4.1.1 Development Options for Slums

Various development options can be given for slums as they belong to different typologies.

1. **State Government** : In-situ development of housing & Infrastructure
2. **State Government (Forest)** : Relocation of slums or if possible transfer land from the forest for in-situ development
3. **Government (GREF)** : Relocation of slums

4. **State Government and Private:** In-situ development of housing & Infrastructure in case of Government land and compliance from authority to the owners regarding building by laws for decent shelter and living conditions to their tenants/ slum dwellers.
5. **Private :** Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
6. **Private Institutional :** Relocation of slums

Table 45: Development Options for Individual Slums

Ward Name	Name of Slum	Typology	Development options
Burtuk	SelepWWs Complex	State Government	In-situ development of housing & Infrastructure
	Gurung Gaon	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Burtuk	Private and Government	In-situ development of housing & Infrastructure in case of Government land and compliance from authority to the owners regarding building by laws for decent shelter and living conditions to their tenants/ slum dwellers.
	Bakthang-I	State Government (Forest)	Relocation of slums or if possible acquire land from the forest for in-situ development
	Bakthang-II	State Government (lease GREF)	Relocation of slums
Lower Sichey	District Court Colony	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Kanchan Colony	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	LingdingRaiGaon	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective

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Upper Sichey	Greater Sushant Gram	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Below Paljor Stadium	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Greater Surya Gaon	State government	In-situ development of housing & Infrastructure
	RaiGaon-Below Tibetan School	Private Institutional	Relocation of slums
Chandmari	Tamang Gaon - Thapa Gaon	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Devi Than Area	State Government (Forest)	Relocation of slums or if possible acquire land from the forest for in-situ development
	PariChandmari	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	GoskhaanDara	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Above Zero Point	Private Institutional	Relocation of slums
	KaziDara	State Government (Forest)	Relocation of slums or if possible acquire land from the forest for in-situ development
	KatoosDara	State Government (Forest)	Relocation of slums or if possible acquire land from the forest for in-situ development
	GobareyGaon	State Government (Forest)	Relocation of slums or if possible acquire land from the forest for in-situ development
	Chongthong Busty	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Dui Mile	State Government & Private	In-situ development of housing & Infrastructure in case of Government land and compliance from authority to the owners regarding building by laws for decent shelter and living conditions to their tenants/ slum dwellers.

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	Chandmari	Private & State Government	In-situ development of housing & Infrastructure in case of Government land and compliance from authority to the owners regarding building by laws for decent shelter and living conditions to their tenants/ slum dwellers.
	Dichiling Pocket	State Government (Forest)	Relocation of slums or if possible acquire land from the forest for in-situ development
Dev. Area	Munshi Colony	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Diesel Power House	Hospital Jhora Area	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Diesel Power House	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Bhanugram	State Government and Private	In-situ development of housing & Infrastructure in case of Government land and compliance from authority to the owners regarding building by laws for decent shelter and living conditions to their tenants/ slum dwellers.
Arithang	RamuDamu Busty	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Masjid Area	Private Institutional	Relocation of slums
	Dhobi Dara	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Slaughter House	Private & State Government	In-situ development of housing & Infrastructure in case of Government land and compliance from authority to the owners regarding building by laws for decent shelter and living conditions to their tenants/ slum dwellers.
	Beside Bhanugram	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Lower Marg MG	Lower Lall Bazar Area	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective

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	Star Hall	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Nam nang	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	DC Building And Fringes	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Upper MG Marg	Nam nang II-Below ChintanBhawan	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Nam nang Slum I-Below Ropeway	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Tibet Road	Area Between Kazi Road & Tibet Road	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Deorali	Above AmdoGolai I And II	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Deorali School Pocket	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Kharkey Line - RaiGaon	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Daragaon	Tsewang Auto Works	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Paanch Mile	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Milan Gaon	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	GairiGaon	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective

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Tadong	BhutiaGaon	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Below MP Golai And Metro Point	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	College Valley Tadong	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Upper Housing And Lower Housing	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Devi Than Area Below Entel	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Above Tadong School	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Ranipool	Above NH31A	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Shanti Complex	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Area Between NH31A	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
Syari-Tathangchen	Khangu Area	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective
	Tathangchen	Private	Since there are no by laws or rules for slums in private lands, therefore compliance from authority to the owners for building by laws can be effective

4.1.2 Land Values and Density Analysis

Other than the land ownership attribute, density and land values has also been analyzed. Slum wise details of the same are compiled in the table below.

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Table 46: Prioritised Slums with Other Attributes for Analysis (Wardwise)

		First Priority			Second Priority			Third Priority			Medium High category Hazard Zone
Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code	Ownership Status	Hazard Zone Category	No. of HHs	Slum Density Pop/Ha	Land Value (Rs./sq.ft)		
Burtuk	Selep WWs Complex	2	3	2	State Government	Medium Hazards	112	798	1500-2500		
Burtuk	GurungGaon	2	3	2	Private	Medium Hazards	11	22	1500-2500		
Burtuk	Burtuk	2	2	3	Private and Government	Medium Hazards	376	111	1500-2500		
Burtuk	Bakthang-I	1	3	2	State Government (Forest)	Medium High Hazards	14	650	1500-2500		
Burtuk	Bakthang-II	1	3	2	State Government (lease GREF)	Medium Hazards	21	189	1500-2500		
Lower Sichey	District Court Colony	2	3	3	Private	Medium Hazards	17	369	1500-3500		
Lower Sichey	Kanchan Colony	3	3	3	Private	Medium Hazards	17	48	1500-3500		
Lower Sichey	LingdingRaiGaon	1	3	3	Private	Medium Hazards	14	26	1500-3500		
Upper Sichey	Greater Sushant Gram	2	3	2	Private	Medium Hazards	34	57	1500-3500		
Upper Sichey	Below Paljor Stadium	2	3	2	Private	Medium Hazards	4	34	1500-3500		
Upper Sichey	Greater Surya Gaon	2	3	2	State government	Medium Hazards	106	210	1500-3500		
Upper Sichey	RaiGaon-Below Tibetan School	3	3	2	Private Institutional	Medium Hazards	11	36	1500-3500		
Chandmari	TamangGaon - ThapaGaon	2	3	2	Private	Medium Hazards	26	80	1500-2000		
Chandmari	Devi Than Area	2	3	2	State Government (Forest)	Medium Hazards	16	65	1500-2000		
Chandmari	PariChandmari	2	3	2	Private	Medium Hazards	11	188	1500-2000		
Chandmari	GoskhaanDara	2	3	2	Private	Medium Hazards	2	28	1500-2000		
Chandmari	Above Zero Point	2	3	2	Private Institutional	Medium Hazards	3	53	1500-2000		
Chandmari	KaziDara	2	3	3	State Government (Forest)	Medium Hazards	13	120	1500-2000		
Chandmari	KatoosDara	2	3	3	State Government (Forest)	Medium High Hazards	5	232	1500-2000		
Chandmari	GobareyGaon	3	3	2	State Government (Forest)	Medium High Hazards	10	380	1500-2000		
Chandmari	Chongthong Busty	3	3	2	Private	Medium Hazards	13	194	1500-2000		

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Chandmari	Dui Mile	3	3	3	State Government & Private	Medium Hazards	77	68	1500-2000
Chandmari	Chandmari	1	1	1	Private & State Government	Medium Hazards	538	185	1500-2000
Chandmari	Dichiling Pocket	3	3	1	State Government (Forest)	Medium High Hazards	4	45	1500-2000
Dev. Area	Munshi Colony	1	1	3	Private	Medium Hazards	555	425	2500-4000
Diesel Power House	Hospital Jhora Area	2	3	2	Private	Medium Hazards	7	183	1500-2500
Diesel Power House	Diesel Power House	1	1	2	Private	Medium Hazards	252	386	1500-2500
Diesel Power House	Bhanugram	2	3	2	State Government and Private	Medium Hazards	378	624	1500-2500
Arithang	RamuDamu Busty	2	3	2	Private	Medium Hazards	26	99	2500 - 5000
Arithang	Masjid Area	2	3	2	Private Institutional	Medium Hazards	29	2584	2500 - 5000
Arithang	Dhobi Dara	1	3	2	Private	Medium Hazards	6	161	2500 - 5000
Arithang	Slaughter House	1	1	2	Private & State Government	Medium Hazards	1316	614	2500 - 5000
Arithang	Beside Bhanugram	1	3	1	Private	Medium High Hazards	24	273	2500 - 5000
Lower MG Marg	Lower Lall Bazar Area	1	3	2	Private	Medium Hazards	61	995	4000-6000
Lower MG Marg	Star Hall	1	1	1	Private	Medium Hazards	15	331	4000-6000
Lower MG Marg	Nam nang	1	1	2	Private	Medium Hazards	196	87	4000-6000
Lower MG Marg	DC Building And Fringes	1	2	1	Private	Medium Hazards	58	1219	4000-6000
Upper MG Marg	Nam nang II-Below ChintanBhawan	1	3	1	Private	Medium Hazards	2	28	4000-6000
Upper MG Marg	Nam nang Slum I-Below Ropeway	1	3	1	Private	Medium Hazards	31	287	4000-6000
Tibet Road	Area Between Kazi Road & Tibet Road	1	1	2	Private	Medium Hazards	88	327	4000-6000
Deorali	Above AmdoGolai I And II	2	3	2	Private	Medium Hazards	14	58	2000-4000
Deorali	Deorali School Pocket	2	3	2	Private	Medium Hazards	3	289	2000-4000
Deorali	Kharkey Line - RaiGaon	1	3	3	Private	Medium Hazards	43	143	2000-4000
Daragaon	Tsewang Auto Works	2	3	2	Private	Medium Hazards	31	211	1500-3500
Daragaon	Paanch Mile	1	3	2	Private	Medium Hazards	9	307	1500-3500
Daragaon	Milan Gaon	1	3	1	Private	Medium Hazards	7	142	1500-3500
Daragaon	GairiGaon	2	3	1	Private	Medium Hazards	12	1250	1500-3500
Tadong	BhutiaGaon	2	3	2	Private	Medium Hazards	37	193	1500-3550

