RAJIV AWAS YOJANA

SLUM FREE CITY PLAN OF ACTION

BELLARY

DRAFT

Regional Centre for Urban and Environmental Studies
Osmania University, Hyderabad

Sponsored by
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SLUM FREE CITY PLANNING:
BELLARY

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ACRONYMS

AKM – Asha Kirana Mahithi

BCC – Bellary City Corporation

BSUP – Basic Services for Urban Poor

BBMP - Bruhat Bangalore Mahanagara palike

BUDA – Bellary Urban Development Authority

CBD – Central Business District

CBO – Community Based Organization

CCA – Compensatory City Allowance

CDP - City Development Plan

CDS - Community Development Societies

CGG - Centre for Good Governance

CO – Community Officer

DPR – Detailed Project Report

DU - Dwelling Unit

DMA – Directorate of Municipal Administration

EWS - Economic weaker section

FSI - Floor Space Index

GIS – Geographical Information System

HHs - Households

HRA – House Rent Allowance

HUDCO – Housing and Urban Development Corporation Ltd

IHSDP – Integrated Housing and Slum Development Program

JnNURM – Jawaharlal Nehru National Urban Renewal Mission

LDPE - Low Density Polyethylene

LIG - Low Income Group

MIS – Management Information System

MoHUPA – Ministry of Housing and Urban Poverty Alleviation

NCR – National Capital Region

NGO's – Non-Governmental Organizations

NHC - Neighborhood Communities

NHG - Neighborhood Groups

NNRC – National Network Resource Centre

NOAPS –National Old Age Pension Scheme

O&M – Operation & Maintenance

PO - Planning Officer

PoA - Plan of Action

PPP - Public Private Partnership

RAY – Rajiv Awas Yojana

RCUES - Regional Centre for Urban and Environmental Studies

RCV - Resident Community Volunteers

SFPoA – Slum Free Plan of Action

SJSRY – Swarna Jayanti Shahari Rozgar Yojana

SLNA - State Level Nodal Agency

SLSC - State Level Scrutinize Committee

STEP UP - Skill Training for Employment Promotion amongst Urban Poor

TDR - Transferable Development Rights

TPIMA - Third Party Inspection and Monitoring Agency

UCDN - Urban Community Development Network

UDPFI - Urban Development Plan Formulation and Implementation

ULB - Urban Local Body

USHA - Urban Statistics for Human Resource & Assessments

UWESP - Urban Women Employment & Self help Programme

EXECUTIVE SUMMARY

The Government of India unveiled a holistic mission "Rajiv Awas Yojana" (RAY) to envision a Slum free India, benefiting about 81 million urban poor with affordable housing, decent and dignified living environment and well developed basic amenities. Achieving Slum Free India, though appears to be a very difficult exercise, MoHUPA has categorized the tasks and sub tasks in such a manner, providing a clear roadmap for the state governments to follow certain methodology and process in conducting the categorical steps. Slum Free City Planning is a holistic mission to eradicate poverty, systematize the squatter and hazardous settlements, integrate the plan with other poverty alleviation schemes and make them as regular engines of both socio-economic and sustainable development.

The key aspect of Slum Free City Planning comprises mainly of *Urban Planning, Law and Legislation, MIS, GIS, Provision of Land, Community Participation, Stakeholder Convergence, Project Management and Capacity Building*. The process starts with conducting slum survey and updating MIS database, preparation of the city and slum level maps in GIS, integration of spatial and non-spatial data, analysis of the existing situation of slums, preparation of slum specific proposals, involve the community from the inception of project, preparation of DPR, project monitoring and implementation to achieve Slum Free India.

The Ministry of Housing and Urban Poverty Alleviation (MoHUPA), issued guidelines on RAY for preparation of State Slum-free Plan of Action (SFPOA), Community Mobilization, MIS and GIS. The states have to pass legislation for the assignment of property rights to the slum dwellers, and take steps to prevent new slums.

This report is "Plan of Action" for Bellary slums which includes preparation of Geo-referenced city base map satellite imagery, identifying and demarcating slums and surrounding vacant lands, analyzing the slum profile features, finding infrastructure gap assessment, line estimates and detailed city/slum level analysis. The report provides a gross understanding of slum situation in the city, categorizes the slums, recommended mode of development for each slum, and majorly phasing the slum development for the next coming five years. The first year prioritized slums have been finalized by conducting various stakeholder meetings under the leadership of "Municipal commissioner", Bellary city Corporation. The report aims to summarize, analyze the slum situation and propose a roadmap to reach slum free Bellary.

Slum Free Bellary

Bellary is endowed with rich mineral resources yet considered to be an industrially backward area which has therefore lead for the formation of slums. It has **67** slums with **16,408** households; a housing deficit of **9, 835** households. From amenities view, 55% of slums do not have access to drinking water sources and **7%** households lack connectivity to storm water drainage system and **38%** with no underground sewer system. On the demographic front, BPL population forms **91%** of the total population where **29%** belongs to SC. The plan of action provides line estimates for housing and infrastructure gaps and proposes civic amenities as per RAY guidelines and the report calls for an approval and action to prepare DPR's for first year phased slums.

Section I – Preamble & Overview

PREAMBLE

The Rationale and the Philosophy behind the Rajiv Awas Yojana (RAY)

(i) An estimated 26 per cent of urban population (810 lakhs in 2004-05) still subsists on incomes that are below the poverty line. Eighty percent of their meager earnings go towards food and energy, leaving very little for meeting the costs of living in an increasingly monetized society. The majority of them live in slums and squatter settlements, in inhuman conditions that deny them dignity, shelter, security, and the right to basic civic amenities or social services, in an environment in which crime, ill-health and disease frequently raise demands that draw them deeper into vulnerability and poverty. The statistics already reveal that about a quarter of the country's urban population lives in notified and non-notified slums , specifically higher in metro cities, is an indication of iniquitous and exclusionary urban planning system, urban land management practices and land legislation that have not been able to adapt themselves to the pace or profile of indigenous urban growth; or to create space within the formal system of planned living and working spaces to accommodate the informal working classes. As urbanization grows, and the projected share of urban households rises in the next two decades from the current 28% to 50% of the country's population, the slums are expected to grow, seriously crippling the productive capacities of a growing number of people by the denial of basic services, shelter and security, increasing inequity and retarding the productive potential of urban areas.

(ii) Thus, both for considerations of social and economic growth - and the Constitutional mandate - it is necessary to break away from past trends and practices and to take decisive action for inclusive urban development that acknowledges the presence of the poor in cities, recognizes their contribution as essential to the city's functioning, and redresses the fundamental reasons for inequity that ties them down to poverty.

(iii)The Jawaharlal Nehru National Urban Renewal Mission (JnNURM) with its separate sub-mission on the urban poor comprising of the Basic Services for Urban Poor (BSUP) and the Integrated Housing and Slum Development Programme (IHSDP) has been successful in achieving the overarching aim of focusing State attention on the problems of inequity in urban areas, and drawing budgetary resources to the welfare of the urban poor. There is an increasing assumption of responsibility towards the slum dwellers, and their entitlement to conditions conducive to a dignified quality of life. Simultaneously, there is an acceptance at policy level, both in the State and the municipality, that the emergence of new slums can be prevented only by increasing the availability of affordable housing, which in turn requires that the market distorting shortages of land and housing be corrected.

(iv)The foundation laid by the above initiatives now needs to be built upon, by unlocking the potential of the most important asset in the context of slums in cities i.e. land, through assigning legal property rights to the urban poor. It is in this regard that the scheme introduces a bold new vision and a new direction to policy, viz., a Slum free India, in which those who live in slums are enabled to aspire for formal acceptance in urban areas by the assignment of property rights to them over their dwelling space. As demonstrated in many countries across the globe moving the urban poor from the informal to the formal economy is also an investment in deepening democracy and strengthening the legal order; thereby widening society's interest in peace and stability.

CHAPTER 1 - OVERVIEW

1.1. Introduction of the city

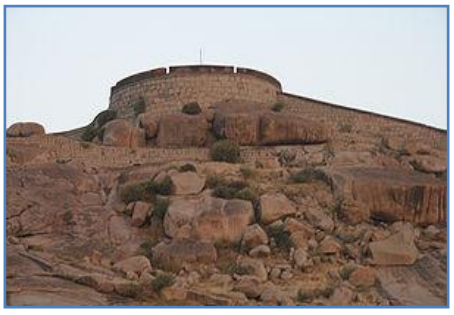
The state of Karnataka is one of the prominent states in the Southern region of India with Bengaluru as its capital, falling under 'A' category[1] and Bellary classified as 'C-Class' city for HRA category. Being the district head quarters, Bellary City Municpal Council came into existence in the year 1867 later it is upgraded as Bellary City Corporation on 28th September 2004,with a total of 35 wards. **Smt. S.Parvathi Indushekhar** is the present Mayor, leading a band of 34 councillors . The city administration is headed by **D.L.Narayana** (KAS officer) as the Commissioner of Municipal administration.

The present report is the tentative Plan of Action for Slum Free City under the scheme of Rajiv Awaz Yozana (RAY) sponsored by the Ministry of Housing and Urban Poverty Alleviation (MoHUPA), Govt. of India. The city of Bellary is selected as one of the Pilot Cities for the development of both notified (56) and non-notified slums (11) as part of inclusive growth. The report is structured with prime objective of addressing the existing slums as curative step and also to ensure **slum free Bellary** as a preventive measure. The report contains 4 sections namely, ***Preamble and Overview, Slum Rehabilitation Strategy, Slum Prevention Strategy and Road Map*** respectively. This report is accompanied by annexure I & II where the first and second contains the data tables and analysis of each slum profile comprising of socio economic, household and livelihood information, gap assessment and proposed line estimates. The present report therefore needs to be referred with annexure I & II.

a. Bellary City Profile

Bellary city is situated in the Karnataka State border adjoining Andhra Pradesh. The state capital Bengaluru is 305 Km away from bellary. The city has a jurisdiction over an area of 81.95 Sq.Kms with a population of about 3.17 Lakhs as per 2001 census and 4.09 Lakhs as per 2011 census.

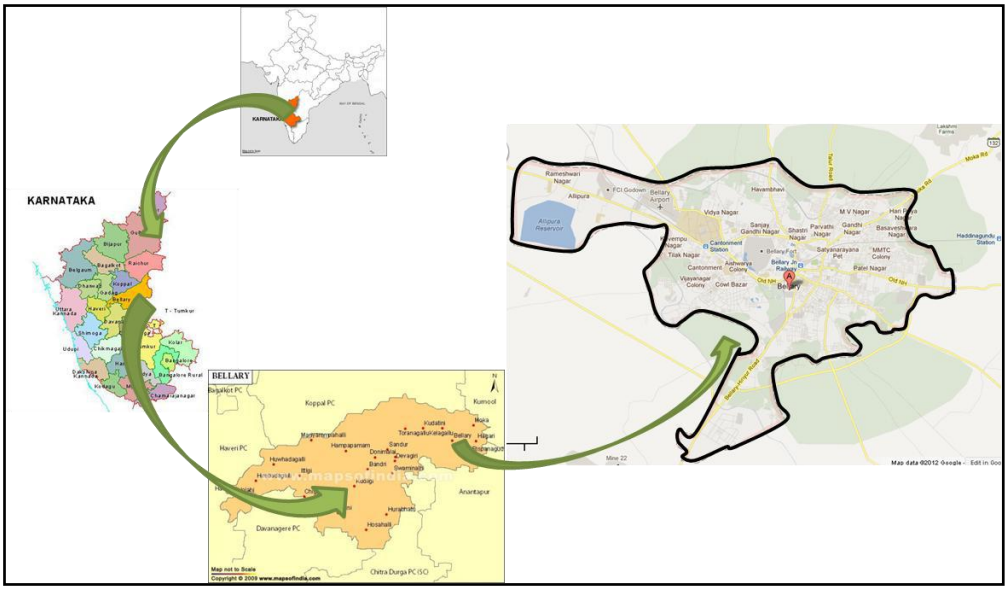
Bellary takes its name from the word Balari which refers to goddess Durugamma as this goddess had manifested herself in the town. With the commencement of construction of several steel plants in the district, the city promises to be "The Jamshedpur of Karnataka" in the 21st Century. The city was ruled by dynasties such as the Sathavahanas, Kadamabas, Chalukyas, Rashtrakutas, Gangas, Chalukyas of Kalyana, KalaChuryas & Hoysalas and thereafter it became the territory of Vijaynagar rulers. The city also has significant small-scale industrial activity and is one of the major centres of Jeans manufacturing in the country, and it is the second largest city in Asia in manufacturing ready-made garments.



Picture 1- 1: Bellary City Fort

[1] According to India report 2008, Indian cities are classified into A (A1,A2,..), B and C based on grant for HRA and CCA on the recommendations of 5th Pay Commission , which essentially classifies these cities based on cost of living and Census 2001.

Location



Picture 1- 2: Bellary location map

Road

Bellary is well connected by road to different parts of Karnataka, Andhra Pradesh, Maharashtra and Goa. The following are the major highways passing through the city:

- National Highway 63
- State Highway 19
- State Highway 132

The city is served by the North East Karnataka Road Transport Corporation (NEKRTC), offering travel services to almost all parts of Karnataka, many parts of Andhra Pradesh, Chennai, Pune and many parts of Maharashtra.

Railway

Currently, two railway stations are serving the city, one is the city station (Bellary Junction) and other is the Cantonment station (Cantonment). Bellary is well connected by Rail to Bangalore, Raichur, Anantapur, Hindupur, Tirupati, Hubli, Guntakal, Adoni, Guntur, Vijayawada, Howrah, Pune, etc. Guntakal is an important junction near Bellary from where trains to Delhi, Chennai, and Mumbai and to most of the places in India are available.

Air

- **Bellary Airport:** The civilian Bellary Airport, located at the far end of the Cantonment area, linking Bellary with Bangalore, Goa and other nearby destinations.
- **Vidyanagar Airport:** Bellary is currently served by Vidyanagar Airport, located at 40 kilometres from Bellary. Bangalore based Charter airline, Taneja Aerospace and Aviation Ltd (TAAL), operate sightseeing charter flights to Hampi and Mysore since October 2002.
- **International Airport:** A new international airport is being planned by the Infrastructure Development Corporation of Karnataka (IDECK) Nodal agency has identified 1,000 acres (4.0 km2) for the airport.

History

Bellary, headquarters city of Bellary district is a seat of the district administration. In one of the lithic inscriptions dating back to 1131 A.D found at byloor, the name "Ballare" is found. In several later inscriptions also, found at Sindigeri, Kolur, Kurugodu, etc., the world "Ballare" has been used. In 3-Hoysala inscriptures "Ballare" is mentioned as one of the places captured by the Hoysala King Vishnuvardharna.

Picture 1- 3: Bellary in the past

Picture 1- 4: A mining site in Bellary

The place referred to therein as Ballare is "Bellary" of the present day. Referring to traditional account according to which the origin of the name is connected with the defeat and death of Bala, a demon king, who was harasing Devekanyas in the hands of indra The place where he was slain came to be known as "Bala-hari" meaning 'The Defeat of Bala'.

It could be also Bala+Ari (means enemy of Bala). Even today the name is written and pronounced in Kannada as "Ballari". In 1808 AD, the ceded districts were split into Bellary and Kadapa districts, and in 1867 AD, the Bellary Municipal Council was created. Further in 1882 AD, Anantapuram district was carved out of the Bellary District. The Maratha princely state of Sandur was surrounded by Bellary district. In 1901 AD, Bellary was the seventh largest town in Madras Presidency, and was one of the chief military stations in Southern India, garrisioned by British and native Indian troops under the British Indian Government. The town included a civil railway station to the east of the Bellary Fort, the cantonment and its railway station on the west, the Cowl Bazar and the suburbs of 'Bruce-pettah' (currently spelt Brucepet) and 'Mellor-pettah', named after two British officers once stationed in the town.

Bellary Fort is built on top of Ballari Gudda or the Fort Hill. The Fort was built round the hill during Vijayanagara times by Hande Hanumappa Nayaka. Hyder Ali, who took possession of the Fort from the Hande Nayaka family in 1769, got the fort renovated and modified with the help of a French engineer. The lower fort was added by Hyder Ali around the eastern half of the hill. The fort was classified as *1st class* by the British Administration. This fort gave Bellary its ancient importance, and led to its selection by the British rulers as the site of a cantonment.

Picture 1- 5: Bellary fort

Geography

Bellary is situated on the eastern side of Karnataka State lies in between the meridians of 14^0 13' and 15^0 50' North Latitude and 75^0 40' and 77^0 11' East Longitude. The Altitude of the place is 449.0 meters above the MSL (mean sea level).