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Tadong	Below MP Golai And Metro Point	2	3	2	Private	Medium Hazards	64	217	1500-3550
Tadong	College Valley Tadong	1	3	2	Private	Medium Hazards	22	145	1500-3550
Tadong	Upper Housing And Lower Housing	1	3	2	Private	Medium Hazards	14	4057	1500-3550
Tadong	Devi Than Area Below Entel	1	3	2	Private	Medium Hazards	38	54	1500-3550
Tadong	Above Tadong School	2	3	1	Private	Medium Hazards	37	176	1500-3550
Ranipool	Above NH31A	1	1	2	Private	Medium Hazards	399	458	1500-2500
Ranipool	Shanti Complex	1	1	2	Private	Medium Hazards	171	258	1500-2500
Ranipool	Area Between NH31A	1	1	2	Private	Medium Hazards	80	295	1500-2500
Syari-Tathangchen	Khangu Area	2	3	2	Private	Medium Hazards	87	81	1000-2000
Syari-Tathangchen	Tathangchen	2	1	2	Private	Medium Hazards	518	127	1000-2000

Source: Compiled from Primary Survey Data, RAY Cell, Gangtok

Since the mandate of RAY is Slum free city, the slum in private land cannot be left out of the development process / proposed interventions. However, it requires a much longer process for consultation for finalization of the modalities for participation of all concerned that is agreeable and suitable with the Government framework. In view of the above, the slums under the prioritization of slums for immediate development interventions have been further refined based on the following criteria:

- ❖ All slums in Govt. land irrespective of the department is considered as first priority since it would require consultation and communication between govt. departments for finalization of the proposed intervention as well as obtaining necessary approvals.
- ❖ All slums that required 'relocation' due to tenability status is included in first priority list since they are:-
 - Vulnerable / prone to multiple hazards

- The relocation plan can be combined with the redevelopment plans of listed slums in the same ward. Average size of untenable slums being small, the HHs can be accommodated with redevelopment plans for slums within the ward or within close proximity depending on the suitability of site and willingness of people.
- Except the slum 'beside Bhanugram,' in Arithang ward all are in Government land.
- All slums in 'private' land have been categorized in Second and Third Priority based on the Vulnerability Index value to allow 'preparatory' phase to finalize the development options and strategies.

Table 47: Slums for Development Intervention in the 1st Phase (Wardwise)

Sl. No.	Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code	Ownership Status	Hazard Zone Category	No. of HHs	Slum Density Pop/Ha	land Value (Rs./sq.ft)
1	Burtuk	Selep WWs Complex	2	3	2	Public - Institutional	Medium Hazards	112	798	1500-2500
2	Burtuk	Burtuk	2	2	3	Private and Government	Medium Hazards	376	111	1500-2500
3	Burtuk	Bakthang-I	1	3	2	State Government	Medium High Hazards	14	650	1500-2500
4	Burtuk	Bakthang-II	1	3	2	Government (Defence)	Medium Hazards	21	189	1500-2500
5	Lower Sichey	District Court Colony	2	3	3	Private	Medium Hazards	17	369	1500-3500
6	Upper Sichey	Below Paljor Stadium	2	3	2	Private	Medium Hazards	4	34	1500-3500
7	Upper Sichey	Greater Surya Gaon	2	3	2	State government	Medium Hazards	106	210	1500-3500
8	Chand mari	Devi Than Area	2	3	2	State Government	Medium Hazards	16	65	1500-2000
9	Chand mari	KaziDara	2	3	3	State Government (forest)	Medium Hazards	13	120	1500-2000
10	Chand mari	KatoosDara	2	3	3	State Government (forest)	Medium High Hazards	5	232	1500-2000
11	Chand mari	Gobarey Gaon	3	3	2	State Government (forest)	Medium High Hazards	10	380	1500-2000
12	Chand mari	Dui Mile	3	3	3	State Government & Private	Medium Hazards	77	68	1500-2000
13	Chand mari	Chandmari	1	1	1	Private & State Government	Medium Hazards	538	185	1500-2000
14	Chand mari	Dichiling Pocket	3	3	1	State Government	Medium High Hazards	4	45	1500-2000
15	Diesel Power House	Bhanugram	2	3	2	State Government and Private	Medium Hazards	378	624	1500-2500
16	Arithang	Slaughter House	1	1	2	Private & State Government	Medium Hazards	1316	614	2500 - 5000
17	Lower MG Marg	Star Hall	1	1	1	Private	Medium Hazards	15	331	4000-6000

Source: Compiled from previous tables

This category includes 17 slums out of the total list of 58 in Gangtok and has 3022 slums households. Therefore, this category when implemented will reduce the proportion of slum households by 50% in the city of Gangtok.

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(**Note:** This table has excluded slums with land ownership listed as 'private' irrespective of their vulnerability index and includes all slums with 'govt ownership' of land irrespective of their vulnerability index).

Table 48: Slums for Development Intervention in the 2ndPhase (Wardwise)

Sl. No	Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code	Ownership Status	Hazard Zone Category	No. of Households	Slum Density Pop/Ha	Land Value (Rs./sq.ft)
1	Burtuk	GurungGaon	2	3	2	Private	Medium Hazards	11	22	1500-2500
2	Lower Sichey	Kanchan Colony	3	3	3	Private	Medium Hazards	17	48	1500-3500
3	Lower Sichey	LingdingRai Gaon	1	3	3	Private	Medium Hazards	14	26	1500-3500
4	Upper Sichey	Greater Sushant Gram	2	3	2	Private	Medium Hazards	34	57	1500-3500
5	Upper Sichey	RaiGaon-Below Tibetan School	3	3	2	Private	Medium Hazards	11	36	1500-3500
6	Chandmari	TamangGaon - ThapaGaon	2	3	2	Private	Medium Hazards	26	80	1500-2000
7	Chandmari	PariChandmari	2	3	2	Private	Medium Hazards	11	188	1500-2000
8	Chandmari	GoskhaanDara	2	3	2	Private	Medium Hazards	2	28	1500-2000
9	Chandmari	Above Zero Point	2	3	2	Private Institutional	Medium Hazards	3	53	1500-2000
10	Chandmari	Chongthong Busty	3	3	2	Private	Medium Hazards	13	194	1500-2000
11	Diesel Power House	Hospital Jhora Area	2	3	2	Private	Medium Hazards	7	183	1500-2500
12	Arithang	RamuDamu Busty	2	3	2	Private	Medium Hazards	26	99	2500 - 5000
13	Arithang	Masjid Area	2	3	2	Private Institutional	Medium Hazards	29	2584	2500 - 5000
14	Arithang	Dhobi Dara	1	3	2	Private	Medium Hazards	6	161	2500 - 5000
15	Arithang	Beside Bhanugram	1	3	1	Private	Medium High Hazards	24	273	2500 - 5000
16	Lower MG Marg	Lower Lall Bazar Area	1	3	2	Private	Medium Hazards	61	995	4000-6000
17	Deorali	Above AmdoGolai I And II	2	3	2	Private	Medium Hazards	14	58	2000-4000
18	Deorali	Deorali School Pocket	2	3	2	Private	Medium Hazards	3	289	2000-4000
19	Deorali	Kharkey Line - RaiGaon	1	3	3	Private	Medium Hazards	43	143	2000-4000
20	Daragaon	Tsewang Auto Works	2	3	2	Private	Medium Hazards	31	211	1500-3500
21	Daragaon	Paanch Mile	1	3	2	Private	Medium Hazards	9	307	1500-3500
22	Tadong	BhutiaGaon	2	3	2	Private	Medium Hazards	37	193	1500-3550

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23	Tadong	Below MP Golai And Metro Point	2	3	2	Private	Medium Hazards	64	217	1500-3550
24	Tadong	College Valley Tadong	1	3	2	Private	Medium Hazards	22	145	1500-3550
25	Tadong	Upper Housing And Lower Housing	1	3	2	Private	Medium Hazards	14	4057	1500-3550
26	Tadong	Devi Than Area Below Entel	1	3	2	Private	Medium Hazards	38	54	1500-3550
27	Syari-Tathangchen	Khangu Area	2	3	2	Private	Medium Hazards	87	81	1000-2000

Source; Compiled from primary survey data, RAY Cell, Gangtok

This category consists of 27 slums of small size (in terms of no. of slum HHs). Total Households that would be impacted due to development interventions in this category would be 657, out of the total existing slum households of 6085. 'Beside Bhanugram', in Arithang ward is also included in this list because of its Hazard Zone Category Status. This category of slums would require a substantial time as preparatory phase towards consensus building and detailing of development interventions before initiation of implementation of proposed development initiatives.