Bellary surrounded by Raichur on the North, Haveri on the west, Chitradurga and Davanagere districts on the South and Ananthpur and Kurnool districts of Andhra Pradesh on the East.The Important rivers of the district are Thungabudra and its tributaries, the Hagari and Chikka hagari.

The most prevalent soil of the area as well in the region is black cotton soil which is the result of disintegration of Horne-blend schist which are the derivations of old volcanic flows of metamorphic lava. However, sandy, light grey, reddish & brown soil also occurs in the area. Major portion of the area is with black & red soil. The soil is rich in calcium & poor in Nitrogen phosphate & potash. The excessive salt content in the soil has led the area into poor yield & not suitable for good irrigation.

Climate and Rainfall

Bellary has a semi arid climate. As the city lies in the rain shadow region of the Western Ghats, it receives little rain from the southwest monsoon. Temperatures remain high throughout the year, but the months from March to June are especially hot, with high temperatures reaching 45 °C (110 °F) frequently. The months from November to February are relatively mild, with average temperatures of around 22 °C (71 °F). The city receives about 24 inches (610 mm) of rain every year mainly in the months from August to October.

Overview of the Urban Local Body (ULB)

Bellary is governed by a number of local bodies, the prime being Bellary City Corporation and Bellary Urban Development Authority, where the former is responsible for civic administration and the latter for master planning of the city. Currently the total area under Municipal Corporation of Bellary jurisdiction is 81.95 sq km. Water supply and sewage system is maintained by city Corporation. Likewise power supply is provided by Karnataka Power Corporation and other infrastructure under Karnataka Public Works Department.

Bellary City had a population 3, 17,500 in 2001 and is the 8th largest city in Karnataka State. It is functioning as one of the District Head Quarters in the State for Civil administration .It is one of the educational centers, as well as an important Trading and Industrial centre. As the result of all these facilities and services, Bellary is showing signs of accelerated developments, there by intensifying the need for properly controlled urban development. Bellary city alone accounts for 16 % of the urban population of the District as per 2001 census and holds a unique position in view of its historical importance, as an Industrial base.

Presented below is a *table 1-1*, which shows an overview of **Bellary** demographic facts:

Table 1- 1: Existing Scenario of the ULB at a Glance

S.No	Indicator	Details
1.	Location (Longitude and Latitude)	14^0 13' and 15^0 50' **&** 75^0 40' and 77^0 11' **E**
2.	Area (in Sq. Km)	**81.95**
3.	**Demography – Population**	
	2001 Population	**3,17,500**
	2011 Population	**4,09,644**
	2021 Population (Projected)	5,00,500
	2031 Population (projected)	5,92,000

4.	Average household 2001	**5**
5.	**No. of Municipal Wards**	**35**
6.	**No. of Slums**	**67**
	Notified	56
	Non-notified	11
7.	Slum population	**81,635**
8.	No of households in slums	**16408**
9.	Percentage of Slum population covered in ULB	**20%**

Source: Census 2011, Annexure - I – AKM data

The total population of Bellary city for the year 2001 was 3.17 Lakhs where it has shown a constant increase in the population with varying rate of growth from decade to decade. Bellary accounts for 20% of the urban population of the district as per 2001 census and holds a unique position in view of its historical importance as an administrative & business centre. Having crossed the three lakh population Bellary local body acquired the status of Maha Nagara Palike. The city of Bellary has a uniquely different growth character, complemented by floating population from surrounding areas for occupational reasons, tourist traffic as a result of its heritage value, and special events.

As seen in *table 1-1*, of 4.09 lakhs people in Bellary, 20% of the population currently lives in 67 slums, covering an area of 1.93 Sq. Km spread over ULB, State government, Central government and private lands. Location wise, around 44 slums are located in the core area are characterized by closely knit clusters while in fringe areas, the settlements are found scattered all over the city.

Land use

The salient characteristics of land use for Bellary in 2006 and projected land use for 2021 are presented in *table 1-2:*

Table 1- 2: Land use Details (2006 and 2021)

Category	Area in Ha. (2006)	% Development Area(2006)	Area in Ha.(2021)	% Developed Area(2021)
Residential	1443.21	41.40	5310.71	**44.36**
Commercial	186.25	5.34	722.56	6.04
Industrial	279.24	8.01	1682.76	14.06
Park, open spaces & Burial ground	329.18	9.44	1563.73	13.06
Public and Semi-Public	347.94	9.98	746.63	6.23
Transportation & Communication	661.38	18.98	1689.34	14.11
Public utilities	163.40	4.69	181.06	1.51
Monument	75.20	2.16	75.33	0.63
Total	**3485.80**		**11972.12**	

Source: Bellary Master plan 2021

The area under commercial use is 186.25 hectares which is 5.34% of the total developed area. The city is an important commercial centre in the state, but there is no organized central business area. The business activity is observed mainly around bus stand, along Bangalore Road, Brahmin Street and Kalamma Street. There is a regulated market with godown facility located in the outskirts along the Bangalore Road. Retail commercial activities are concentrated in the Brucepet area. The whole sale activity is predominant along south of Bangalore road, Car street etc.

The total area under Industrial use is 279.24 hectare i.e., 8.01% of the total development in industrial activity, the Bellary spinning and Weaving mills, BSAL factory & industries on Anantapur road, KIADB Industrial estate at Mundargi village limits on Bangalore road are the predominant industrial area in the city. There are few oil and Cotton Ginning and Pressing Mills of medium size located in the city. Few agricultural based industries are also located along Siruguppa road.

The total area under Public and Semi - Public use is 347.94 hectares which is 9.98% of the total built up area. It includes Religious buildings, Government and Semi-Government Offices. Most of the Government offices are inside fort, while the most of the educational institutions are located in the Cantonment and Fort Area. Due to increase in the activities of mining, Commerce and other developments several new office establishments both in Public and Private Sector are established and they are scattered located in the city, as such causing inconvenience to the public.

The area covered under Parks, Open space & Burial ground is 329.18 hectares, which is 9.44% of the total built up area. It highlights that the area under this use is meager compared to the total area of the city. Most of the area is occupied by hillocks, water sheet and burial grounds. Due to scanty rainfall most of the areas which could be developed as parks have a deserted look.

The area covered for Traffic &Transportation is 661.38 hectares, which is 18.98% of the total developed area. The area under this use is the areas covered by Roads, streets, bus stand, Railway tracks and Railway stations, AIR, Telephone exchange, Aerodrome etc.

Municipal finance

Resource mobilization and financial stability is of paramount importance for any city's health and plays a vital role in the development. The source of revenue for BMC is primarily categorized into tax and non tax based. The tax based revenues mainly includes revenues collected from property tax, advertisement, professional and terminal taxes. While the non tax based revenue comprises of rentals from municipal properties, service user charges, and penalties. The following *table 1-3* presents a comparison of the receipts and expenditure of Bellary for the years 2010-2011.

Table 1- 3: Receipts and Expenditure for the Year 2010-11

	Particulars 2010-11	Rs. Lakh
INCOME		
1.	Tax Income	**791.15**
	(% of Own revenues)	**44.50**
2.	Non-Tax Income	**986.60**
	(% of Own revenues)	**55.50**
3.	Own Source Income (1+2)	**1777.76**
	(% of Total Income)	**45.45**
4.	Assigned Revenues from the State	**10.11**
5.	State Transfers / Grants	**2123.38**
6.	Total Income (3+4+5)	**3911.25**
EXPENDITURE		
7.	Salaries & Establishment	**746.24**
8.	Operations & Maintenance	**2115.17**
9.	Depreciation	
10.	Depreciation	**1745.48**
11.	Others	**519.54**
12.	Total Revenue Expenditure (7+8+9+10)	**5126.43**
Revenue Surplus / (Deficit) (6-11)		**-1215.18**

Source: Bellary City Municipal Corporation

As per Bellary City Municipal Corporation report, it was given that there has been no increase in the revenue sources of BMC in terms of tax revenues and non-tax revenues. Out of total revenues of BMC, grants from the government are 54. % and balance 46% is from tax and non-tax revenues. As indicated above, the expenditure on human resources constitute nearly 22% of total expenditure of the corporation.

b. Housing Scenario

During 1981 there were only 15 Number of slum in the city with the population of 10,635 persons living in those slums. But there are 59 slums in the city during 2006 which is indicator of demand for housing for EWS. Analysis also clearly indicates almost 86.12% of the slum area is on Govt. & Municipal owned lands which are more vulnerable for such unplanned development. Necessary action need to be taken by the respective agencies to stop development of slum areas there by creating hygiene living standards in the city.

With strong and diverse Industrial base flourishing for long time and household manufacturing, the housing market in has certainly shown phenomenal potential for growth. This city had huge employment opportunities to skilled and unskilled labor. However on other side, the flaws in current planning process and various ongoing government policies has led to formation of slums and created object conditions of poor hygiene and wretchedness in the slums.

With escalating level of urbanization and a high increase of population, the increase in housing could not be matched with the increasing demand which resulted in housing gap and insufficient infrastructure. Rapid growth of slums in Bellary has put a lot of pressure on the existing land resources and infrastructure levels, leading to further deterioration of physical environment. Factors that contribute to slum development in Bellary include migration of people for jobs, availability of cheap living options such as outside low cost housing and land availability in fringe areas.

Picture 1- 6: Housing condition in Andral slum

Picture 1- 7: Semi pucca housing in B.Gonal slum

Picture 1- 8: Katcha housing in Bandimot slum

Picture 1- 9: Pucca housing in Kaakarla thota slum

Picture 1- 10: Katcha house in Radhakeishna nagar

Picture 1- 11: Pucca house at Mundargi

1.2 Diagnostic Assessment of slums

The living conditions in slums represent the pathetic conditions of urban poor. Individuals and communities living in slums face serious challenges in their efforts to survive. Severe inadequacies in access to water, sanitation, shelter, health and education has deprived slum dwellers of some of the most basic amenities. For assessing the current situation of slums, appropriate indicators are required to understand the depth of problems. These indicators are derived from RAY guidelines wherein a detailed household/livelihood survey was conducted to identify slums which are characterized by poor quality of housing and poor infrastructure. The following sections provide insights into the real picture of slums.

With increase in population of the city, housing needs grew, which could not be met by formal housing market. Migrant population, which could not avail the facilities of formal housing market, satisfied their needs by occupying vacant lands and resulted in formation of slums and more number of squatter settlements. Slum locations are spread all over the city but major concentrations can be found in the old city area, near large scale industries especially mining. The main factor attributing to this concentration is proximity to work place, and religious centre. The existing base of the city creates opportunities for employment generation, especially for unskilled labor. With the overcrowding of slums, there is a general deterioration of the living environment and tremendous pressure on the city infrastructure and resources.

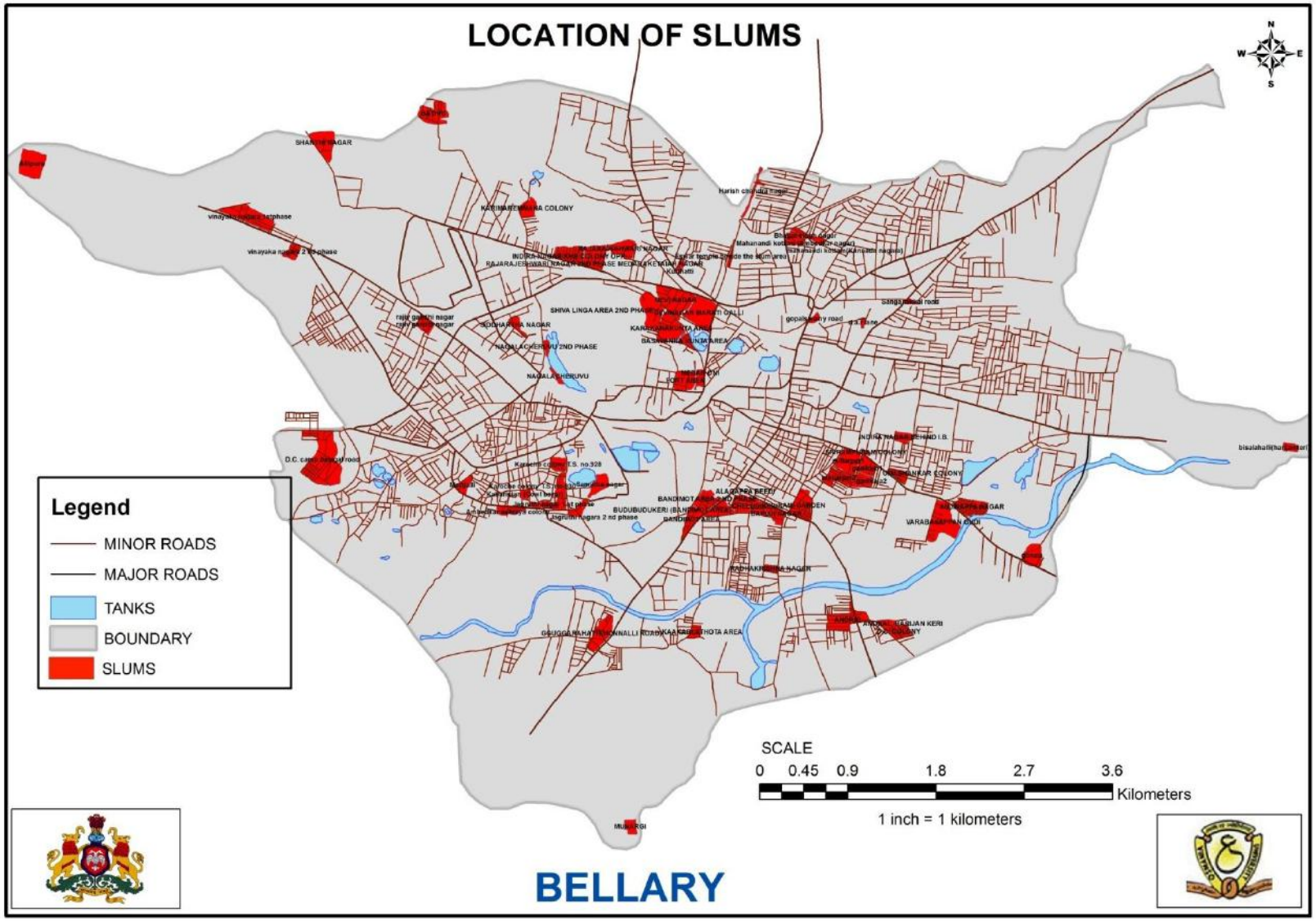
The existing scenario in Bellary has got two distinct dimensions- housing and infrastructure. Such a high residential density coupled with acute shortage and dilapidation of housing stock marred with extremely poor infrastructural conditions necessitates redevelopment and renewal works so as to improve the habitability of these areas for the urban poor.

Bellary City has a total of 67 slums, where most of these are built on lands under Urban Local body ownership. Over 40% of slums have existed more than 30 years in the city due to the fact that Bellary has been one of the continuously inhabited cities in India. The total slum population is 81,875 which are about 19.09% of the total city population. 94% of slums are found to be located along nallahs, 3% are located along major drains and 1% along eater bodies thereby vulnerable to natural disasters. Likewise, 2% of slums are located along the major transport alignment (*as seen in map1-1*).

Picture 1- 12: Along the railway line, Guggarahatti honnali road

Picture 1- 13: Water logging, Nagulacheruvu

Picture 1- 14: Along the HT lines, B Gonal slum



Map 1- 1: Location of slums in Bellary city

As evident in *Map1-1*, 66% of the slums are located in the core area of the city while remaining 34% in fringe area. The abutting land use surrounding slums is predominantly residential in nature, followed by commercial use.

The City wise, ward wise and slum wise descriptive details are provided in **Annexure-IA**.

a. Listing of slums – number, status, tenability, and tenure status

For the purpose of analyzing existing situation, the following variables mentioned in RAY guidelines were studied in report:

- Land tenability
- Land tenure status
- Ownership of the land
- Age of slums

Using the above variables, the settlements in each slum that are characterized by poor physical and socio-economic conditions, irrespective of land tenure status and ownership have been identified through primary surveys. The following *table 1-4* summarizes the aspects crucial for determining the current status of Bellary slums.

Out of 67 slums, 8 slums are on private lands while remaining 59 slums are located on lands owned by ULB, State & Central Govt. However seen in *table 1-4*, nearly 85% of the slums possess a secured tenure status and an enabled pleasant living condition. 15% of the slums have a in - secure status i.e without any access to basic amenities.