Table 49: Slums for Development Intervention in the 3rd Phase (Wardwise)

Sl. No.	Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code	Ownership Status	Hazard Zone Category	No. of Households	Slum Density Pop/Ha	Land Value (Rs./sq.ft)
1	Dev. Area	Munshi Colony	1	1	3	Private	Medium Hazards	555	425	2500-4000
2	Diesel Power House	Diesel Power House	1	1	2	Private	Medium Hazards	252	386	1500-2500
3	Lower MG Marg	Nam nang	1	1	2	Private	Medium Hazards	196	87	4000-6000
4	Lower MG Marg	DC Building And Fringes	1	2	1	Private	Medium Hazards	58	1219	4000-6000
5	Upper MG Marg	Nam nang Slum I-Below Ropeway	1	3	1	Private	Medium Hazards	31	287	4000-6000
6	Upper MG Marg	Nam nang II-Below ChintanBhawan	1	3	1	Private	Medium Hazards	2	28	4000-6000

7	Tibet Road	Area Between Kazi Road & Tibet Road	1	1	2	Private	Medium Hazards	88	327	4000-6000
8	Daragaon	Milan Gaon	1	3	1	Private	Medium Hazards	7	142	1500-3500
9	Daragaon	GairiGaon	2	3	1	Private	Medium Hazards	12	1250	1500-3500
10	Tadong	Above Tadong School	2	3	1	Private	Medium Hazards	37	176	1500-3550
11	Ranipool	Above NH31A	1	1	2	Private	Medium Hazards	399	458	1500-2500
12	Ranipool	Shanti Complex	1	1	2	Private	Medium Hazards	171	258	1500-2500
13	Ranipool	Area Between NH31A	1	1	2	Private	Medium Hazards	80	295	1500-2500
14	Syari-Tathangchen	Tathangchen	2	1	2	Private	Medium Hazards	518	127	1000-2000

Source; Compiled from primary survey data, RAY Cell, Gangtok

This category covers 14 slums with total slum households of 2406 i.e. about 40% of the existing number of slum households in Gangtok.

4.2 Development Options of Slums according to the Priority Category.

Development options proposed for each slum is based on the Range Code Value of economic housing and Infrastructure

Table 50: Development Options for First Priority Category of Slums

Sl. No.	Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code	Ownership Status	Hazard Zone Category	No. of HHs	Development Options
1	Burtuk	Selep WWS Complex	2	3	2	Public - Institutional	Medium Hazards	112	In-situ Redevelopment
2	Burtuk	Burtuk	2	2	3	Private and Government	Medium Hazards	376	In-situ Redevelopment
3	Burtuk	Bakthang-I	1	3	2	State Government	Medium High Hazards	14	Relocation

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4	Burtuk	Bakhang-II	1	3	2	Government (Defence)	Medium Hazards	21	Relocation
5	Lower Sichey	District Court Colony	2	3	3	Private	Medium Hazards	17	In-situ Redevelopment
6	Upper Sichey	Below Paljor Stadium	2	3	2	Private	Medium Hazards	4	In-situ Redevelopment
7	Upper Sichey	Greater Surya Gaon	2	3	2	State government	Medium Hazards	106	In-situ Redevelopment
8	Chandmari	Devi Than Area	2	3	2	State Government	Medium Hazards	16	In-situ Redevelopment
9	Chandmari	KaziDara	2	3	3	State Government(forest)	Medium Hazards	13	In-situ Redevelopment
10	Chandmari	KatoosDara	2	3	3	State Government(forest)	Medium High Hazards	5	Relocation
11	Chandmari	GobareyGaon	3	3	2	State Government(forest)	Medium High Hazards	10	Relocation
12	Chandmari	Dui Mile	3	3	3	State Government & Private	Medium Hazards	77	In-situ Redevelopment and Infrastructure up-gradation & livelihood promotion
13	Chandmari	Chandmari	1	1	1	Private & State Government	Medium Hazards	538	Tenure Regularization / delisting
14	Chandmari	Dichiling Pocket	3	3	1	State Government	Medium High Hazards	4	Relocation
15	Diesel Power House	Bhanugram	2	3	2	State Government and Private	Medium Hazards	378	In-situ Redevelopment
16	Arithang	Slaughter House	1	1	2	Private & State Government	Medium Hazards	1316	In situ Infrastructure up gradation
17	Lower MG Marg	Star Hall	1	1	1	Private	Medium Hazards	15	Tenure Regularization / Delisting

Source; Compiled from primary survey data, RAY Cell, Gangtok

Out of the 17 slums listed in this category above, In-situ Redevelopment has been proposed for 8 slums involving 1022 households. Relocation based on land ownership and physical vulnerability to natural hazards has been proposed for 5 slums, which may be integrated with the in-situ redevelopment proposed for slums within the same ward.

Table 51: Development Options for Second Priority Category of Slums

Sl. No.	Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code	Ownership Status	Hazard Zone Category	No. of HHs	Development Options
1	Burtuk	GurungGaon	2	3	2	Private	Medium Hazard s	11	In-situ up-gradation (infrastructure) and housing
2	Lower Sichey	Kanchan Colony	3	3	3	Private	Medium Hazard s	17	Livelihood promotion & In-situ up-gradation & housing
3	Lower Sichey	LingdingRaiGaon	1	3	3	Private	Medium Hazard s	14	In-situ up-gradation (infrastructure) and housing
4	Upper Sichey	Greater Sushant Gram	2	3	2	Private	Medium Hazard s	34	In-situ up-gradation (infrastructure) and housing
5	Upper Sichey	RaiGaon-Below Tibetan School	3	3	2	Private	Medium Hazard s	11	In-situ up-gradation (infrastructure) and housing
6	Chandmari	TamangGaon - ThapaGaon	2	3	2	Private	Medium Hazard s	26	In-situ up-gradation (infrastructure) and housing
7	Chandmari	PariChandmari	2	3	2	Private	Medium Hazard s	11	In-situ up-gradation (infrastructure) and housing
8	Chandmari	GoskhaanDara	2	3	2	Private	Medium Hazard s	2	In-situ up-gradation (infrastructure) and housing
9	Chandmari	Above Zero Point	2	3	2	Private Institutional	Medium Hazard s	3	In-situ up-gradation (infrastructure) and housing
10	Chandmari	Chongthong Busty	3	3	2	Private	Medium Hazard s	13	In-situ up-gradation (infrastructure) and housing
11	Diesel Power House	Hospital Jhora Area	2	3	2	Private	Medium Hazard s	7	In-situ up-gradation (infrastructure) and housing
12	Arithang	RamuDamu Busty	2	3	2	Private	Medium Hazard s	26	In-situ up-gradation (infrastructure) and housing

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13	Arithang	Masjid Area	2	3	2	Private Institutional	Medium Hazards	29	In-situ up-gradation (infrastructure) and housing
14	Arithang	Dhobi Dara	1	3	2	Private	Medium Hazards	6	In-situ up-gradation (infrastructure) and housing
15	Arithang	Beside Bhanugram	1	3	1	Private	Medium High Hazards	24	Relocation
16	Lower MG Marg	Lower Lall Bazar Area	1	3	2	Private	Medium Hazards	61	In-situ up-gradation (infrastructure) and housing
17	Deorali	Above AmdoGolai I And II	2	3	2	Private	Medium Hazards	14	In-situ up-gradation (infrastructure) and housing
18	Deorali	Deorali School Pocket	2	3	2	Private	Medium Hazards	3	In-situ up-gradation (infrastructure) and housing
19	Deorali	Kharkey Line - RaiGaon	1	3	3	Private	Medium Hazards	43	In-situ up-gradation (infrastructure) and housing
20	Daragao n	Tsewang Auto Works	2	3	2	Private	Medium Hazards	31	In-situ up-gradation (infrastructure) and housing
21	Daragao n	Paanch Mile	1	3	2	Private	Medium Hazards	9	In-situ up-gradation (infrastructure) and housing
22	Tadong	BhutiaGaon	2	3	2	Private	Medium Hazards	37	In-situ up-gradation (infrastructure) and housing
23	Tadong	Below MP Golai And Metro Point	2	3	2	Private	Medium Hazards	64	In-situ up-gradation (infrastructure) and housing
24	Tadong	College Valley Tadong	1	3	2	Private	Medium Hazards	22	In-situ up-gradation (infrastructure) and housing
25	Tadong	Upper Housing And Lower Housing	1	3	2	Private	Medium Hazards	14	In-situ up-gradation (infrastructure) and housing
26	Tadong	Devi Than Area Below Entel	1	3	2	Private	Medium Hazards	38	In-situ up-gradation (infrastructure) and housing

27	Syari-Tathangchen	Khangu Area	2	3	2	Private	Medium Hazards	87	In-situ up-gradation (infrastructure) and housing
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In-situ up-gradation of infrastructure and housing has been proposed for 26 out of total 27 slums in this category impacting 633 households and relocation for 1 slum that has total 24 households.