Table 1- 4: Distribution of slums according to number, status, tenability, tenure

	Status		**Tenability**			**Tenure**	
	Notified	Non- Notified	Tenable	Semi tenable	Untenable	Secure	Insecure
No. of Slums	56	11	59	8	0	57	10
	Age of the slum						
	0-20 years	21- 30 years	31-40 years	40 years Above			
No. of Slums	10	30	23	4			
	Ownership of land						
	Local Body	State Govt.	Private	Govt. Of India	Railway land	Others	Not known
No. of Slums	31	30	6	0	0	0	0

Source: AKM data

Distribution of Slums by Land Tenure Status

Land tenure is an important part of socio-economic structure of any neighborhood and enables entitlement of formal access to basic services. According to RAY guidelines, tenure status is "**the mode by which land/property is held or owned or the set of relationships among people concerning land/property or its product"** and defines the legal status of the land.

As seen in the *table 1-4*, 85% of the slums are secured and have access to basic amenities and in possession of certificates while 15% of slums are unsecured, which needs regularization. While identified slums have some security of tenure and fall under the purview of municipal service provision, the unidentified slums fall outside the net of formal service provision.

Distribution of Slums by Tenability Status

The land status of all listed slums/informal settlements are classified by the ULB as either Tenable[2] , Semi tenable[3] or Untenable in order to determine whether the land is fit for human habitation and void of health hazards (RAY Guidelines).

Chart-1-1 indicates that the current tenability status for 67 slums as identified has been presented where 88% of the slums are found to be tenable. While the remaining 12% slums are semi tenable, thus proving to be unsafe due to the reason that the slum lands are either earmarked for any major public facilities. This is very small in number; hence viable solution can be arrived in consultation with ULB

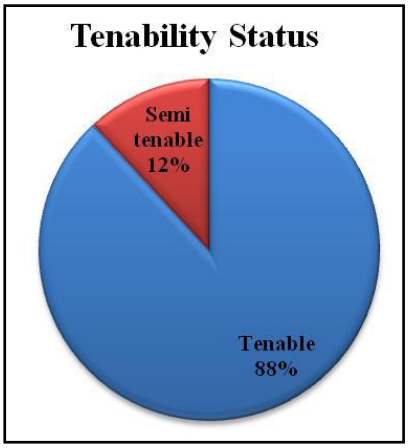


Chart 1- 1: Tenability of Slums

Distribution of slums by Land Ownership

As seen in *Chart 1-2*, it is observed that over 46% of the slum lands belong to ULB and 45% under State Govt. The remaining 9% of the slums is built on the lands that fit in the ownership of Private.

Mentioned earlier, 9% of the slums are on private lands do hold possession certificates and are still eligible for slum redevelopment programmes considering the varying economic status of those dwellers.

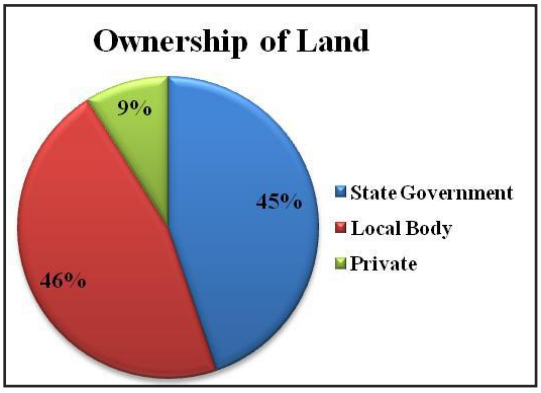
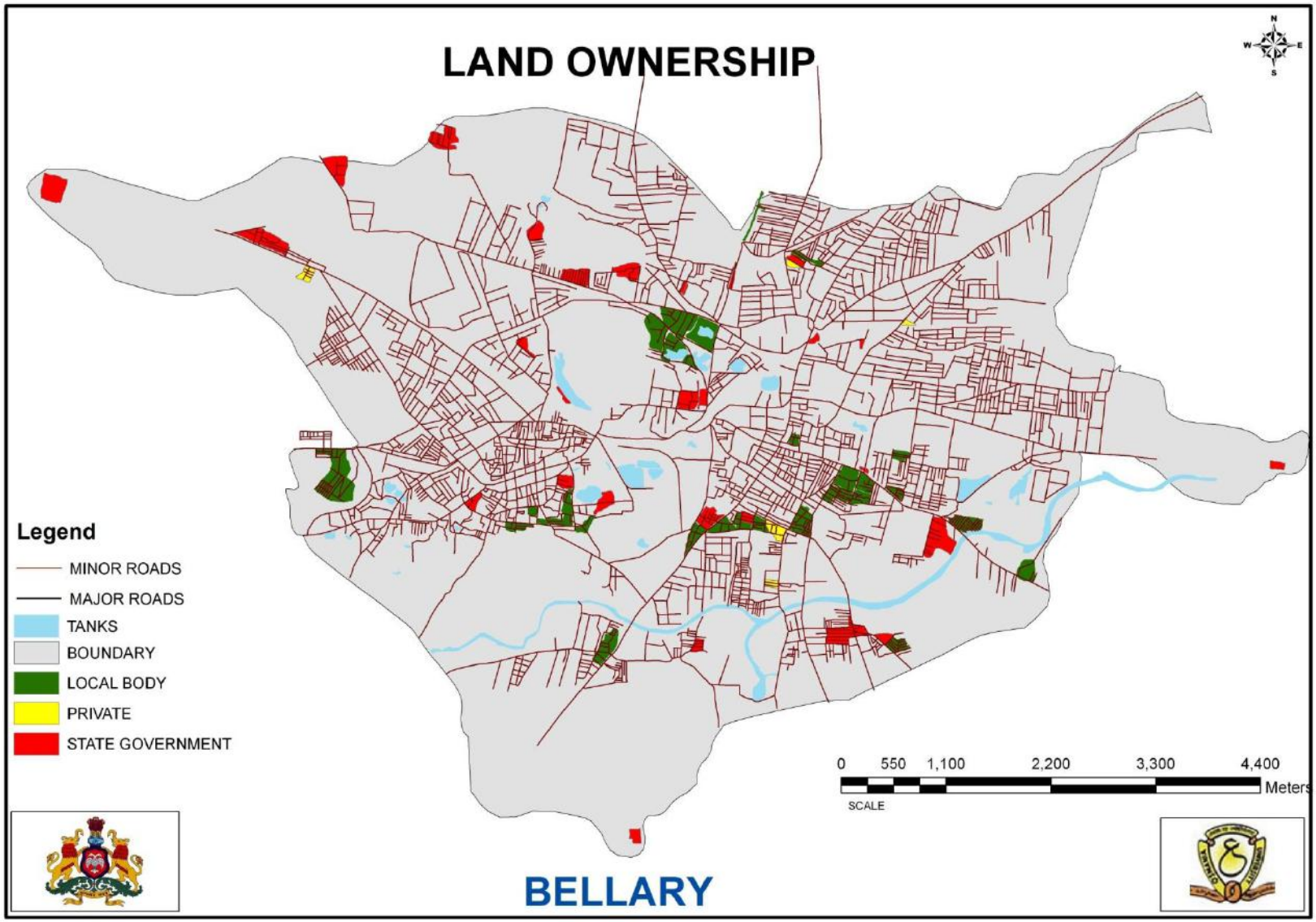


Chart 1- 2: Ownership of land

[2] According to RAY, Tenable slums means all slums which are not located on hazardous locations suitable for human habitation and the land not earmarked for any major public facilities and therefore it can be regularized in the same location.

[3] Semi tenable slums as per planning guideline are those slums which are located on land zoned for non-residential uses, as prescribed by the Master Plan.



Map 1- 2: Land Ownership in slums

Distribution of slums by Age of the Slums

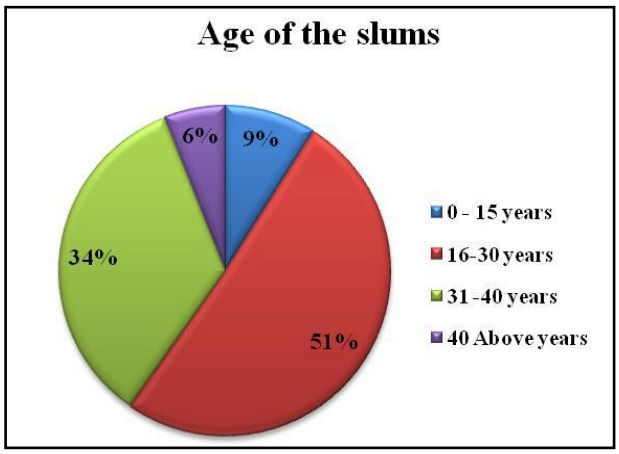


Chart 1- 3: Age of the Slums

Age of the slum is one of the important information to assess the condition of a slum in any city. Considering the fact that Bellary being one of the oldest mining area for availibility of mineral respouces, has 40% of slums into existence over 30 years while remaning 60% of slums less than the 30 years (*seen in chart 1-3*).

Notification of the slums

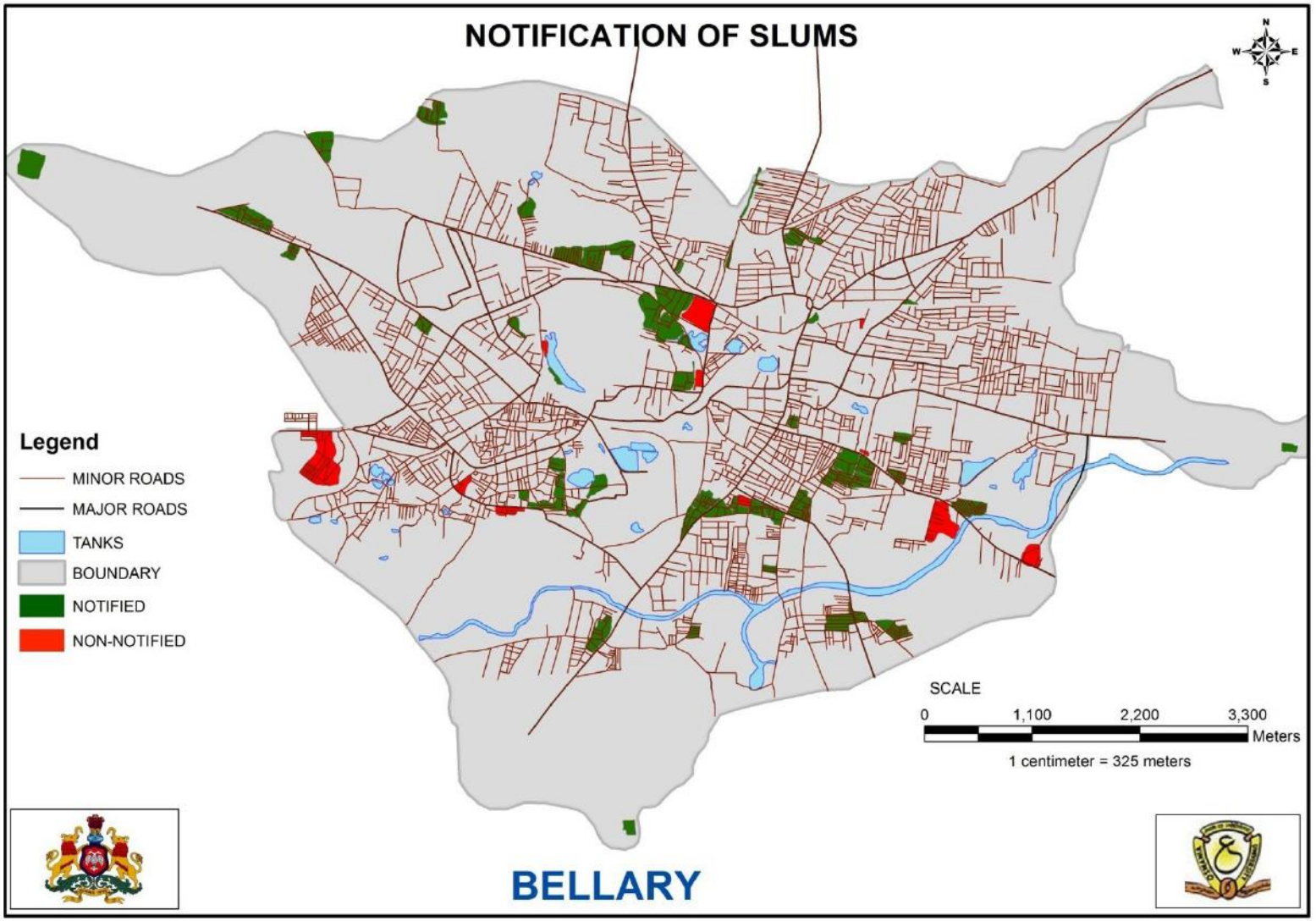
According to National Sample Survey Organization, areas notified as slums by the respective municipalities, corporations, local bodies or development authorities were treated as "notified slums", tends to receive higher level of services and those unrecognized by the local bodies were considered as "non-notified slums". As per AKM, currently 56 slums are notified by ULB to avail higher level of basic services and eligible any other redevelopment programs.

As seen in *Map 1-3*, 11 slums marked in red color indicates that these are not yet notified, which requires ULB to ascertain that these slums are to be provided with amenities.

Picture 1- 15: Along the Major Transport alignment, Bandimot area

Picture 1- 16: Along the major Nallah

Picture 1- 17: Beside of Agriculture lands, Mundargi



Map 1- 3: Notified and Non – Notified slums in Bellary City

Please refer **Annexure-1A**, for a detailed slum wise description of each indicator in *table 1-4***.**

b. Physical profile

Slums and squatter settlements in Bellary are found all over the city however established mostly near places of employment. The general composition of majority of slums comprises of scheduled caste, and other backward classes, thus forming the weaker section of the society. From habitation point of view, slums located in the low lying areas, along open drains/nallah, tank beds and hazardous/toxic sites are susceptible to inundation, and other forms of disasters.

The slum concentration in these areas has not only led to poor living conditions for the slum dwellers but also responsible for the general deterioration of the living environment in the city. This is primarily due to lack of proper infrastructure services in these areas and considering the fact that most of these slums are overcrowded, there is always constant pressure on the city infrastructure and resources. In this section, the following set of variables were measured to assess the existing housing scenario in terms of the structures, its type, access to electricity and other related issues so as to bring out the deficiencies:

- Location of slums and its areas
- Flood prone slums
- Abutting land use
- Housing type

Table 1- 5: Summary of slums – Area, Location, Abutting land use & Flood vulnerability

Area						
	Below 10,000 Sq.mt	10,000 to 20,000 Sq.mt	20,000 to 40,000 Sq.mt	40,000 to 60,000 Sq.mt	60,000 to 80,000 Sq.mt	80,000 Above Sq.mt
No. of Slums	12	19	19	10	5	2
	Slums Located in					
	Core			Fringe		
No. of Slums	44			23		
Physical location of slum						
	Along Nallah (Major Storm water Drain)	Along Other Drains	Along Major Transport Alignment	Along River / Water Body Bank	Others (Hazardous or Objectionable)	Others (Non - Hazardous / Non-objectionable)
No. of Slums	63	2	1	1	0	0
Whether the Slum is prone to flooding due to rains?						
	Not prone	Up to 15 days	15-30 Days	More than a Month		
No. of Slums	67	0	0	0		
Type of Area surrounding Slum						
	Residential	Industrial	Commercial	Institutional	Other	
No. of Slums	59	2	1	0	5	

Source: AKM data

Distribution of Slums by Physical Location

Out of 67 slums, 44 slums are found in the core area and remaining 23 in the urban fringe areas near agricultural lands. With respect to the physical location of the slums, around 2% of slums are located along the major transport alignment such as National Highways while 94% along the open and storm water drains. On other side, 1% slums are found to be located along the river as well as on the river beds. All slums are located on the sites of non hazardous / non objectionable areas yet the slums located along drains may lead to vulnerability and cause for increase in diseases due to contaminated water or over flowing of drains etc. These slums require special attention before undertaking any development, the beneficiaries cooperating and their livelihoods are of paramount importance.