Table 52: Development Options for Third Priority Category of Slums

Sl. No.	Ward Name	Name of Slum	Economic Range Code	Housing Range Code	Infrastructure Range Code	Ownership Status	Hazard Zone Category	No. of HHs	Development Options
1	Dev. Area	Munshi Colony	1	1	3	Private	Medium Hazards	555	Infrastructure Improvement
2	Diesel Power House	Diesel Power House	1	1	2	Private	Medium Hazards	252	Infrastructure Improvement
3	Lower MG Marg	Nam nang	1	1	2	Private	Medium Hazards	196	Infrastructure Improvement
4	Lower MG Road	DC Building And Fringes	1	2	1	Private	Medium Hazards	58	Housing Improvement / Enforcement of Appropriate Building Code and Safety Standards
5	Upper MG Marg	Nam nang Slum I-Below Ropeway	1	3	1	Private	Medium Hazards	31	Housing Improvement / Enforcement of Appropriate Building Code and Safety Standards
6	Upper MG Marg	Nam nang II-Below ChintanBhawan	1	3	1	Private	Medium Hazards	2	Housing Improvement / Enforcement of Appropriate Building Code and Safety Standards
7	Tibet Road	Area Between Kazi Road & Tibet Road	1	1	2	Private	Medium Hazards	88	Infrastructure Improvement
8	Daragaon	Milan Gaon	1	3	1	Private	Medium Hazards	7	Housing Improvement / Enforcement of Appropriate Building Code and Safety Standards
9	Daragaon	GairiGaon	2	3	1	Private	Medium Hazards	12	Housing Improvement / Enforcement of Appropriate Building Code and Safety Standards

10	Tadong	Above Tadong School	2	3	1	Private	Medium Hazards	37	Redevelopment
11	Ranipool	Above NH31A	1	1	2	Private	Medium Hazards	399	Infrastructure Improvement
12	Ranipool	Shanti Complex	1	1	2	Private	Medium Hazards	171	Infrastructure Improvement
13	Ranipool	Area Between NH31A	1	1	2	Private	Medium Hazards	80	Infrastructure Improvement
14	Syari-Tathangchen	Tathangchen	2	1	2	Private	Medium Hazards	518	Infrastructure Improvement

'Infrastructure Improvement' is proposed for 9 slums, 'Redevelopment' is proposed for 1 slum and 'Housing Improvement/ Enforcement of Appropriate Building Code & Safety Standards' is proposed for 4 slums.

4.3 Summary of proposed development options

Table 53: Summary of Proposed Development Options

Proposed Development Option	No. of Slums	No. of Households
First priority Category (1st Phase)		
In-situ Redevelopment	7	644
Relocation	5	54
In situ Infrastructure up-gradation	1	1316
In-situ Redevelopment and Infrastructure up-gradation & livelihood promotion	2	455
Tenure Regularization / delisting	2	553
Total	17	3022
Second priority Category (2nd Phase)		
In-situ up-gradation (infrastructure) and housing	26	633
Relocation	1	24
Total	27	657
Third priority Category (3rd Phase)		
Housing Improvement/ Enforcement of Appropriate Building Code and Safety Standards	5	110
Infrastructure Improvement	8	2259
Redevelopment	1	37
Total	14	2406
Grand Total	58	6085

The development options proposed are based on the final range code of economic, housing and infrastructure. However, the challenges for the

implementation of the in-situ redevelopment as well as relocation programme are:

- i) Substantial proportion of rented households in each slum
- ii) Substantial proportion of rented Non-Sikkimese households in each slum
- iii) Large number of slums in land with 'private' land ownership.

Therefore, it is logical that implementation phase needs to be preceded by:

- 1) Policy decision for identification of beneficiary
- 2) Choice of model to ensure security of tenure
- 3) Ensuring willingness of the land owners to participate

Chapter V: PREVENTIVE STRATEGY

5.1 Housing Supply Trends for the Urban Poor

Land ownership in Sikkim is largely private, which is one of the prime reasons for very high prevailing land prices. The land supply constraint is further compounded by the nature of land in Sikkim viz. 1) Retained land 2) Forest area 3) Unstable land 4) Non developable area which limits the potential supply of land for residential development. High land prices and limited supply of land, and a private rental market for housing which is inadequate in terms of amenities and infrastructure has resulted in proliferation of slums across the Gangtok City.

The situation makes housing and amenities and especially housing for the poor and economically weaker section a top priority for the Govt. of Sikkim. Prior to its closure in 2002, the responsibility of providing housing in Sikkim rested with Sikkim Housing & Development Board. Currently, allotment of sites for housing is handled by the Urban Development & Housing Department, which is essentially for people of Sikkim or who are domicile of Sikkim. Apart from allotting housing sites the UD&HD also provides social housing for the urban poor. People, who do not own land in Gangtok, apply to the UD&HD for housing sites for construction of buildings.

The housing situation and slum improvement initiatives in Sikkim are a complex and challenging process mainly due to:

- ❖ Nature of land making a large portion of it unsuitable for residential development
- ❖ Fragile environment and terrain that limits the possibility of high rise high density development
- ❖ Substantial number of slums being in 'forest' land
- ❖ Stringent land laws

On one hand, land supply is constrained, on the other; Gangtok city sees in-migration of labours from surrounding states of West Bengal, Orissa and Bihar. Absence of formal supply for affordable housing for this segment of population has resulted in the growth of private rental market which is absolutely inadequate from both safety concerns as well as basic minimum quality of life standards.

5.2 The Urban Housing Delivery System in Gangtok

The various ways urban housing delivered in Gangtok is outlined in the table below:

Table 54: Key Institutions for Housing Delivery in Gangtok

Housing Type	Suppliers
Employee Housing	A. Government of Sikkim <ul style="list-style-type: none"> • Sikkim PWD (Buildings and Housing Department) • Agriculture Department • SNT • Police Department • Education Department • Forest Department • Power and Energy Department B. Government of India <ul style="list-style-type: none"> • All India Radio • Central Public Works Department • Sikkim Meteorological Board • ICAR
Ready HIG, LIG, MIG Housing Apartments	State Housing and Development Board (Defunct organization)
Social Housing	UD&HD

Source: City Development Plan, Gangtok City

i. Sikkim Housing & Dev. Board

Housing Flats constructed /disposed of by Sikkim Housing & Dev. Board during 1980-2001 are 147, 263, 13 under LIG, MIG and HIG category respectively. Presently the Board is not functional. However, SHDB is now

being considered to be revived to undertake housing activities to strengthen the housing delivery system in the State.

ii. Urban Development and Housing Department (UD&HD)

The UD&HD has provided social housing in various urban centres as shown under, but the numbers are negligible. Under the housing programme for the EWS, housing units have been built for BPL families. Post 2001, the following are the numbers and locations where housing have been provided for the urban poor all over Sikkim.

Table 55: Housing units provided by UD & HD for BPL families

Location	No. of units
Rongli	8
Chandey	4
Sisney	6
Tashiding	4
Lingding	24 units 1st phase 40 units 2nd phase

Source: City Development Plan, Gangtok-City

iii. JnNURM and other State Initiative for poverty alleviation schemes

The implementation of the poverty alleviation schemes of the Central and State Governments is done through the UD&HD. Slum up-gradation also falls within the purview of the UD&HD. Under JnNURM Schemes, total 254 no. of units have been taken up under BSUP.

The UEPA Cell deals with SJSRY and NSDP, the only two programmes being availed of by the state. Neighbourhood Committees (NHCs) are formed as per the SJSRY programme which was launched in Gangtok in 1999.

iv. Land Acquisition Process

The strategy of financing the urban development programme under assistance from the Government of India envisages land as a resource. Where Govt. is in possession of land, it may be used a resource to bring in private participation / investment for housing including housing for the

poor but at times housing programme / slum redevelopment/ relocation programme requires acquisition of land. The land acquisition process of Sikkim is outlined below:

- i) Requisition Department places proposals for land acquisition for approval of the Government to go ahead with the process.
- ii) After approval in principle from the Government, requisition in the prescribed format is submitted to the concerned District Collector. District Collector who initiates all land related matter is directly under the Land Revenue & Disaster Management Department. Alienation of all Government land is required to be initiated through the Land Revenue & Disaster Management Department.
- iii) Only private land can be obtained through Land Acquisition Act. Draft Notification is formulated for the land to be acquired. Draft Declaration is the final order for acquisition after the approval of Draft Notification. In the Draft Declaration, proper information of land is given with confirmed measurements and boundaries.

The market value of land is a crucial determinant in the success of land acquisition process. The land value in Gangtok is quite steep reaching as high as Rs. 6000/ sqft in certain parts of city. The rate of increase is also quite high.

5.3 Assessment of Existing housing shortage & Future Housing Requirements

In order to assess the housing shortage, first the population of the GMC area has been projected. Year 2025 is taken as the horizon year for the projections. Population based on the population projections, the population projections have been done using the linear method. Based on this method, two alternate projections were done, one using the Average Annual Growth Rate method, and the other using the Compounded Average Growth Rate method. Based on the CAGR method, Figure of

148022 has been adopted as the projected population of GMC area in 2025. Both the projections are given below:

Table 56: Population projections

YEAR	Population Projection using Average Annual Growth Rate (2.5%)	Population projection using Compounded Growth Rate (3.403%)
2012	102793	103696
2013	105300	107105
2014	107807	110515
2015	110315	113925
2016	112822	117335
2017	115329	120744
2018	117836	124154
2019	120343	127564
2020	122850	130974
2021	125358	134383
2022	127865	137793
2023	130372	141203
2024	132879	144612
2025	135386	148022

Note: Population projection formula used

$$P_{(t+n)} = P_t \{1+(n * a)\}$$

Where P_t - is population at time 't'

$P_{(t+n)}$ - is population at time (t+n)

n - is no. of time periods

a - is the average change in the past time periods

5.3.1 Assessment of Housing Shortage:

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 GMC area, where the number of household in 23773 (PCA data 2011), and the number of census houses under residential and residential-cum-other use is 23927. The current housing shortage considering replacement of kutcha houses and obsolescent houses has been calculated at 2399. (Refer table and notes on next page) Apart from the current shortage, housing requirement for EWS category of 4254 units by 2025 will also be required to be met. The following table

shows the housing requirement till 2025. The basis of calculation is explained in the notes with the table.