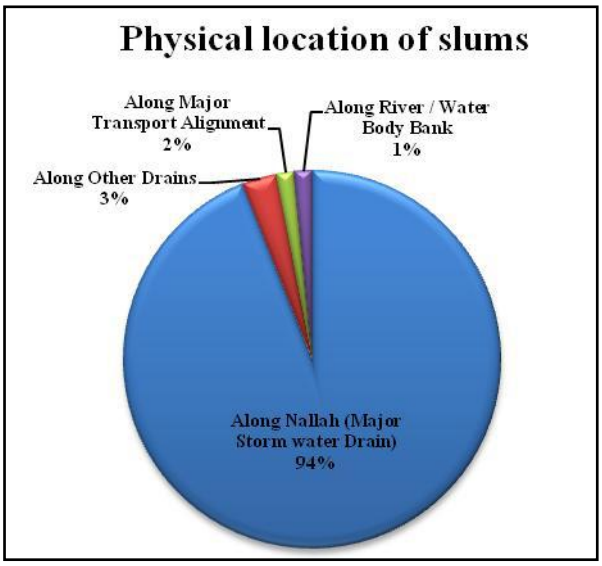


Chart 1- 4: Physical location of slums

Picture 1- 18: Location of Bellary Slum along Industries

Distribution by Slum Area

According to AKM, slum population constitutes 20% of the total City population while the total slum area (1.93 Sq.Km) is about 2.3 % of the total city area (81.45 Sq.Km). Nearly 18% of slum areas are found to be less than 0.01 Sq.Km and 82% of slums having areas greater than 0.01 Sq.Km. The area of the slums under the ownership of private agencies is 0.18 Sq.Km, and 1.7 Sq.km is under ownership of ULB & State Govt.

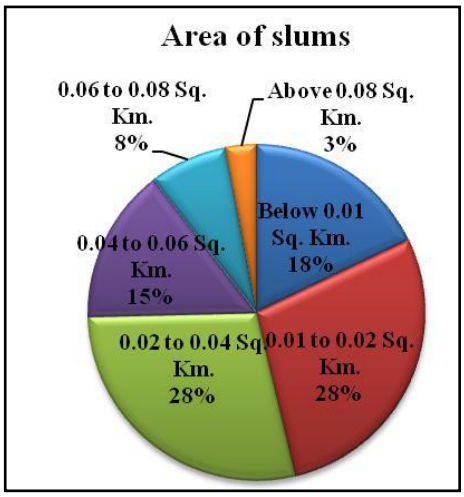


Chart 1- 5: Area of slums

Flood Prone Slums

As indicated in *table 1-5*, though slums were located along the major nallahs or drains, they are not vulnerable to floods. Yet few households were being affected due to the overflowing of drains in rainy season (*As seen pictures below*).

Picture 1- 19: Storm water drain at Anjanappa nagar slum

Picture 1- 20: Water body in Basavanakunta slum

Picture 1- 21: Canal at Shanthi nagar slum

Picture 1- 22: Water logging at Andral

Distribution of slums by abutting land use

Looking into the abutting land use, the *table 1-5* reveals that 88% of the slums are surrounded by residential land use, followed by industrial uses (3%) such as small scale industrial units (Radhakrishna nagar slum) and handloom units in the city. In addition 1 slum is around commercial use like wholesale businesses. Of the 23 slums located in the fringe areas, 74% of the slums are bounded by residential and remaining 26% surrounded by others (industrial and commercial) land use respectively.

Distribution of slums by housing structure

One of the prime indicators to assess the existing condition of a slum is housing. In order to understand the degree of living conditions, data on the kind of houses that the slum households live is collected to examine the housing scenario. For analysis purpose, the dwelling units were classified into pucca, semi-pucca and katcha, based on the kind of roofing and wall materials used.

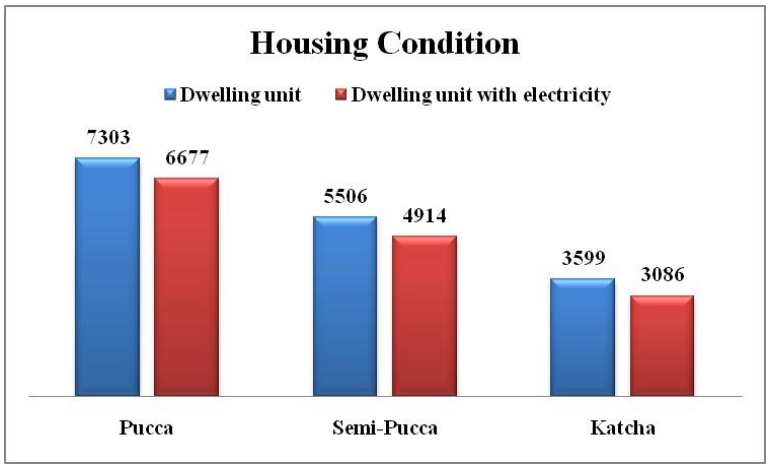
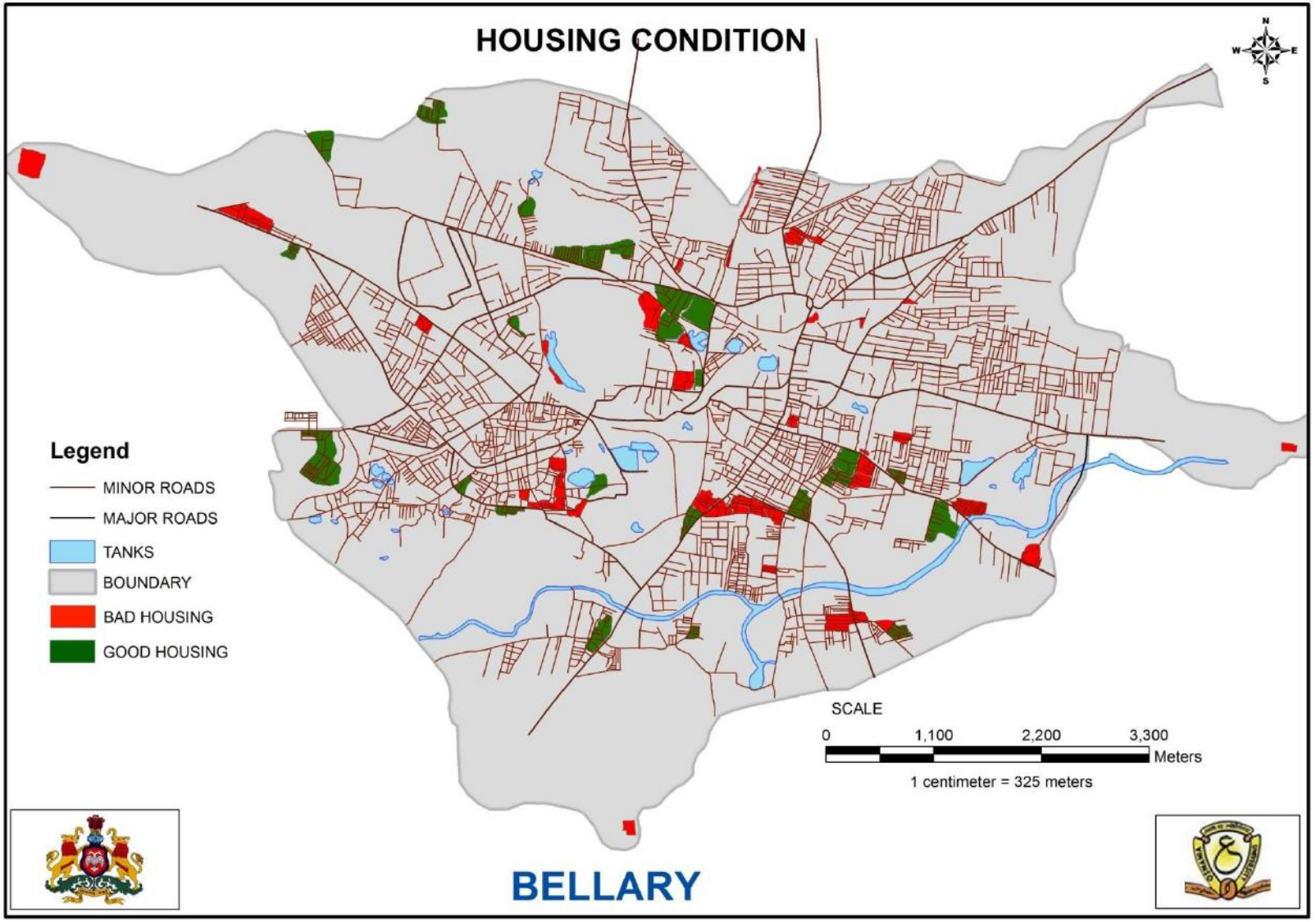


Chart 1- 6: Existing housing condition

It is evident in *chart 1-6*, 34% of the dwelling units built is semi pucca and 22% units are katcha in nature with remaining 44% to be pucca houses. With respect to electricity connection, nearly 89% of dwelling units have access to electricity where 91% of pucca houses; 89% of semi pucca and 86% of katcha houses have access to the same connection. Yet there is a shortfall of 11% of the total houses that needs to be connected to electricity, indicating the pathetic status of the slum dwellers.

Picture 1- 23: Existing housing condition in the slums

The following map shows housing type:



Map 1- 4: Housing situation of slums

The above map depicts the current housing structure condition in the slums of Bellary. For analytical purpose, semi pucca and katcha houses were considered exclusively to determine the housing shortage and the need to implement suitable housing redevelopment programmes. If the semi pucca + katcha houses were greater than 75% then it is considered poor housing in awful state which needs to be addressed immediately or rebuilt. In the same way if the semi pucca + katcha houses were less than 75% then it is assumed that housing condition not as good as pucca houses. As per the data results, it was found that 20 slums have semi pucca + katcha houses more than 75% while 47 slums in the latter category. Since Bellary is main center for industrial activities and greater influx of floating population, there has been massive dependence on existing congested housing and infrastructure thus leading to poorly maintained crammed houses and unhygienic conditions in the slums.

Based on the income levels and the affordability levels of the households, the kind of housing is determined and varies accordingly. Similarly in Bellary , 45% of the pucca houses are built using wall materials of burnt bricks, stones, cement concrete, timber, and roofing of reinforced brick concrete and reinforced cement concrete, PCC flooring. While semi pucca houses have walls made up of pucca material but roof is made up of the material other than those used for pucca house and katcha houses are usually found to be built using make shift material like sandstone tiles, thatches, loosely packed stones, and temporary tents.

Although most of the houses are pucca in nature, it is irony that these are in a dilapidated condition and in need of up gradation. Due to lack of choice, and security, the dwellers are forced to live and work in informal settlements and earn on a daily basis.

For slum wise details, please refer **Annexure-1B** on housing structure.

Picture 1- 24: Semi pucca house in Mundargi

Picture 1- 25:Semi pucca house in Millerpet no-I

Picture 1- 26: Pucca House Under Costruction, Kaakarlathota

Picture 1- 27: Pucca House at Cheluvadikeri Bandimot area

c. Social Profile

According the "Asha Kirana Mahithi" 2011 data, the total population in 67 slums is **81635** with total number of **16408** households, comprising 20 % of total city households. Of the total slum population, 91**%** are below poverty line (BPL) with 14969 households.

Table 1- 6: Population & Health

Indicators	SCs	STs	OBCs	Others	Total	Minorities
Total slum population	23450	11721	28696	17768	81635	39109
Total Households	4568	2372	5805	3663	16408	7535
Total BPL population	21506	10946	26067	15931	74450	34578
Total BPL Households	4192	2209	5259	3269	14929	6815
No. of women headed households	935	475	902	605	2917	1290
No. of persons older than 65 years	78	30	83	38	229	113
No. of child labors	2804	1364	4344	2043	10555	5926
No. of physical handicapped persons	93	34	65	45	237	85
No. of mentally challenged persons	53	27	36	21	137	59
No. of persons with HIV - AIDs	66	47	212	102	427	234
No. of persons with tuberculosis	5	0	3	7	15	4
No. of Persons with Respiratory Diseases including Asthma	10	3	13	10	36	14
No. of Persons with Other Chronic Diseases	3	2	15	6	26	6

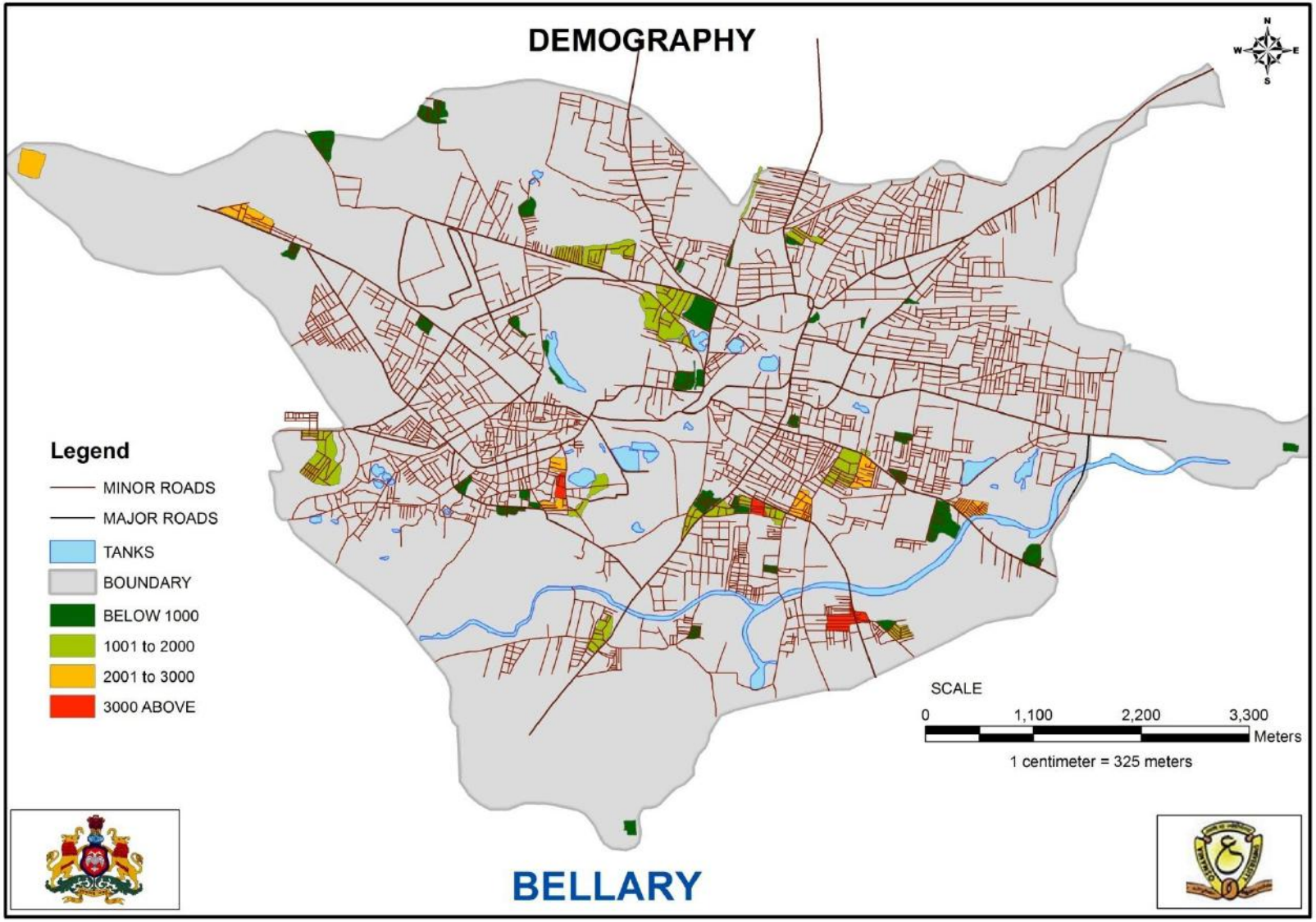
Source: AKM data

Total population

Seen in *table 1-6*, around 18% of the household population forms the women- headed households with OBC caste women being in lead. Similarly 13% of the total population in the slums belongs to Child laborers and 47% of the total population falls under minority category.

Picture 1- 28: Bisalahalli (Harijanakere)

Picture 1- 29: Vinayaka nagar 2 nd phase



Map 1- 5: Population classification in Slums

As seen in *Map 1-5*, the slums have been classified into 4 equal class intervals where it is observed that the slums marked in red color have population more than 3000 persons and mostly located along the Nallahs. The population distribution in the slums is found to be varying as low as 261 persons to a highest value of 3793 persons.

Seen in Annexure - 1C for year 2011 demographic details, Cheluvaadikere is having the maximum slum population (3793) and BPL population (3422). Of the total 67 slums, 5 slums are highly dense wherein the highest density is found in Cheluvaadikere. Comparing the density results, it is observed that 40 slums have low density and 22 slums were moderately dense.