Table 57: Housing Requirements For GMC Area

Year	Projected Population (CAGR) METHOD-A	Total Housing Stock Requirement@ Projected Pop / Avg. HH size	Year wise Additional Stock Requirement	Additional Housing Units Requirement for EWS Category (@ 33% of the total stock)	Shortage as on 2013 calculated based on replacement requirement of kuccha houses + obsolescent houses)
A	B	C	D	E	F
2012	103696	24631			
2013	107105	25441	810	267	2399
2014	110515	26251	853	281	
2015	113925	27061	853	281	
2016	117335	27870	853	281	
2017	120744	28680	853	281	
2018	124154	29490	853	281	
2019	127564	30300	853	281	
2020	130974	31110	853	281	
2021	134383	33596	2529	834	
2022	137793	34448	895	295	
2023	141203	35301	895	295	
2024	144612	36153	895	295	
2025	148022	37006	895	295	

Notes:

- Housing Stock requirement for each year is calculated as (projected pop/avg. HH size)
- Average HH size for the period 2012-2020 is taken as 4.22 (avg. HH size as per census 2011 data)
- Average HH size from 2021 to 2030 is taken as 4.0. Average HH size is reduced based on the trend. As avg. HH size reduced from 4.73 in 2001 to 4.22 in 2011
- Shortage of housing stock in 2013 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 of 1965, 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 East District, Sikkim (census 2011 data)
- Stock requirement for EWS category is calculated @ of 33% and not @ of 22.5% which is the current proportion of people living in slums in Gangtok 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 Gangtok 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 23773 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 D and E do not include the housing shortage as on 2013. The same is shown separately in column F
- Additional housing stock requirement from the year 2014 onwards also includes replacement requirement towards obsolescent houses calculated @ of 0.2% of the current stock)

Review of Building Rules and Approval Processes

Now the Building Rules proposed by UD & H Deptt., Govt. of Sikkim which is named as SIKKIM BUILDING CONSTRUCTION REGULATIONS 2012. This needs to be reviewed before it comes in force. Main features are as below with respect to Slum Development areas below:

1. Minimum requirement for piece of land to be used for construction

Any piece of land shall be used as a site for construction provided:

- i) The land is properly drained or capable of being drained,
- ii) The land has proper means of access,
- iii) The land does not have a gradient of 70 degrees or more, and
- iv) The site is declared suitable in the stability report of Mines and Geology Department.

In addition to the stability report from Mine, Minerals & Geology Department, in case of proposed multi storied building, or a proposed structure located in a natural hazard prone area, the competent authority shall ask for a soil investigation report from a geo techno expert, and may issue order for construction only if it is satisfied by the report and structural safety measures proposed to be taken to mitigate possible structural safety and natural hazard risks.

2. Construction in natural hazard prone areas.

- i) No land shall be used as a site for the construction of building if the site is found to be liable to liquefaction by the competent authority under the earthquake intensity of the area, except where appropriate protection measures are taken.
- ii) In hilly terrain, the site plan should include location of landslide prone areas, if any, on or near the site, detected during

reconnaissance. The competent authority in such case shall cause to ensure that the site is away from such landslide prone areas.

iii) The site plan on a sloping site may also include proposals for diversion of the natural flow water coming from uphill side of the building away from the foundation.

iv) No building permission shall be given in any sinking area, landslide prone or in areas having scars of old landslides.

3. Rain Water Harvesting

i) For every new building having a roof top area of 5000 sqft or more shall provide rain water harvesting/ collection system and channelize it to an underground tank within the land holding.

ii) All new buildings measuring a total built up area of 20,000 sqft or more shall have reuse and recycle system for waste water to be used for washing of vehicles, gardening and flushing etc or as may be suggested by the competent authority.

In exercise of the Powers conferred under the Sikkim Allotment of House Sites and construction of Building (1991) the State Govt. makes the necessary amendments in the regulations regarding construction, alteration and repair of building within Sikkim under Sikkim Building Construction Regulation 2012. 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 re-development & improvement of slums.

The above issues may be considered before the new SIKKIM BUILDING CONSTRUCTION REGULATIONS 2012 is finalized with proper consultations with stakeholders with emphasis on Rain Water Harvesting, Plantation in Open Areas, Clearance from Mines & Geology Deptt., Site Suitability, Post Construction Control & Vigilance.

5.3.2 Estimate of Land availability for Future Housing

The Urban Development & Housing Department presently does not have organized information on availability of vacant land. Therefore, identification of sites for relocating untenable slums or sites for future housing projects could not be identified. The Govt. of Sikkim may identify suitable lands for development of new house through land pooling of suitable vacant land from different departments & govt. agencies. In case of non-availability of required area of suitable land, the Government, may acquire land phase-wise against compensation for which necessary provision is there in the RAY Guidelines for Hilly States like Sikkim. Further, the State Government may explore the possibility of swapping of land with Forest Department & other Govt. departments for possible future developments.

5.3.3 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 Gangtok 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 organised 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 Gangtok 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 shall 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.

5.3.4 Constraints in Transaction Processes for Land and Building

Issues concerning in transaction process for land & building are as follows:

- i) Land constraints & dedicated monitoring set up.
- ii) Incentive & relaxation in Building Plan parameters and approval as cross subsidization
- iii) Rent Control Act, maintenance & control mechanism
- iv) Identification of right beneficiaries
- v) Lack of initiative and taxation policy on vacant land
- vi) Explore CSR to uplift EWS standard under well-defined parameters

The land laws in Sikkim governed by Article 371(F) of the Indian Constitution prevents any outsider (non – Sikkim Subject) from purchasing land in Sikkim. This makes developer-led housing and the Real Estate in Sikkim a very complicated process. Almost all of the housing provided to migrants in the state has been in the form of rental housing. This also comprises of more than 90% of the dwelling units in the slums.

Standard criteria need to be proposed without any ambiguity and then applied in the field by taking the local context into account. Attempts to do that at local levels, as the experience of preparing city development

plans under the JnNURM reveals, have faced enormous problems and conflicts of interest, often leading to a legal impasse. The categories of hazardous or ecologically sensitive locations and public purpose are used to arbitrarily evict slums. Decisions need to be taken in a uniform manner, following a procedure that is transparent, participatory, and fair. Many of the slums on non-hazardous lands that have been declared objectionable could be developed in-situ by changing the present land use with necessary permission from the authority. Also, a few of the sites considered hazardous can be restructured and redeveloped to resolve current problems with possible engineering solutions by the making the sites tenable. However, if relocation is absolutely necessary, this would have to be done by following a clearly articulated process. The policy on slums located on and in proximity to water bodies, main trunk lines, industrial and commercial land, and so on must also be laid down with clarity and transparency.

Identifying and targeting beneficiaries is most critical to preventing subsidy leakages. The guidelines for implementing the RAY are specific in terms of slum mapping and giving land titles to households. Information on land and land-related schemes are managed by agencies at the district level and the land vests with the state revenue department. Consequently, the involvement of the district authority and the state government departments concerned is important to finalising and providing approval for the plan of action. There is absence of systematic land records, non-transparent deals, and ownership conflicts between different landowning departments. Steps need to be taken to prepare an inventory of land owned by various authorities and to organise land records. A related issue is defining the minimum acceptable dwelling unit for slum dwellers that is affordable, given their low capacity to repay and the limited resources available under the mission.

The real challenge would be keeping the cost of a house/ flat within affordable limit. This would necessitate making land available free of

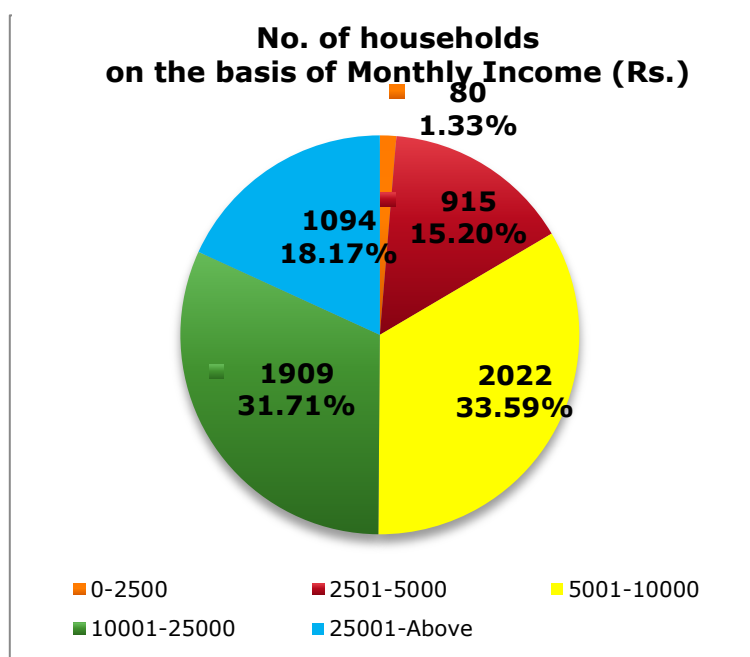
charge and heavy subsidies for material cost and interest payment. The state will need to make institutional arrangements for providing the required land and capital. Banks and micro-finance institutions are reluctant to lend to the poor under state guarantee programmes as because of later amnesty schemes. Also, guidelines have need to be drafted to ensure that slum-dwellers can access credit with an interest subsidy in situations where a clear land title cannot be given before the construction of the house is completed.

5.3.5 Evaluation of Housing Finance System for Urban poor

i. Inaccessibility to Housing Finance

At present no housing credit options for the urban poor is available. No housing unit has been taken up under 'Interest Subsidy Scheme for Housing the Urban Poor' (ISSHUP). Poverty alleviation programmes have little impact and no holistic approach in implementation has been found. Moreover, involvement of NGO

Fig. 22: Distribution of HHs on the basis of monthly income (Rs.)



towards community mobilization is found inadequate resulted in constraint for the urban poor in slums of Gangtok City to access the credit options. Banks are also unable / reluctant to reach to the targeted beneficiaries.

ii. Income Status of Slum Households

The primary survey data on monthly income status and BPL HHs in slums of Gangtok shows that the economic status is not homogenous with income status ranging from Less than Rs.3000/- (1%) to more than Rs.25,000/- (18%). Implying that financial participation of the slum dwellers in development interventions is a possible and linkage to formal financial system can also enable them to invest in housing by availing housing loan assistance.

Chapter VI: FORMULATION OF FUTURE SUPPLY OPTIONS AND POLICY REFORMS

6.1 Supply Strategies to cater to Future Housing Shortage

Gangtok slums shall be mostly developed through in-situ upgrading. Some slums in Gangtok 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 upgraded in-situ.

6.1.1 HOUSING

- i) **Property titles if unclear or not having been mutated shall be formalised.** For all households on lands that are owned by people but lack legal rights, the title shall be formalised. 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 untenable shall be relocated to formal houses.** All relocated 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) Kutcha and semi-pucca houses with built-up area less than 25 Sq. mts, structurally weak and dilapidated structures in in-situ slums will be upgraded by customising house designs using innovative and sustainable construction technology. These are houses on plots that are self-owned or where the owner has plot registration papers.
- iv) **Houses in in-situ development shall be developed on 'as-is-where-is-basis'** where settlement layouts allow the development of adequate infrastructure. In the few settlements that are dense or where pathways are too narrow to bring in the required

infrastructure, some land adjustments may be required and shall be undertaken through a process of community consultation and prior to retrofitting the house.

- v) **Housing in in-situ development shall also be upgraded incrementally based on demand, skill, economic resources and affordability.** While people may add to home spaces as per affordability, construction or upgrading of toilets and water supply shall be considered mandatory and shall cover the households currently without these facilities. Upgrading shall be aimed at re-building and retrofitting existing structures using alternate technical solutions. Only the very unstable structures shall be completely demolished and reconstructed. This shall ensure that poor families are not unnecessarily indebted in the process of housing development.
- vi) 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.
- vii) **Site preparation for the hazardous sites** which need to be made safe as far as possible by engineering solutions. Engineering solution to make the hazardous untenable site into tenable/ developable sites for construction.
- viii) **All poor households in the settlements to be relocated are 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 Shelterless 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 upgrading and all houses that are to be upgraded will 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 Gangtok 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 Gangtok City Sanitation Plan to ensure the two activities can be fully synergised 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 GMC 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.

- ❖ GMC 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 levelling 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.
- ❖ Recommendations of the Strategic Mobility Plan of Gangtok may be suitably considered.

6.1.2.6 Power Supply and Street Lights

- ❖ All households in the slums are beginning 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, GMC 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 marginalised, 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 organised 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 resettlement housing and 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.

v. 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.

6.1.4 EARTH QUAKE RESISTANCE, COST EFFECTIVE TECHNOLOGY & INNOVATION IN HOUSING & INFRASTRUCTURE

For a state like Sikkim, which experiences high annual rainfall and having temperature in the range of 4°C to 25°C, the building technology for low cost houses, which is likely to be most suitable and also in common practice throughout the state is given below:

A. TECHNOLOGY

- **Foundation:** The foundation is made of Reinforce cement concrete.

- **Superstructure:** Reinforced cement concrete.
- **Walling:** Brick walling is generally adopted for construction of such houses.
- **Roofing:** In order to drain off rain water, sloping roof with CGI sheets is considered suitable with respect to the climatic conditions of the state.
- **Openings:** Wooden doors, windows and ventilators.
- **Flooring:** Plain Cement Concrete (PCC) flooring is considered suitable.

B. TECHNICAL FEASIBILITY

- The buildings are braced with well design RCC structure. For a state like Sikkim, which is lying in the Zone-IV of the seismic atlas, such buildings are safe from seismic point of view.
- The sloping roofs will allow the rain water to drain off quickly, thereby avoiding stagnation of water on the roof. Extra facilities can be incorporated to harvest rain water.

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 Urbanised 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 urbanised 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 rationalised 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 optimisation in design.

iii. Finance

Finance sources need to be finalised 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 Gangtok do not have the following legislations in effect:

- i) Land Reforms and Tenure Rights,
- ii) Planning Norms and Standards,
- iii) Apartment ownership act.
- iv) Cooperative 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-centralisation 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 Re-delineation of Boundaries of Notified 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 designated the status of slums via gazette notifications in 2003. 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 notified slums have made it possible to identify spatially the houses/areas that are resided by poor households. In addition, it was also found that more than 75% slum households occur in the notified slums. 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 re-delineate the slum boundaries of the previously notified 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.

6.2.6 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-authorized Construction:

Chapter VII: Investment Requirements and Financing Plan

7.1 Estimation of Investment Requirements

Table 58: Additional Infrastructural Requirement and Estimated Cost

COST SUMMARY					
Sl. No.	Item	Cost (Rs. Cr.)			Total (Rs. Cr.)
		Ph-I	Ph-II	Ph-III	
Dwelling Unit Cost					
1	DU Curative Strategy	104.07	30.81	166.485	301.365
2	DU Preventive Strategy	264.62	90.74	76.70	432.06
3	Housing-Temporary Shelter Arrangements	10.00	6.50	9.15	25.65
	DU Total Cost	378.69	128.05	252.34	759.075
Infrastructure Cost					
4	Site Preparation Infrastructure Cost	83.20	62.90	26.40	172.50
5	Physical Infrastructure Cost	323.01	61.41	209.25	593.67
6	Social Infrastructure Cost	34.35	10.30	25.80	70.45
7	Extra for Infrastructure for DUs under Curative Strategy	87.32	29.94	25.31	142.58
	Infrastructure Total Cost	527.88	164.55	286.76	979.20
	Sub Total (Housing+Infrastructure)	906.57	292.60	539.10	1738.27
8	Escalation (@7.5% per year for 8 years-half of RAY Period(60%))	543.94	175.56	323.46	1042.96
9	Contingency (@2%)	18.13	5.852	10.782	34.765
10	O & M (@4%)	36.26	11.70	21.56	69.53
11	A & S (@2%)	18.13	5.852	10.782	34.765
12	DPR Preparation Cost (@2%)	18.13	5.852	10.782	34.765
13	Capacity Building, Community Mobilization, Social Audit & TPIM (@2%)	18.13	5.852	10.782	34.765
	Grand Total	1559.29	503.268	927.248	2989.82

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Infrastructural Requirement & Estimated Cost							
FIRST PHASE							
S. No.	Item	In-Situ Gradation	Up-	In-Situ Development	Re-	Relocation	
		Estimated Quantity	Estimated Cost(Rs. Cr.)	Estimated Quantity	Estimated Cost(Rs. Cr.)	Estimated Quantity	Estimated Cost(Rs. Cr.)
A1. Housing: As Curative Strategy							
1	Dwelling (RCC Structure, CGI Roofing) Units Frame	1376	61.92	644	38.64	54	3.51
A2:Housing: As Preventive Strategy							
1	Year-2013					2666	173.29
2	Year-2014					281	18.265
3	Year-2015					281	18.265
4	Year-2016					281	18.265
5	Year-2017					281	18.265
6	Year-2018					281	18.265
Sub Total		1376	61.92	644	38.64	4125	268.125
A3:Housing-Temporary Shelter Arrangements							
1	Night Shelter	3	3.00	3	3.00	-	-
2	Transit Accomodation	3	1.50	3	2.00	1	0.50
Sub-Total A			66.42		43.64		268.63
B. Infrastructure							
B1: Infrastructure							
a.	Retaining Wall/ Site Protection Works(Km.)	3	30.00	3	30.00	1.5	17.00
b.	Site Preparation Works(cum.)	350.00	3.50	250.00	2.50	10.00	0.20
Sub-Total B1			33.50		32.50		17.20
B2. Physical							
Water Supply		km.		km.		km.	
a.	Pipelines(25 mm Dia)((km.)	12.00	6.00	10.00	5.50	1.20	0.20
b.	Individual Taps(No.)						
c.	Bore Wells(No.)						
d.	Connectivity to Trunk Mains (80 mm Dia)(km.)	30.00	12.00	25.00	10.00	1.00	0.20
e.	Rain Water Harvesting		1.00		1.00		0.25
Drainage/Sewerage							
a.	Storm Water Drainage(DU Lines)(km.)-open Drain	30.00	60.00	27.00	50.00	1.10	2.20