Distribution of slum households by Caste/Different social groups

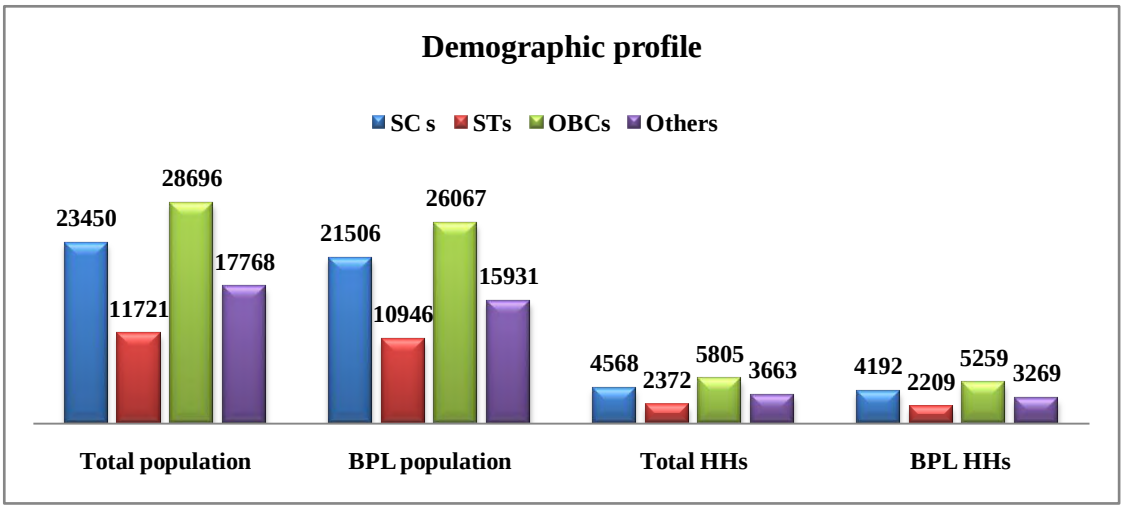


Chart 1- 7: Population details based on different social categories

Seen in *chart 1-6* for different social categories, SCs and OBCs are found to be in larger number comprising of 64% of the total population and 64% under BPL when compared to other groups in the 67 slums respectively (seen in *table 1-6*). According to different social categories, it is observed that 12 % of SC population constitutes the Child Labor and 15% under OBCs. 29% of the BPL population in slums is SCs & 35% comprises of OBCs and the remaining 36% belong to STs and others.

Distribution of slum households by Minority groups

Of the total slum households, 46% forms the minority group with a BPL population of 34578 persons. For women headed category, 18% of the households belong to the women headed households while 15% of the minority population belongs to child laborers.

Literacy rate

Of the total slum population, 78% are literates and the remaining 22% are illiterates in which 44% are male and 56% are females. According to different social categories, SC population has an illiteracy rate of 30%, followed by OBC group with 33% of illiterate persons. Similarly, under BPL category, the percent of illiterates is found to be 23% of the total BPL population.

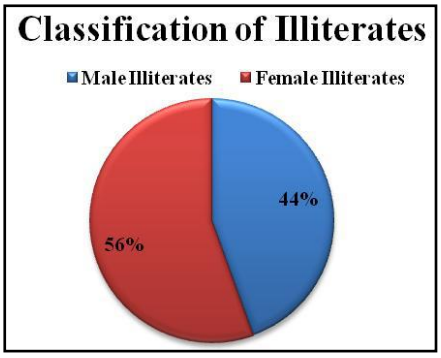


Chart 1- 8: Classification of illiterates

School Dropouts

According to Planning Commission, though most States of India have done well in enrolling more and more children in schools, their inability to retain them has been a problem. The dropout rate was least for those belonging to the highest income group and maximum for those from the lowest income group and EWS. Children from poorer sections of the society drop out in the early stages of education due to the fact that either the children or their parents were not interested and nearly as many were on account of economic considerations, compulsion to work for wages or looking after younger siblings.

As per AKM, it is found that 0.16% (134 persons) of the slum population were school dropouts with 52% of males and 48% females under it. As mentioned above, the 0.16% school dropout belongs to the age groups of 6-14 years hence can be partly attributed as one of the reasons for the 13% of child labor in the slums of Bellary city. It is also found that child labor is prevalent in industry in the form of unskilled labor. Hence mitigation measures needs to be taken through implementation of education policy programmes and provision of elementary education to the deprived groups.

Table 1- 7: School dropouts

School Dropouts	
Male (No.)	Female (No.)
70	64

Source: AKM data

Number of Slums by Disability Status and senior citizens

As Per AKM, the physically challenged population comprises 0.3% of the total slum population, with SC group forming the highest under social groups. Similarly the mentally challenged persons constitute 0.002% of the total population in Bellary slums. Hence employment provisions needs to be made for those physically challenged person who are skilled enough.

In Bellary Slums, it was found 0.3% of the total constitutes the senior citizens where in SC group accounts for 34%. For the well being of these citizens, it is essential to make due concessions and provision of adequate social facilities for the senior citizens in Bellary slums. In addition, eligible aged persons and senior persons in BPL families that can hardly support the aged should be entitled to National Old Aged Pension Scheme (NOAPS).

Number of households by Health Condition

Poor water and unsanitary conditions leads to adverse effects on health of households living in the slums. Given the fact that Bellary is substantially known for its Mineral resources, it is quite apparent that the slums have evolved around these industries or mining areas hence characterized by poor/crammed housing conditions, lack of good sanitation and contaminated water supply. Due to contamination of water and outlet of effluents into the river, thus the households are exposed to skin irritation, respiratory problems and other diseases.

Indicated in *table 1- 6*, 0.5% of the slum population is found to be having HIV/AIDS while 0.02% of the population is suffering with Tuberculosis and 0.04% with respiratory problems.

For slum wise details, please refer **Annexure-1C** on social profile.

d. Economic profile

The significant sectoral composition of economic base & structural changes take place within different periods influencing the city growth which cannot be denied. Due to its advantageous geographical location and availability of abundant mineral resources, Bellary has become the basis for a strong economical growth. The core economic activities in Bellary had primarily been trade and commerce, manufacturing of jeans, textiles & garments and others. The real estate prices have already started to shoot as more and more industries are finding their way into this city.

Till 1994 handful of mining companies operated here including state owned NMDC. Later Govt. issued mining licenses to many private operators. Mining Industry boomed with surge in Iron Ore prices due to demand from emerging China. Despite the availability of minerals in large quantities, it is considered to be an industrially backward district. There are 23 units of large and medium scale industries in this district with an investment of Rs.447.76 crores employing around 9,222 persons. At present it occupies ninth place in the state. The district will therefore come under heavy pressure on basic infrastructure such as power, communication, health, education and police stations which again invite heavy investment to create the needed infrastructure. Urgent action is needed to pool the resources under various sectors such as District Sector, State sector, Border Area Development, HKDB etc., and prepare a perspective plan to the emerging challenges.

Overall employment and unemployment table is shown in **Annexure -1D**

Livelihood profile

Two types of labor exist in all economies: skilled and unskilled. Skilled labor is the portion of workers in an economy that have specific, technical industry skills relating to business and the extraction of minerals. Engineers, accountants and scientists are a few examples of skilled labor. Unskilled labor is the cheaper and less technical portion of the workforce that makes up a large part of an economy's labor market. This workforce plays the important part of performing daily production tasks that do not require technical abilities.

As indicated in AKM, 22% of slum population is illiterate with lack of skill and professional training, making it difficult for them to obtain skilled employment opportunities in Bellary, hence end up doing low or moderately paid jobs on a daily basis.

The composition of work force conveys a picture of quality of life, associates with their social and economic activities. With respect to slums, the development plan also documents that 90% of the households are employed and remaining 10% as unemployed. The unemployment in slum dwellers can be potentially mitigated by implementing schemes such as SJSRY, STEP UP and other livelihood oriented training programmes initiated by Govt. of India.

Picture 1- 30: Self employment in Bandimot area slum

Picture 1- 31: Animal husbendary in Cheluvadhikeri bandimot area

Picture 1- 32: Skill employment in Jagruthi nagar 2 nd phase

Majority of the working population in the slums is engaged in large scale industries, construction, wholesale business; home based small businesses, rickshaw pullers and Auto drivers. On the other hand, women in the families are majorly involved in domestic help and cottage industries. On the other hand, slums households located in urban fringe are involved as agricultural laborers due to the presence of agricultural lands in close proximity.

Distribution of slums households by Occupation Status

As per AKM, it is inferred that 30% of households are found to be working as casual laborers and 12% on regular wage basis as they are unskilled. 16% are found to be working on a monthly salary, indicating a secured position.

As per the recent AKM, 46% of the slum households do not have opportunities towards sustainable occupation and secure incomes. This situation of slum livelihoods need to be taken into consideration in future development programmes as there is a dire need for an enhanced productivity in the city.

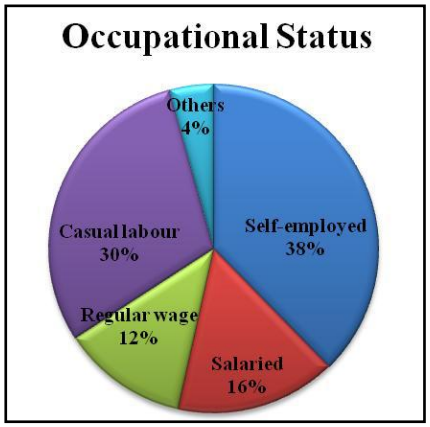


Chart 1- 9: Occupational status of slums

Picture 1- 33: Shop in Bandimot area slum

Picture 1- 34: Bangles business Cheluvadhi keri Bandomot area

Picture 1- 35: Small shop in Cheluvadhi keri slum

The above images shows **work force category** in Slums

Monthly Income by Households

The monthly income of 4 % households ranges between Rs.1500 to Rs.2000 and above Rs.3000 is 69%. The percentage of households that earn less than Rs. 1500 is 9%, indicating that 30% households belong to casual labor.

Further, the livelihood pattern has become indefinite and irregular for the households, where only 69% of them are earning more than Rs.3000/- per month. In addition, it is also observed that child labor number is rapidly increasing where a need is felt to curtail it.

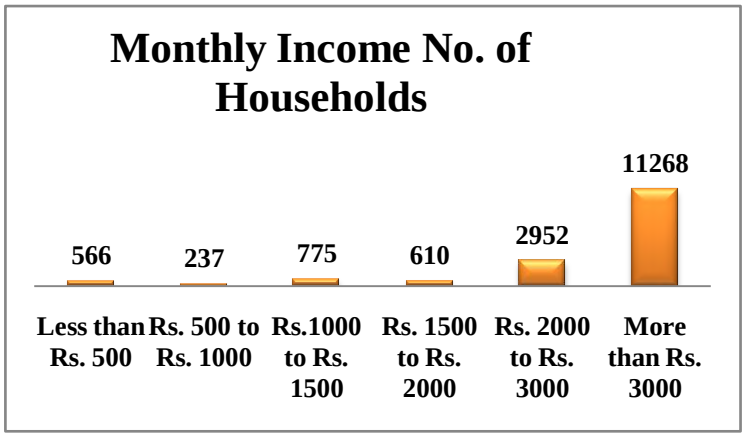


Chart 1- 10: Monthly Income of Households

There is urgency in creating economic assistance which can include training, job placements, credit and technical support to small and marginal businesses, creating new society –owned enterprises, providing micro-finance facilities and loans for housing and financial assistance such as subsidies for building materials. There is ample scope for programmes like SJSRY projects to be launched particularly STEP UP, UCDN, UWESP in most of the slums as part of livelihood promotion and leads to enhanced productivity.

For slum wise details, please refer **Annexure-1D** on Economic profile.

e. Infrastructure

Sustainable growth of a city depends on its infrastructure facilities. Lack of infrastructure and institutional mechanism can lead to collapse of urban system in a city. Access to basic services has now become a criterion for identification of the poor areas in a city. The responsibility for urban service provision in an equitable manner lies with the ULB, where an increasing gap in service levels and the difficulties in providing the same are prevalent. Information on access to services in terms of Physical Infrastructure of Bellary city has been collected and a brief analysis on the current status of Water Supply, sewerage, Storm Water drainage and Solid Waste Management. The numbers indicated in the *table 1-8 to 1-16* are based on AKM data for 67 slums.

Water Supply

Water supply system to the city of Bellary was first implemented in the year 1924 from Hagari River which is 14 Kms away from the city. Since then a few other schemes have also been commissioned from time to time i.e., in the year 1964, Moka water supply scheme was commissioned In the year 1992 an Augmentation of water supply scheme to Bellary city was commissioned to cater the increasing water demand of the city. The present population of the city is about 3, 17,500 and present normal water supply is 120 LPCD. After implementing the scheme per capita supply level will be to 135 LPCD.

Table 1- 8: Current Water Supply Statistics

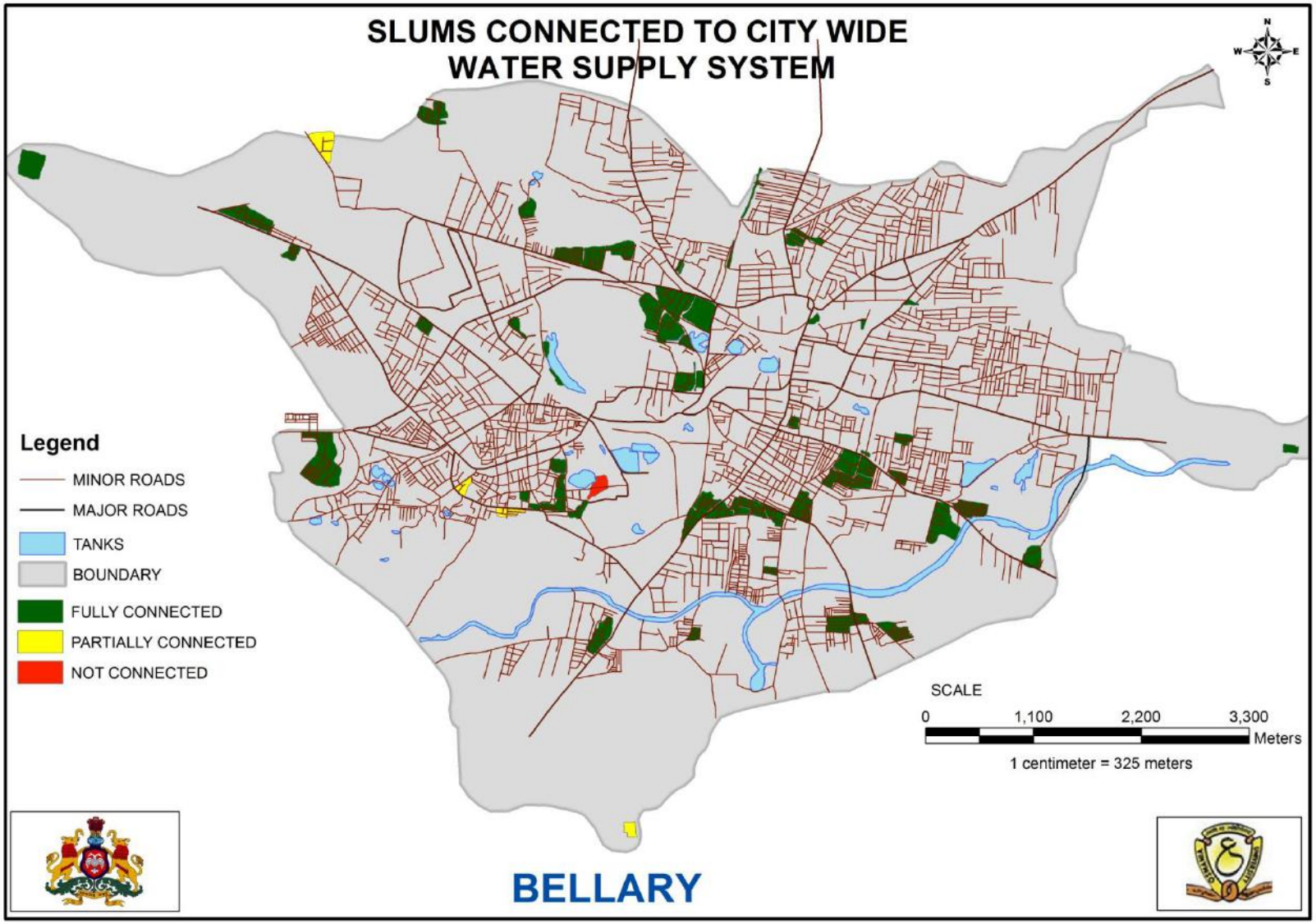
Connectivity to City-wide Water Supply System							
No. of Slums	Fully connected		Partially connected			Not connected	
	62		4			1	
Source	Individual tap	Public tap	Tube well/Bore well/ Hand pump	Open well	Tank/ Pond	Water tanker	Others
No. of households	7475	7490	567	78	35	1	762
Existing Situation	No. of individual taps		No. of public taps		No. of tube wells / bore wells/ hand pumps		
	7623		608		93		
Duration of water supply							
Less than 1 hour daily	1-2 hrs daily	More than 2 hrs daily	Once a week		Twice a week	Not regular	No supply
57	0	0	2		8	0	0

Source: AKM data

Connectivity to City Wide Water Supply System

Most of the slum households either have direct access to services or access them through community or common facilities. Of the total slums, 93% of it is fully connected to the city wide water supply system; 6% is partially connected. The remaining 1% of slums is not having connectivity to city water supply system.

The *map1-6* shows the number of slums that are connected to city wide water supply system.



Map 1- 6: Slums connected to city-wide water supply system

Existing Sources of Drinking Water

Over 46 % of 7475 households have individual water supply connections where protected drinking water is being supplied to 4684 households by Urban Local Body. Hence a significant 54 % of the households do not have access to drinking water and dependent on public water taps, tube wells, open wells, hand pump and water tanker. In a slum it is observed that on an average about 20 households are sharing one public tap.

Duration of Piped Water Supply

The duration of water supply usually is once in a day or once in couple of days where 85% of the slums have access to piped water supply between 1 to 2 hours or more on a daily basis. Approximately 10 slums (15%) do not have water supply connection on a regular or non regular basis, thus there is a need felt to improve the services.

Picture 1- 36: Hand pump in Miller pet - II slum

Picture 1- 37: Individual tap in Guggarahotti honnal road slum

Despite the connectivity to city wide water supply system, the major problem is observed to be is the poor quality of water. This is due to the discharge of waste from mining industry, and garbage disposal near public utilities. Even after treatment, the quality of water is still found to be poor; which needs to be addressed immediately.

Sanitation

Sanitation and sewerage systems are not only the basic necessities of life, but they are also crucial for achieving the goal of "Health for All". Increased sanitation coverage is directly linked to improvement of health status. Lack of sanitation is a universal problem when it comes to Slums and is markedly less than access to other basic services. While, it is worthwhile to note that the proportion of people having access to sanitation in urban areas is considerably greater when compared to their rural counterparts, however the problems are more exacerbated in slums.

KUWS & DB, Bellary has prepared a UGD scheme for the Bellary city And Government of Karnataka has accorded approval vide G.O no - UDD/1/UDS/2000-01 Dated 18-04-2000 to the UGD scheme phase -II. The cost of the project was 57.53 crores.

Urban sanitation is perceived as being important because of the health factor. In case of slums, it is observed that sanitation facilities are worst and in pathetic condition. A comprehensive view of the sanitary facilities as well as current sewerage system in the slums is shown in *table 1-9*:

Table 1- 9: Current Sanitation Statistics

	Storm water Drainage	Underground Drainage/ Sewer Lines	Digester	Not Connected to Sewer or Digester
No. of HHs having access to	6707	6340	3345	8662

Connectivity to City-wide Storm-water Drainage System			
No. of Slums	Fully connected	Partially connected	Not connected
	51	11	5

Connectivity to City-wide Sewerage System			
No. of Slums	Fully connected	Partially connected	Not connected
	51	10	6

	Latrine Facility used by the households									
	Public/Community			Shared Latrine			Own Latrine			Open defecation
No. of H.Hs	Septic tank/ flush	Service latrine	Pit	Septic tank/ flush	Service latrine	Pit	Septic tank/ flush	Service latrine	Pit	
	5059	0	808	389	0	1457	5588	0	1305	1802

Source: AKM data

Connectivity to City wide Trunk Sewerage System

76% of the slums are fully connected to city wide sewerage system while 15% is partially connected to the system. Even though 91% of the slums are connected to city wide sewerage system yet 9% needs to be upgraded. The *map1-7* presents the status of the slums that connected to city wide sewerage system.

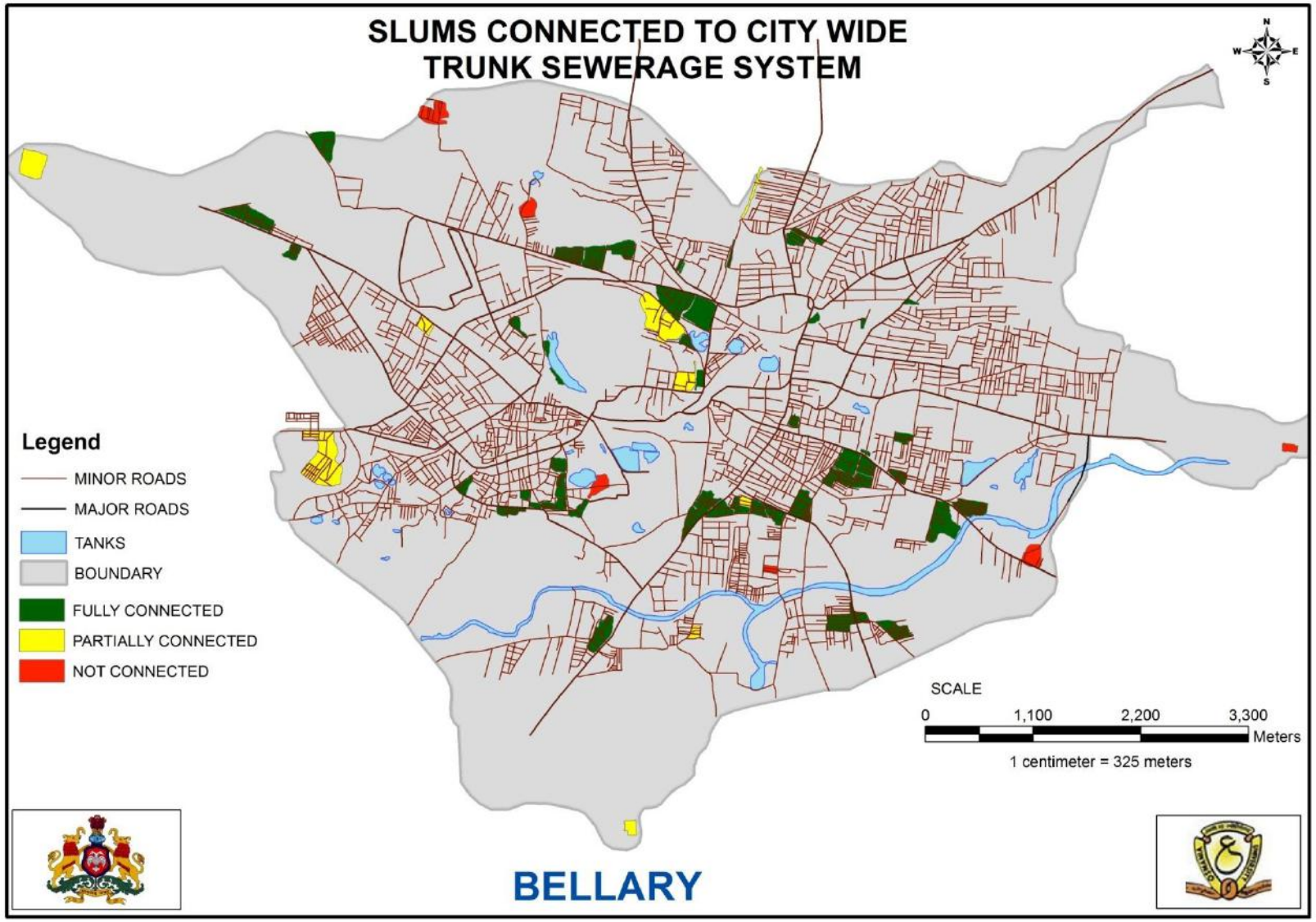
Connectivity to City wide Storm water drainage

Similarly 16% of the slums are partially connected to the storm water drainage, 76% is fully linked to the system but 8% of the slums are not covered by the city wide system. Given the situation, it is necessary to improve the system as well as provide newer connections before it infiltrates into the environment. The *map1-8* presents the status of the slums that connected to city wide sewerage system.

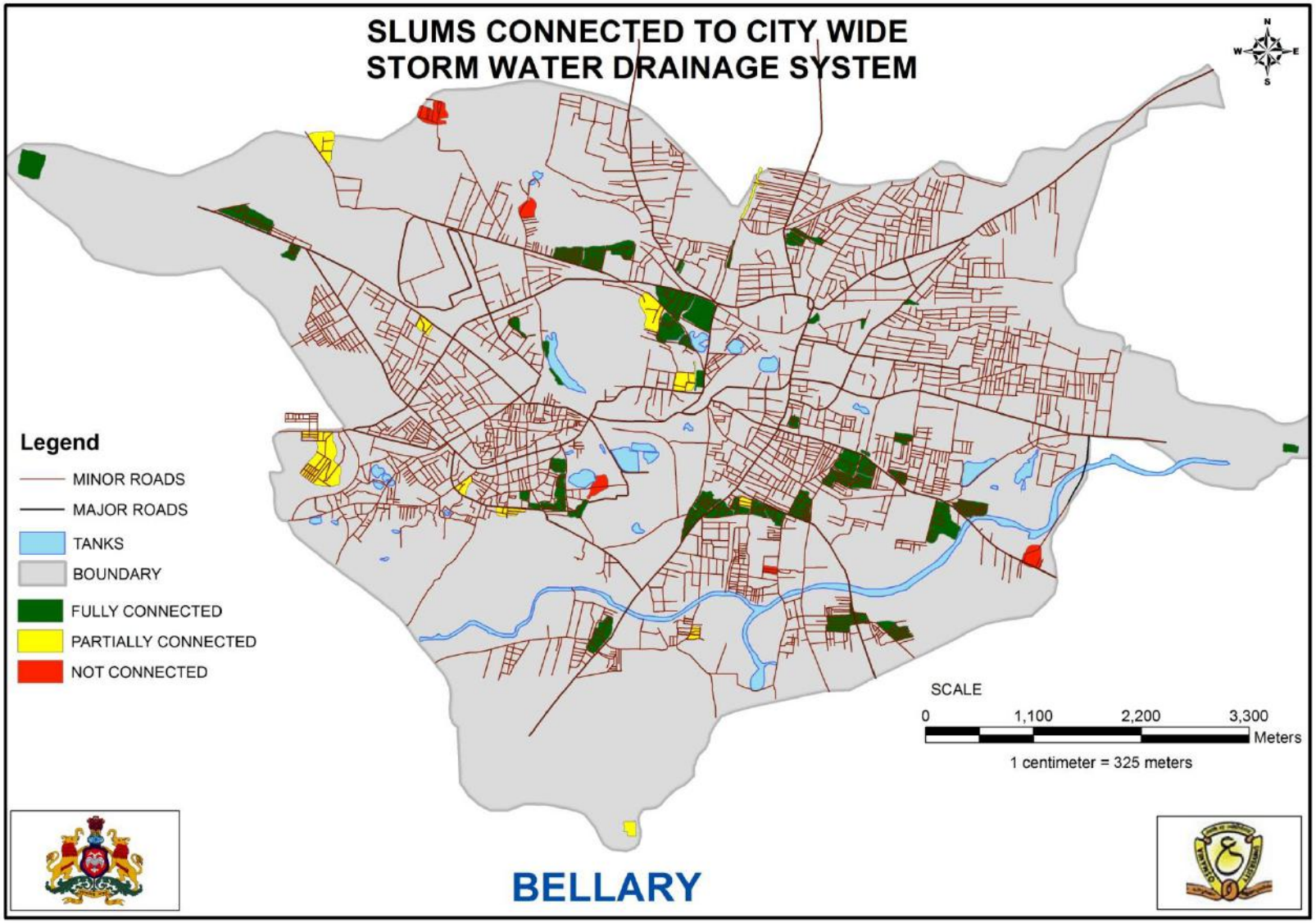
Picture 1- 38: Storm water drain in Millerpet-I

Picture 1- 39: Storm water drain at Andral slum

Picture 1- 40: Sewer lines passing through centre of the road, Andral Harizankeri



Map 1- 7: Slums connected to city-wide sewerage system



Map 1- 8: Slums connected to city-wide Storm water drainage system

Drainage and Sewerage facility

As per AKM, it was found that 41% of 6707 households have storm water drainage while 39% has underground sewer lines and 20% of the households are connected to digester. Even though 34% of the households in the slums have some form of drainage and sewerage facility, still 66% of the households are not connected to a sewerage system. Due to absence of a system, the gray water and waste water from houses are directly dumped into the open nallah or nearby open drains along with solid waste, makes it overloaded and choked. Due to this discarding, water logging in the slums areas is prevalent and in turn has direct consequences on the health of households (Seen in *pictures 1-26 & 1-27*).

Picture 1- 41: Drainage situation in Bududu keri Bandimot area

Picture 1- 42: Drainage situation in Andral slum

Distribution of Households by use of different type of Toilet facilities

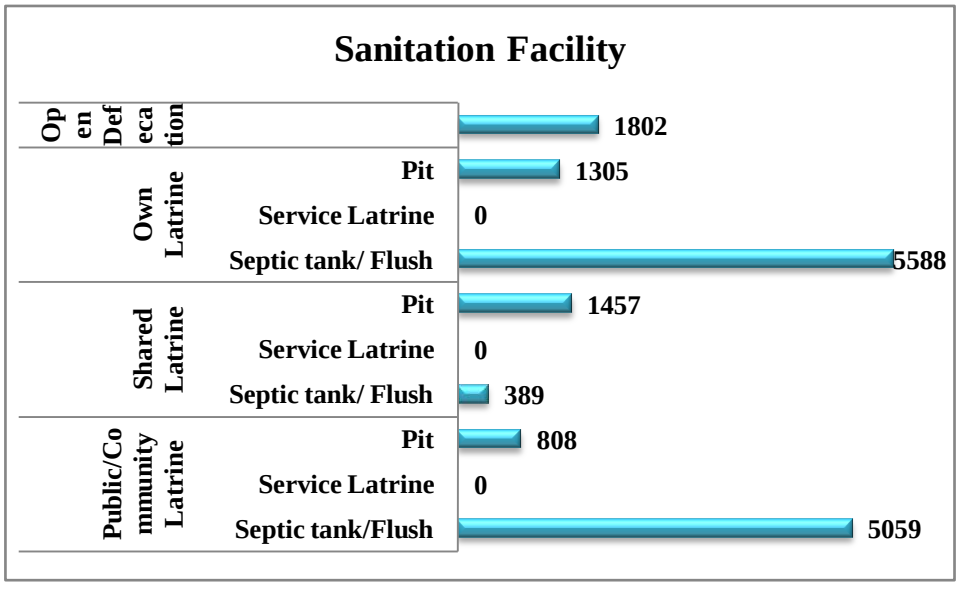


Chart 1- 11: Type of sanitation facility

In Bellary, there exist three different systems of sanitation covered in 67 slums namely, Public, shared and own. Under each category, there are different toilet facilities in use such as pit, septic tank/flush and service toilet system. In slums when there is inadequate toilet facilities, open defecation has become prevalent and leading to unhygienic conditions. As evident in the above *chart 1-11*, overall 42% of the households use own latrins of which 34% of households use Septic tank , 8% use pit system and 36% use public toilet system. About 11% of the households do not have any kind of toilet facility and hence opt for open defecation on vacant lands , thus polluting surface water.

Picture 1- 43: Open defecation in B Gonal slum

Picture 1- 44: Community toilets in Bududu keri (Bandimot area)

Even though 78% of the households have access to some form of toilet, it is believed the exisitng toilet system is considered to be of primitive stage with no proper maintenance and lacks general hygienic condition, further deteriorating the environment.

Solid waste management

Well functioning and safe solid waste management system in slum is vital so as to minimize the health hazards and environmental pollution caused by solid waste. In many areas, garbage disposal services are jagged and sometimes not available. People are forced to live in such environment and definitely a solution has to be put in place to efficiently, safely and properly dispose of their solid waste.

The *table 1-10* gives an overall picture of the current situation of solid waste management.