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b.	Connectivity to Main Drains (Pipe)(km.)	20.00	36.00	15.00	28.00	0.60	1.00
c.	Sewer Lines(DI Pipes)(km)(DU Lines)	50.00	18.00	35.00	15.00	4.00	2.50
d.	Connectivity to Trunk Sewers(Main) (DI Pipes)(km.)						
	Roads						
a.	Internal Roads-CC (km.)	20.00	10.00	18.00	8.00	1.00	0.50
b.	Internal Roads-BT (M)(km.)						
c.	Internal Roads(RCC)(Km.)	13.00	12.00	13.00	12.00	2.00	1.50
d.	Approach Roads-CC(Km.)	10.00	6.00	9.00	5.50	2.00	1.00
e.	Approach Roads-others (M)(Km.)						
	External Electrification/Street Lighting						
a.	Street Light Poles(No.)(2 m Height)	600	2.00	475	1.85	20	0.10
b.	DU Electrification Cost	1316	3.95	1099	3.50	54	0.21
c.	HT/LT Supply Line Works/Transformer						
	Waste Management						
a.	Individual Toilets(No.)						
b.	Community Toilets(No.)						
c.	Seats in Community Toilets(No.)						
d.	Dumper Bins(No.)	1000	3.00	900	2.85	10	0.20
Sub-Total B2			169.95		143.20		9.86
B3: Social							
	Community Facilities						
a.	Community Hall(s)(Nos.) (Multipurpose covering Health)	9	8.00	9	8.00	2	1.00
b.	Livelihood/Production Centre (No. of Rooms)	6	3.00	5	2.50	2	1.60
c.	Fire Fighting Reservoir(Nos.)	25	5	20	4.25	2	1
Sub-Total B3			16.00		14.75		3.6
Total A+B1+B2+B3			285.87		234.09		299.29
Extra for Infrastructure of Houses Under Preventive Strategy (33% of the cost of DUs under this Category)							87.32
Total Cost PH-1							906.57

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Infrastructural Requirement & Estimated Cost							
SECOND PHASE							
S. No.	Item	In-Situ Up-Gradation		In-Situ Re-Development		Relocation	
		Estimated Quantity	Estimated Cost(Rs. Cr.)	Estimated Quantity	Estimated Cost(Rs. Cr.)	Estimated Quantity	Estimated Cost(Rs. Cr.)
A1. Housing: As Curative Strategy							
1	Dwelling Units (RCC Structure, CGI Roofing)	0	0	650	29.25	24	1.56
A2:Housing:As Preventive Strategy							
	Year-2019					281	18.265
	Year-2020					281	18.265
	Year-2021					834	54.21
Sub-Total		0	0	650	29.25	1420	92.30
A3:Temporary Shelter Arrangements							
1	Night Shelter	3	3.00	-	-	-	-
2	Transit Accomodation	6	3.00	0	0.00	1	0.50
Sub-Total A			6.00		29.25		92.80
B. Infrastructure							
B1:Site Preparation Infrastructure							
a.	Retaining Wall/ Site Protection Works(Km.)	6	48.00	0	0.00	1	12.00
b.	Site Preparation Works(cum.)	125.00	2.75	0.00	0.00	8.00	0.15
Sub-Total B1			50.75		0.00		12.15
B2. Physical							
	Water Supply	km.		km.		km.	
a.	Pipelines(25 mm Dia)((km.)	10.00	1.00	0.00	0.00	1.00	0.20
b.	Individual Taps(No.)						
c.	Bore Wells(No.)						
d.	Connectivity to Trunk Mains (80 mm Dia)(km.)	12.00	1.20	0.00	0.00	1.00	0.20
e.	Rain Water Harvesting		0.45		0.00		0.05
Drainage/Sewerage							
a.	Storm Water Drainage(DU Lines)(km.)-open Drain	8.00	15.00	0.00	0.00	0.80	1.60
b.	Connectivity to Main Drains (Pipe)(km.)	6.00	12.00	0.00	0.00	0.50	1.00
c.	Sewer Lines(DI Pipes)(km)(DU Lines)	19.00	4.00	0.00	0.00	2.00	0.70

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d.	Connecivity to Trunk Sewers(Main Pipes)(km.) (DI)						
Roads							
a.	Internal Roads-CC (km.)	11.00	6.00	0.00	0.00	1.00	0.50
b.	Internal Roads-BT (M)(km.)						
c.	Internal Roads(RCC)(Km.)	8.00	5.00	0.00	0.00	2.00	1.50
d.	Approach Roads-CC(Km.)	6.00	4.00	0.00	0.00	2.00	1.00
e.	Approach Roads-others (M)(Km.)						
External Electrification/Street Lighting							
a.	Street Light Poles(No.)(2 m Height)	300	1.00	0	0.00	10	0.06
b.	DU Electrification Cost	633	2.10	0	0.00	24	1.00
c.	HT/LT Supply Line Works/Transformer						
Waste Management							
a.	Individual Toilets(No.)						
b.	Community Toilets(No.)						
c.	Seats in Community Toilets(No.)						
d.	Dumper Bins(No.)	450	1.50	0	0.00	15	0.35
Sub-Total B2			53.25		0.00		8.16
B3: Social							
Community Facilities							
a.	Community Hall(s)(Nos.) (Multipurpose covering Health)	5	3.00	0	0.00	1	0.50
b.	Livelihood/Production Centre (No. of Rooms)	5	3.00	0	0.00	1	0.80
c.	Fire Fighting Reservoir(Nos.)	12	2.5	0	0	1	0.5
Sub-Total B3			8.50		0.00		1.80
Total A+B1+B2+B3			118.50		29.25		114.91
Extra for Infrastructure of Houses Under Preventive Strategy (33% of the cost of DUs under this Category)							29.94
Total Cost-PH2							292.60

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Infrastructural Requirement & Estimated Cost							
THIRD PHASE							
S. No.	Item	In-Situ Gradation		Up- In-Situ Development		Re- Relocation	
		Estimated Quantity	Estimated Cost(Rs. Cr.)	Estimated Quantity	Estimated Cost(Rs. Cr.)	Estimated Quantity	Estimated Cost(Rs. Cr.)
A1. Housing:As Curative Strategy							
1	Dwelling Units (RCC Strcuture,CGI Roofing)	0	0	37	1.665	2747	164.82
A2:Housing: As Preventive Strategy							
1	Year-2022					295	19.175
2	Year-2023					295	19.175
3	Year-2024					295	19.175
4	Year-2025					295	19.175
Sub Total		0	0	37	1.665	3927	241.52
A3:Temporary Shelter Arrangements							
1	Night Shelter	5	5.00	1	1.00	-	-
2	Transit Accomodation	5	2.50	1	0.65	0	0.00
Sub Total A			7.50		3.315		76.7
B. Infrastructure							
B1:Site Preparation Infrastructure							
a.	Retaining Wall/ Site Protection Works(Km.)	8	16.00	2	4.00	0	0.00
b.	Site Preparation Works(cum.)	600.00	6.00	35.00	0.40	0.00	0.00
Sub-Total B1			22.00		4.40		0.00
B2. Physical							
	Water Supply	km.		km.		km.	
a.	Pipelines(25 mm Dia((km.)	18.00	3.50	2.00	0.30	0.00	0.00
b.	Individual Taps(No.)						
c.	Bore Wells(No.)						
d.	Connectivity to Trunk Mains (80 mm Dia)(km.)	25.00	9.00	2.50	0.50	0.00	0.00
e.	Rain Water Harvesting		1.50		0.25		0.00
Drainage/Sewerage							
a.	Storm Water Drainage(DU Lines)(km.)-open Drain	28.00	70.00	3.00	6.00	0.00	0.00
b.	Connectivity to Main Drains (Pipe)(km.)	20.00	30.00	1.75	3.50	0.00	0.00
c.	Sewer Lines(DI Pipes)(km)(DU Lines)	65.00	13.00	1.00	0.50	0.00	0.00

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d.	Connecivity to Trunk Sewers(Main Pipes)(km.) (DI)						
Roads							
a.	Internal Roads-CC (km.)	35.00	18.00	2.50	0.85	0.00	0.00
b.	Internal Roads-BT (M)(km.)						
c.	Internal Roads(RCC)(Km.)	26.00	22.00	1.75	0.75	0.00	0.00
d.	Approach Roads-CC(Km.)	21.00	12.00	1.80	0.95	0.00	0.00
e.	Approach Roads-others (M)(Km.)						
External Electrification/Street Lighting							
a.	Street Light Poles(No.)(2 m Height)	1500	3.50	110	0.45	0	0.00
b.	DU Electrification Cost	2637	7.65	157	0.70	0	0.00
c.	HT/LT Supply Line Works/Transformer						
Waste Management							
a.	Individual Toilets(No.)						
b.	Community Toilets(No.)						
c.	Seats in Community Toilets(No.)						
d.	Dumper Bins(No.)	1750	4.00	75	0.35	0	0.00
Sub-Total B2			194.15		15.10		0.00
B3: Social							
Community Facilities							
a.	Community Hall(s)(Nos.) (Multipurpose covering Health)	12	9.00	2	1.00	0	0.00
b.	Livelihood/Production Centre (No. of Rooms)	8	7.00	1	0.80	0	0.00
c.	Fire Fighting Reservoir(Nos.)	35	7	2	1	0	0
Sub-Total B2			23.00		2.80		0.00
Total A+B1+B2+B3			246.65		25.615		76.70
Extra for Infrastructure of Houses Under Preventive Strategy (33% of the cost of DUs under this Category)							25.31
Total Cost-PH3							374.27

Notes

1. The above cost is the total cost for making the Gangtok City Slum free with both curative and preventive measure. The above cost may be shared not only from fund under RAY of GOI but also other sources of Central/State/ other agencies.

2. The above cost does not include the cost of land acquisition which may be separately worked out depending upon RR policy of the State.
3. Deficiency cost considered, not repairing cost.
4. Quantities required increased considering actual requirements.
6. DU Cost is Rs.4.50 lakh in case of up-gradation.
7. DU Cost is Rs.6.00 lakh in case of In-Situ Re-Development
8. DU Cost considered Rs.6.50 lakh in case of Re-Location.
9. Water Demand considered 135 lpcd. Quantities in Water Supply considered accordingly. Gross Water Demand 1.18 MLD. As per CDP, this is less than the Design Demand for town water supply system, thus may be considered as included.
10. Water Supply system up-gradation not considered in this estimate.
11. 5034 HH does not have water supply system access. Per HH 3m water supply pipeline considered(distribution pipeline)
12. Per HH 20m water supply pipeline considered(main pipeline)
13. 5745 HH not connected to Storm Water Drainage System. Per HH 10 m Storm water drainage pipeline considered.
14. Main Drain (Storm water) will be less in the slums as per the situation.
15. 297 HH does not have road connection. Per HH 15m road assumed.
16. 846 HH does not have approach road connection. Per HH 10m approach road assumed.
17. 44 Nos. Slums have no Electric Poles. Electric Poles considered @20 m distance.
18. Dumper Bins Plastic considered.
19. Community Hall/Livelihood Centre/Night Shelter considered as Multi-Storied Structure.
20. The DU Cost has been considered with Area(25 m²) as per RAY Guidelines. However State Govt. is planning to build DU of area 36 m², cost for extra area will be borne by State Govt.
21. All Costs considered at Present value, however escalation has been considered.
22. For Infrastructure for DUs under Preventive Strategy, provision of higher cost may be needed at future date considering actual requirements.

7.2 Financial Plan linked to phase wise coverage of slums and creation of affordable housing stock

7.2.1 Physical Requirements for Housing and Infrastructure

Requirements for housing and infrastructure has been estimated for 58 slum settlements that are proposed for in-situ development, the assumption being that the remaining shall be developed through resettlement/relocation.

7.2.2 Phasing of Interventions

Slum upgrading in the city shall be implemented in a phased manner with several preparatory steps prior to implementation. The phasing has been based on the level of vulnerability of slums, their connectivity to infrastructure and proposed intervention strategy.

Phase 1 Slums shall include:

- ❖ Slums located on Govt. land,
- ❖ Most vulnerable slums,
- ❖ Slums that are mostly upgraded under various development schemes and can be fully upgraded and de-notified,
- ❖ Slums with easy access to trunk infrastructure and technical feasibility for connecting to main trunk lines, and
- ❖ Slums with strong community groups ready to partner in the process of slum development, and
- ❖ Slums on eco-sensitive lands needing urgent attention.

Phase 2 Slums shall include:

- ❖ All slums with de facto property titles that need to be regularised, and
- ❖ Slums to be relocated.

Phase 3 Slums shall cover:

- ❖ All slums with technical difficulties to connect to trunk infrastructure and can only be served by decentralized /dedicated systems such as in the peri-urban or inner city areas, and
- ❖ Slums not covered in the above phases due to various socio-political reasons.

7.2.3 Time Line

Gangtok can be made slum free in 15 years' time. This is because majority of settlements have families who own the land/ house in which they live. In a smaller number of settlements, the city will need to initiate the process of property title regularization or plan for relocation. While these activities can happen in parallel, these will take time and hence shall be spread over the latter part of the development plan. The final phase of the slum development plan shall cover slums where trunk infrastructure has not been extended or where there may be technical issues in making the connection.

Table 59: Time plan for phase wise upgrading of Slums in Gangtok

Phase 1	Phase 2	Phase 3
Years 1-6	Years 5-10	Years 9-15

7.3 Phasing Of Investment and Source of Financing

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:

i. Resources for Slum Development

- 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.

ii. Generating Private Sector Funding

Funds can also be raised from the private sector for implementation of slum upgrading. The scope for private sector engagement in Gangtok is considerable because of its tourism and other business potential. Big hotel chains are operating out of Gangtok. 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. With providing permission for development to private developer on bazaar area, Gangtok has recently contracted private companies for the generation of power, solid waste collection, management of public facilities, etc. This has led to considerable improvement in the city's infrastructure and services.

Chapter VIII: FORMULATION OF A CREDIT PLAN

8.1 Review of Accessibility and Affordability of Housing Finance for Urban Poor

Data for 5 slums of Arithang Ward of Gangtok City which have been collected by RAY Technical Cell, Gangtok during socio-economic / livelihood Survey has been taken as a sample to analyse the income expenditure pattern:

Table 60: Distribution of Slum Households by Income Category

Sl. No.	Name of Slum	No. of Households	Income (Rs.)				
			0-2500	2501-5000	5001-10000	10001-25000	25001-Above
1	Slaughter House	1265	14	189	574	363	125
2	Beside Bhanugram	22	0	6	12	3	1
3	RamuDamu Below Tenzing And Tenzing	26	0	10	16	0	0
4	Dhobi Dara	6	0	4	2	0	0
5	Masjid Area	29	3	2	17	6	1
	Total	1348	17	211	621	372	127

Source: Primary Survey, RAY technical cell

Table 61: Distribution of Households by Expenditure Slab

Sl. No.	Name of Slum	No. of Households	Expenditure (Rs.)				
			0-2000	2001-5000	5001-10000	10001-25000	25001-Above
1	Slaughter House	1265	22	436	598	181	28
2	Beside Bhanugram	22	0	6	16	0	0
3	RamuDamu Below Tenzing And Tenzing	26	1	21	4	0	0
4	Dhobi Dara	6	0	5	1	0	0
5	Masjid Area	29	1	6	20	2	0
	Total	1348	24	474	639	183	28

Source: Primary Survey, RAY technical cell

Table 62: Distribution of Households by Indebtedness Status

Sl. No.	Name of Slum	Households	Indebtedness Status of HHs	
			Yes	No
1	Slaughter House	1265	44	1221
2	Beside Bhanugram	22	0	22
3	RamuDamu Below Tenzing And Tenzing	26	0	26
4	Dhobi Dara	6	0	6
5	Masjid Area	29	0	29
		1348	44	1304

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.

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

Parameter	EWS/LIG
Size of the house	300 to 600 sft. carpet area
Cost of the house	Not exceeding 4 times gross household annual income
EMI/Rent	Not exceeding 30 percent 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

Some of the existing schemes of Government of India for credit support for affordable housing for the urban poor which can be tapped are:

i. *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.

ii. *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.

iii. 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.

iv. 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 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 capitalised 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 instalments 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.

Chapter IX: 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 GMC does not have the capacity to do so at the moment. After the devolution of functions to the GMC, 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 organised 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 Gangtok. The lead NGO will work with pre-organised 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 mobilised 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 neighbourhood 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 organised in the slums who shall work with UD & HD and GMC 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 & Responsibilities of Institutions

i. Capacity Building

Considerable capacity creation shall be required at all levels to achieve the vision for a slum free Gangtok 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, organised 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 sensitised 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

- It is recommended that a new Planning or Development Authority under the control of UD&HD may be formed as an Autonomous Body with necessary Powers to assist the State Govt. in development of the Greater Gangtok Area. 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 Gangtok Municipal Corporation.
- State Urban Development Agency (SUDA) to be properly structured for taking up the responsibility of Slum Improvement & Relocation works in Gangtok through various implementing agencies along with this 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.
- According to the bureau of Indian standards, the town falls under Seismic Zone-IV (on a scale of II to V, in order of increasing seismic activity), near the convergent boundary of the Indian and the Eurasian tectonic plates and is subject to frequent earthquakes. The lower Himalayas in general are composed of labile rock formations and therefore prone to landslides even in dry season. These landslides can result in the capital being cut off from other parts of Sikkim and the mainland India. It is suggested that a regional study be done at macro level with Central Water Commission and other appropriate organizations for assessing the Regional Vulnerability and understand the extent of carrying capacity of city of Gangtok.

9.5 Conclusion

This Plan envisions the development of a Slum Free Gangtok using a universal entitlements framework with a futuristic vision. The Plan aims to make Gangtok an inclusive city 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.

Annexures