Table 1- 10: Solid waste management (Existing Situation)

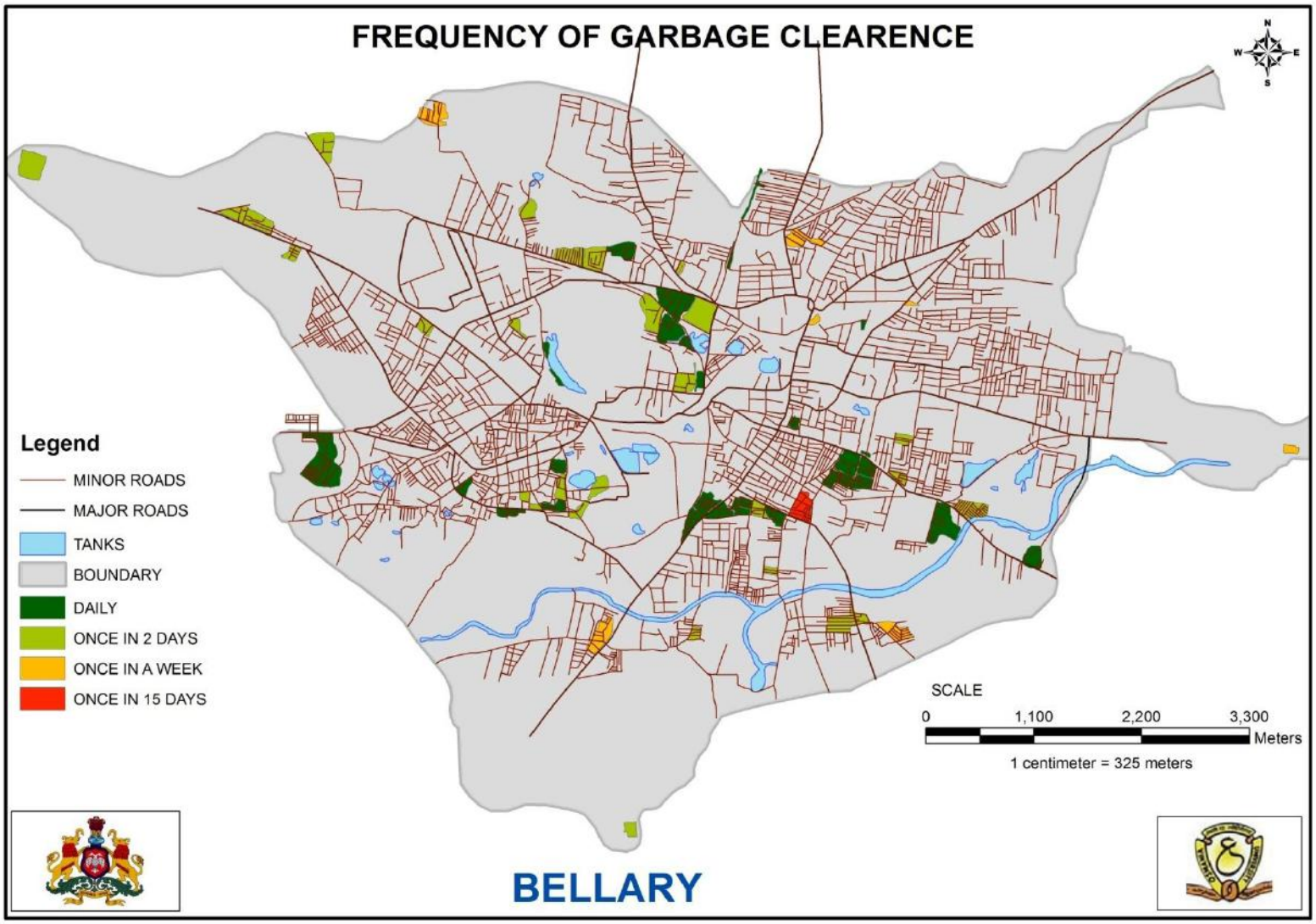
	No. of Slums
Frequency of garbage disposal	
Daily	30
Once in 2 days	26
Once in a week	11
Once in 15 days	0
No collection	0
Arrangement for Garbage Disposal	
Municipal staff	35
Municipal Contractor	19
Residents themselves	1
Others	12
No arrangement	0
Frequency of Clearance of Open Drains	
Daily	9
Once in 2 days	38
Once in a week	19
Once in 15 days	1
No clearance	0

Source: AKM data

Frequency of Solid waste disposal

45% of slums have daily clearance of garbage, 39% once in 2 days and 16% once in a week due to inadequate collection of solid waste.

The *map 1-9* shows the frequency of the solid waste clearance in the next page.



Map 1- 9: Frequency of garbage clearance

As evident in the map, the slums marked in red color represent the ones not covered with clearance of solid waste disposal on a regular or non regular basis.

Arrangement of Garbage Disposal

As seen in the *table 1-10*, it is found that 52% of the solid waste disposal is handled by the municipal staff and 28% of the disposal arrangement is through hired municipal contractors. In areas where there is lack of solid waste disposal or collection, the arrangement is taken care by the residents/dwellers of those slums, constituting 1%. Around 18% of slums have inadequate and untimely collection of solid waste which reflects the necessity for increased staff and regular clearance to avoid any further unsanitary conditions.

Solid waste management (includes collection transportation and disposal of waste) is a responsibility of Mahanagara Palike of Bellary. The city is divided into 6 sanitary divisions. The Mahanagara Palike owns 3 tractors and 2 mini lorries and 3 trippers and 6 dumper placers, 1 Jindal dumper placer and 1 compact container motor transports solid waste of the city to the disposal site.

The Mahanagara Palike has provided about 101-dumper placer container, 11 compact containers and 50 compact containers are yet to be procured. The dustbins are inadequate in Nos. and over flow in most places. At present the city's solid waste is disposed at one place, Compost yard on Rupanagudi road. A land filling site is to an extent of 16.32 acres at Bisilahalli Sy. No. 147, behind BSAL has already been acquired but approach road is under litigation. The city corporation has to take further necessary action to dispose of the waste generated in the city scientifically.

Due to inadequate capacity of solid waste collection and irregular collection and lack of disposal sites the garbage is disposed into open drains or nallah. Sometimes it is burnt in open yards on main highway causing unsanitary conditions in some areas. No proper mechanism of solid waste disposal exists.

Picture 1- 45: Garbage disposal in Miller pet -II slum

Picture 1- 46: Garbage disposal in D.C.Colony slum

Frequency of Clearance of Open drains

It is found from the AKM data, that 13% of the slums have daily clearance of the open drain, 57% of slums once in 2 days; and 29% have it cleared once a week. It is analyzed that 1% of the slums are not sufficiently covered with clearance of the open drains, further deteriorating environmental conditions and contaminating the ground water.

For slum wise details, please refer **Annexure-1E** on Water supply, Sanitation & Solid waste details.

Roads and Street lights

The City Municipality is maintaining about 479 Kms. One N.H.63 passes through the city and is maintained by National Highway department and state high way No: 19, 128 and 132 & major district roads are being maintained by the public works department. In general, the existing width of roads does not cope up with present intensity of traffic, which requires improvement and widening.

It was observed that majority of road corridors in the city of Bellary suffer from inadequacies in the transportation system, such as capacity constraints in the road network, poor definition of road hierarchy, encroachments, on street parking, mixed traffic, lack of pedestrian facilities and other street furniture.

Lack of connecting roads with other parts in the city and within the slums causes greater inconvenience and affecting the transport connectivity. This is one of the fundamental issues that is generally neglected in slum developments and needs thorough planning and execution.

The following *table 1 – 11* as extracted from AKM presents the existing condition of road network.

Table 1- 11: Current Statistics of Roads and street lights

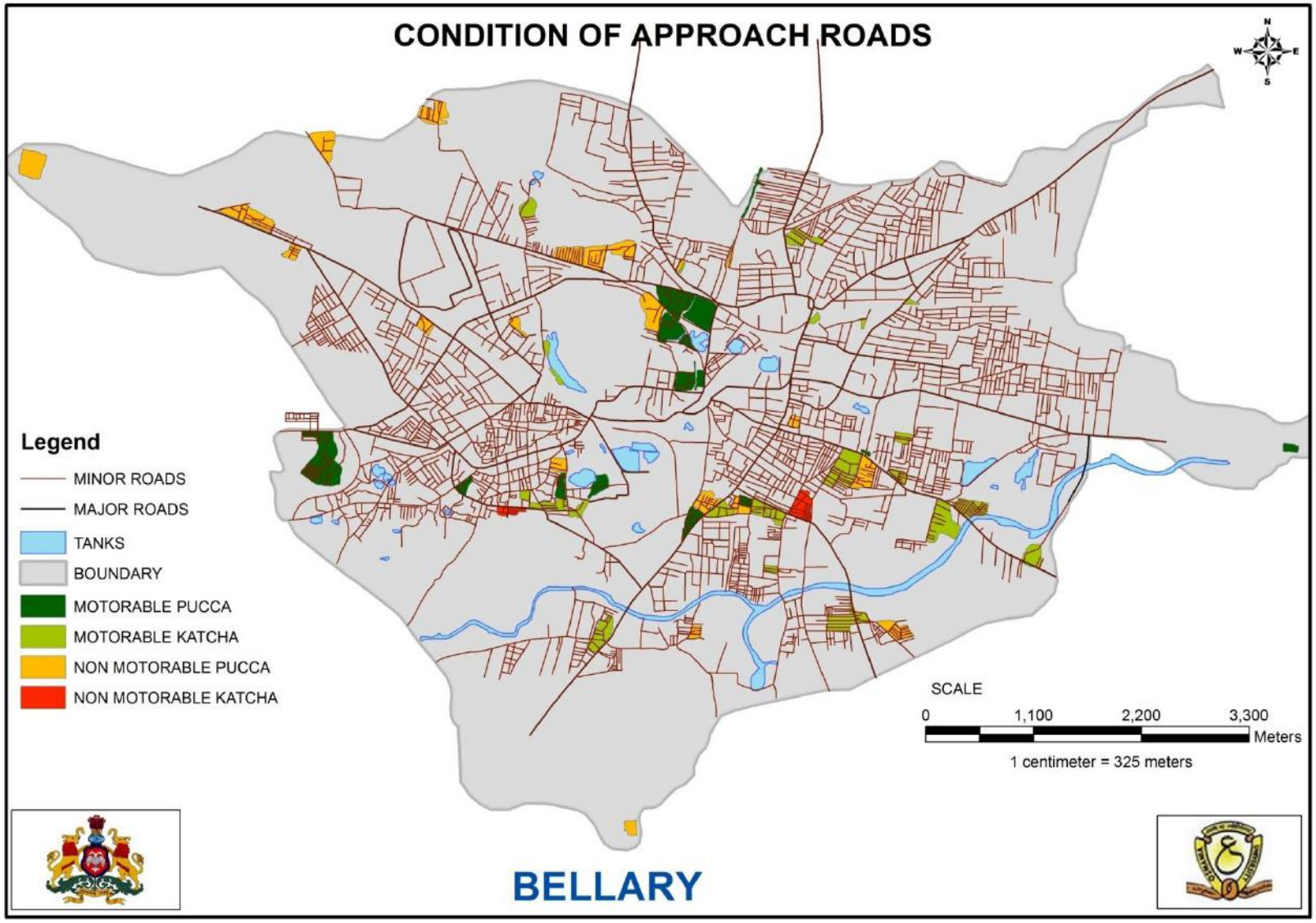
	No. of Slums
Approach Road/Lane/Constructed Path to the Slum	
Motorable pucca	15
Motorable katcha	27
Non-Motorable pucca	24
Non-Motorable katcha	1
Distance from the nearest Motorable Road	
Less than 0.5 km	26
0.5 to 1.0 km	29
1.0 km to 2.0 km	12
2.0 km to 5.0 km	0
more than 5.0 km	0
Internal Road	
Motorable pucca	7
Motorable katcha	29
Non-Motorable pucca	30
Non-Motorable katcha	1
Whether Street light facility is available in the Slum	
Yes	67
No	0

Source: AKM data

Nature of Approach Road

By and large, 22% of slums are provided with Motorable pucca roads and 40% are katcha in nature. On the other side, 1% of the slums have non Motorable katcha road, making the transportation access difficult, there is a need to upgrade. The following map shows the type of approach road provided to the slums:

The *map 1-10* shows the type of approach road provided to the slums:



Map 1- 10: Condition of Approach roads

Distance from nearest Motorable road

Around 39% of the slums have access to the nearest Motorable road within 0.5 Km and 43% between 0.5 Km to 1 Km. For 18% of the slums, the nearest approach road is at the distance of more than 1 Km.

Type of Internal road

10% of the slums have Motorable pucca internal roads while 43% have katcha internal roads. Around 46% of the slums lack in proper internal roads with BT surface.

Street Lighting

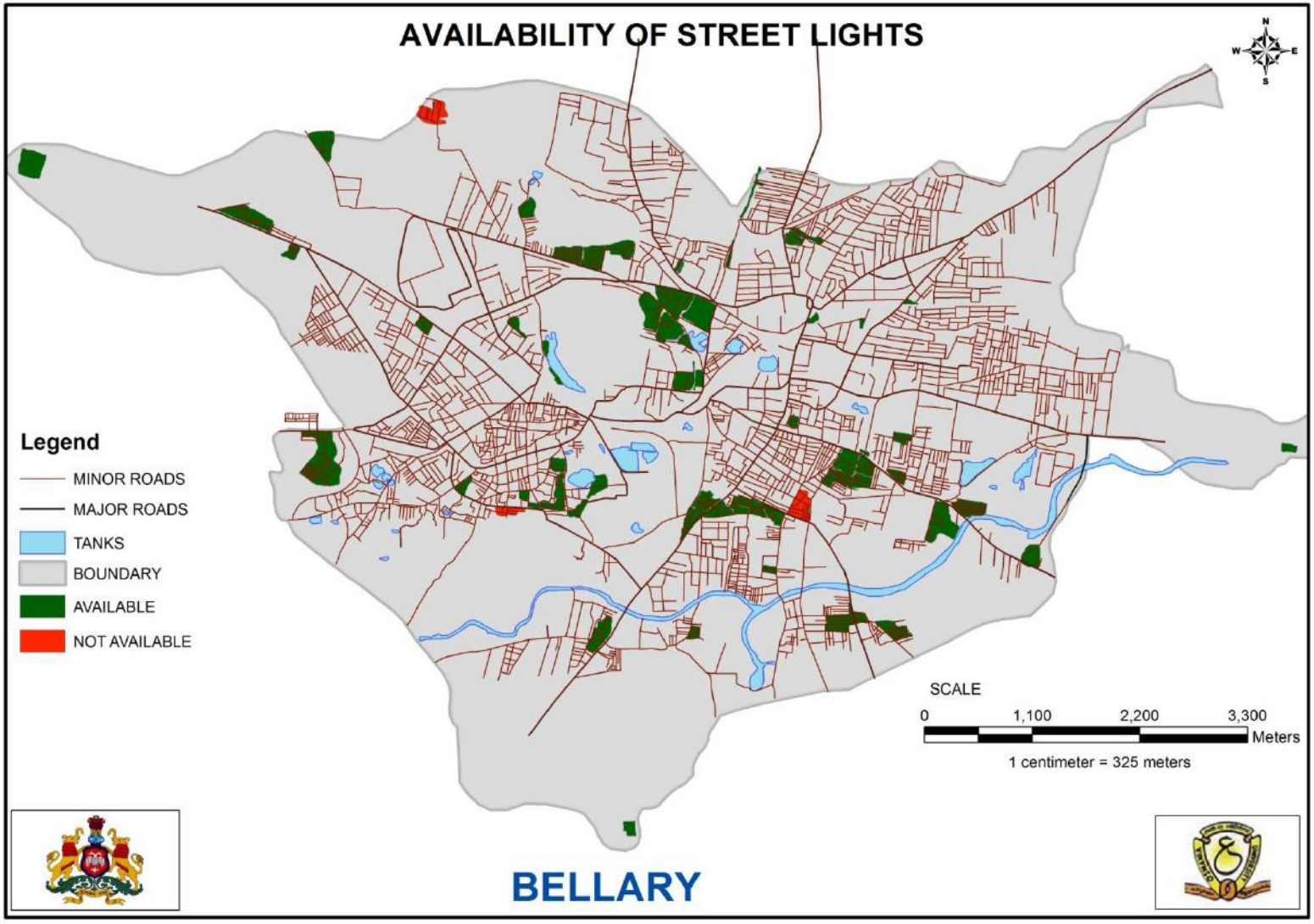
According to the AKM, All slums have street lighting facilities, yet which are not in working condition and found to be insufficient. There are not enough street lighting facilities, hence it is essential to increase number of street lights to prevent accidents and other inconveniences.

Picture 1- 47: Approach road, Cheluvadhikeri

Picture 1- 48: Internal road in Andral

Picture 1- 49: Street lights in Andral

Picture 1- 50: Street lights along the road, B.Gonal



Map 1- 11: Availability of street lights

For slum wise details, please refer **Annexure-1F** on Roads &Street lights**.**

Social infrastructure

The quality of life in any urban centre depends upon the availability of and accessibility to quality social infrastructure. Development of social infrastructure includes education, health, social welfare, livelihood centers and recreational facilities, instrumental in contributing to substantial improvements in physical quality of life, which in turn, initiates and accelerates economic development in a city. The following are a list of elements that forms the social infrastructure:

- Educational facilities
- Health facilities
- Community halls & rooms
- Livelihood centers
- Youth centers
- Social welfare facilities
- Old age homes
- Night shelter
- Parks
- Public utilities such as fire services

Following section details out the current level of social infrastructure available as well as accessible to the slum households.

Educational facilities

Picture 1- 51: Anganwadi at D.C colony slum

Picture 1- 52: Primary school at Mundargi slum

Table 1- 12: Distance from nearest Pre-Primary School

Distance	Within the slum area	< 0.5KM	0.5 to 1.0 KM	1.0-2.0 KM	More than 2 Km
Pre- Primary Schools (Anganwadi)					
No. of slums	56	8	1	0	2
Pre- Primary Schools (Municipal)					
No of slums	10	0	1	0	56
Pre- Primary Schools (Private)					
No of slums	29	11	5	1	21

Source: AKM data

As indicated in *table 1-12*, for slum households, the nearest distance to pre-primary schools run by different agencies are located maximum within the slums and 0.5 Km away from the slums. Around 2 slums do not have access to Pre-primary schools when the distance is more than 2 Km.

Table 1- 13: Distance from nearest Primary School

Distance	Within the slum area	< 0.5KM	0.5 to 1.0 KM	1.0-2.0 KM	More than 2 Km
Primary Schools (State Government)					
No of slums	41	12	2	1	11
Primary Schools (Municipal)					
No of slums	10	2	2	0	53
Primary Schools (Private)					
No of slums	26	15	3	4	19

Source: AKM data

As indicated in *table 1-13*, for slum households, the nearest distance to primary schools run by different agencies are located maximum within the slums and 0.5 KM away from the slums. About 7 slums have primary schools run by different agencies are located between distances of 0.5 km to 1.0 km away from the slums. Seen in *map-12*, the areas marked in red color show that 11 slums do not have access to state govt. primary schools when the distance is more than 2 Km.

Picture 1- 53: Primary school at D.C. Colony slum

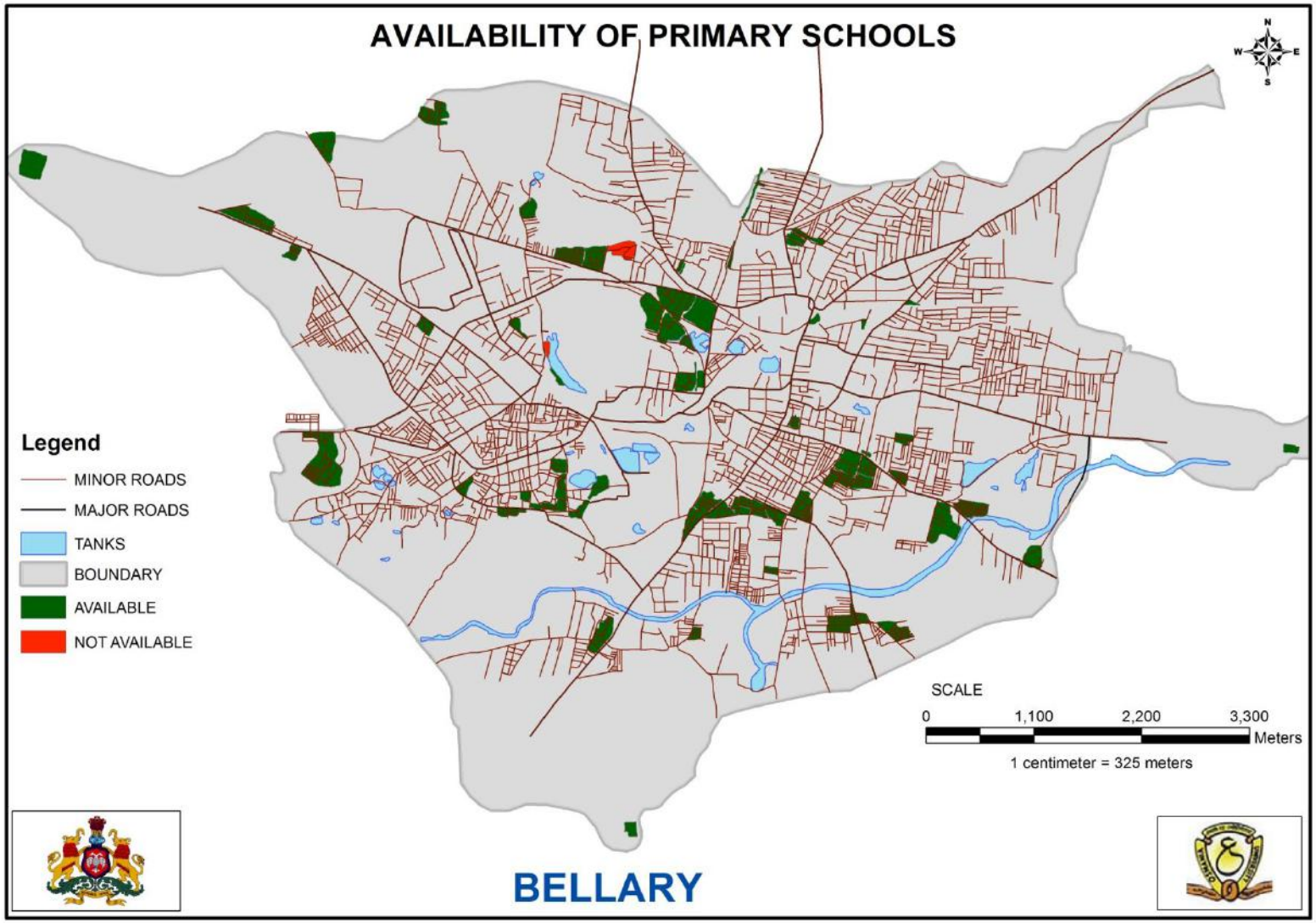
Picture 1- 54: High school at Guggarahatti honnali road

Table 1- 14: Distance from nearest High School

Distance	Within the slum area	< 0.5KM	0.5 to 1.0 KM	1.0-2.0 KM	More than 2 Km
High Schools (State Government)					
No of slums	25	12	4	7	19
High Schools (Municipal)					
No of slums	11	2	1	2	51
High Schools (Private)					
No of slums	17	9	6	4	31

Source: AKM data

As indicated in *table 1-14*, for slum households, the nearest distance to primary schools run by different agencies are located maximum within the slums and 0.5 KM away from the slums. About 11 slums have primary schools run by different agencies within a distance of 0.5 km to 1.0 km from the slums. Around 19 slums do not have access to state government run High schools when the distance is more than 2Km



Map 1- 12: Availability of primary schools

Health facilities

Many of the health problems in urban slums stem from the lack of access to or demand for basic amenities. Basic service provisions are either absent or inadequate in slums. Lack of drinking water, clean, sanitary environment and adequate housing and garbage disposal pose series of threats to the health of slum dwellers, women and children in particular, as they spend most of their time in and around the unhygienic environment. Inadequate nutritional intake due to non-availability of subsidized ration or availability of poor quality to ration makes the slum dwellers prone to large number of infections and lack of education or information, further aggravates the situation.

As per AKM, 24% of the slums do not have primary health facilities for more than 2 Km. 93% of the slums don't have any health facilities, 79% constitute private clinics, 27% forms registered practitioner. Health as well as medical facilities is provided and is serving the ailing people belonging to the slum areas item wise particulars are shown in *table1-15.*

Picture 1- 55: Govt. Hospital at Alagappa Beedi

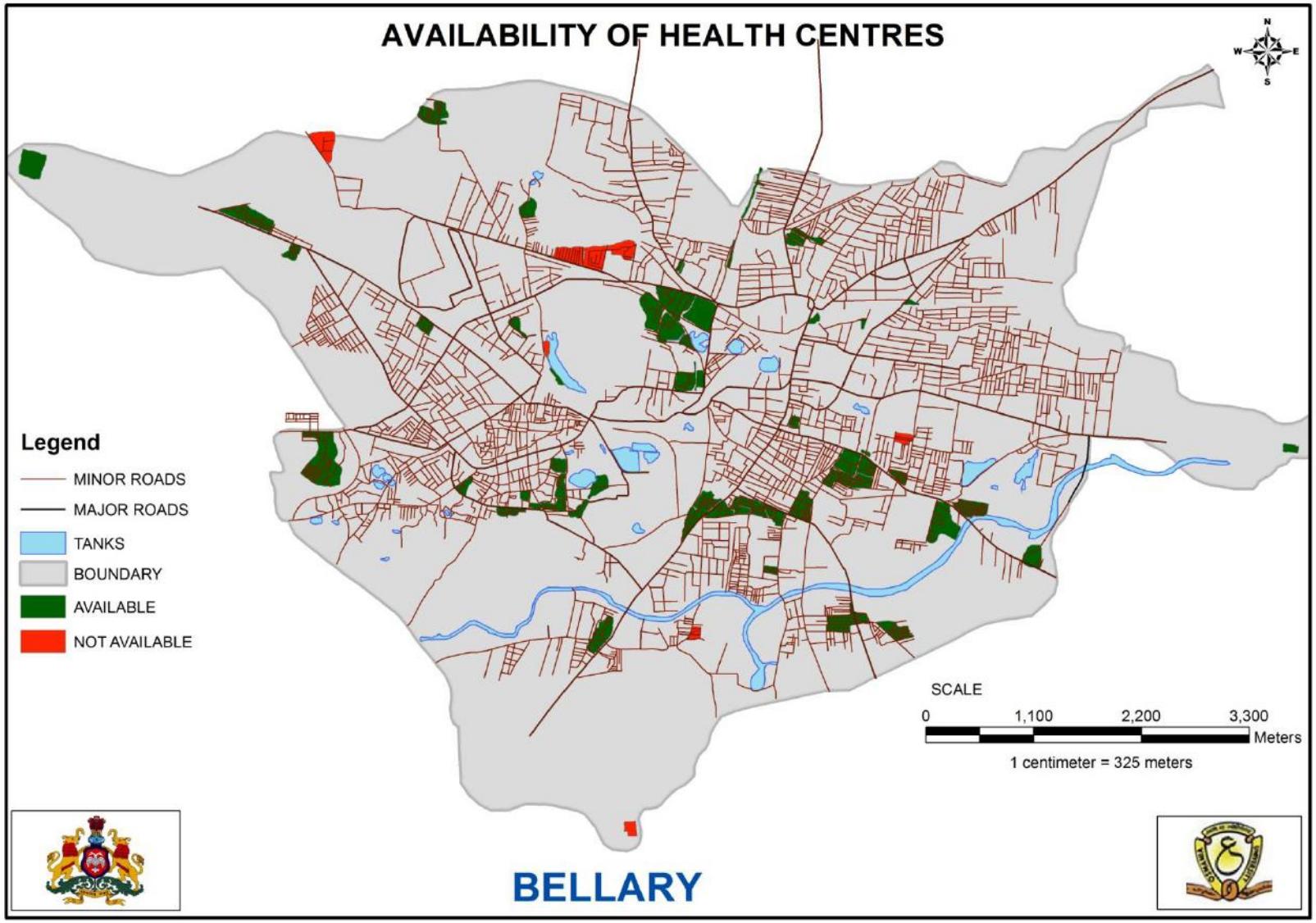
Picture 1- 56: Clinic in Rani Garden

Table 1- 15: Distance from nearest Health facilities

Distance	Within the slum area	< 0.5KM	0.5 to 1.0 KM	1.0-2.0 KM	More than 2 Km
Urban Health post					
No. of Slums	2	14	14	13	24
Primary Health Centre					
No. of Slums	9	19	12	11	16
Government Hospital					
No. of Slums	19	6	16	15	11
Maternity Centre					
No. of Slums	20	11	18	8	10
Private Clinic					
No. of Slums	19	18	12	5	13
Registered Medical Practitioner (RMP)					
No. of Slums	8	9	2	0	48
Ayurvedic Doctor/Vaidya					
No. of Slums	30	5	1	0	31

Source: AKM data

As indicated in *table 1-15*, for slum households, the nearest distance to primary health care centers is located maximum within the slums and 0.5 KM away from the slums. While for Government Hospitals, approximately 11 slums have access to the hospital within 1.0 - 2.0 Km.



Map 1- 13: Availability of Primary health centres

Social welfare facilities

Similar to the above sections in social infrastructure, the following *table 1-16* presents available social welfare facilities in 67 slums:

Table 1- 16: Social welfare facilities

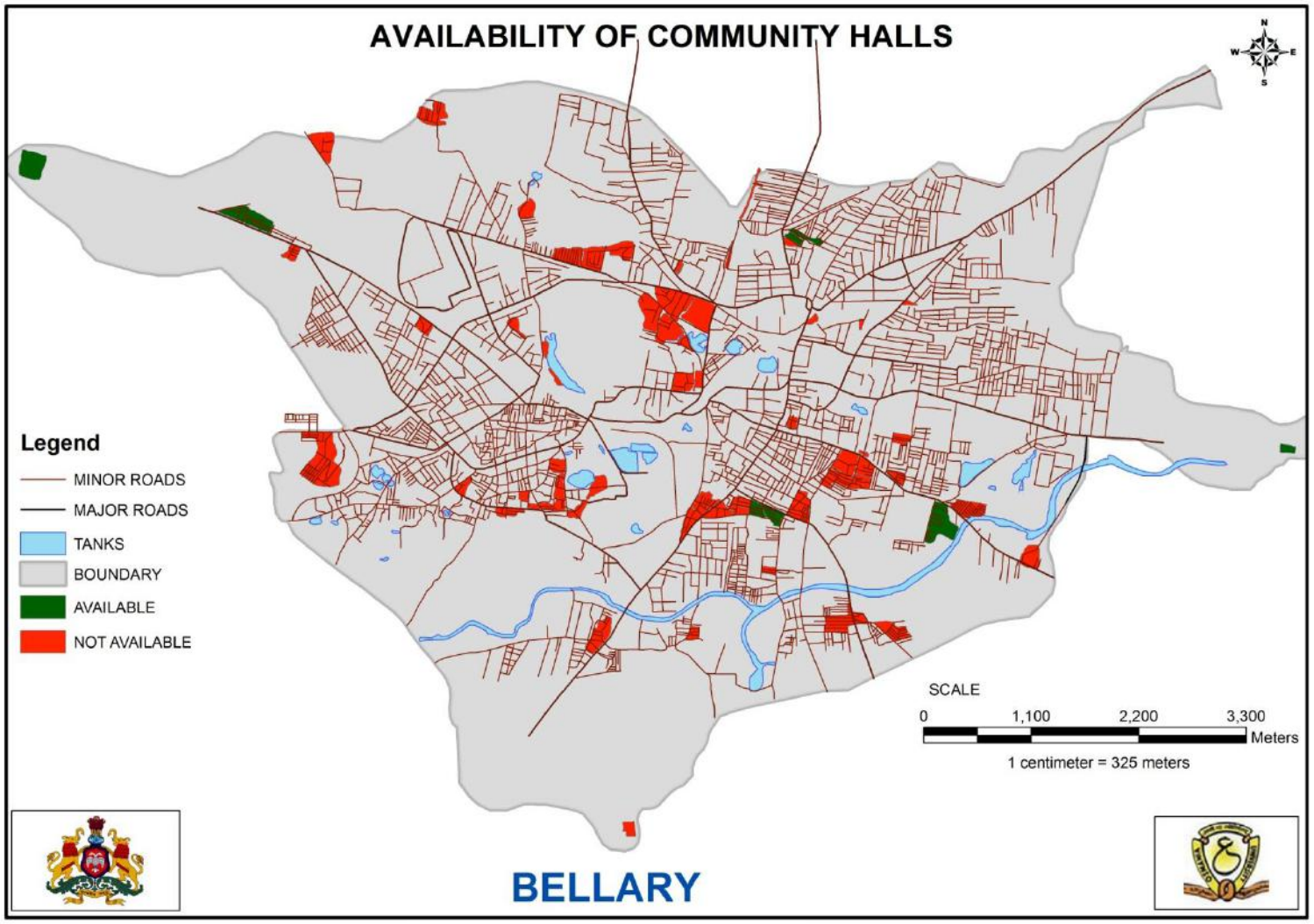
Availability of Facilities within Slum	**No. of slums**
Community Hall	25
Livelihood/Production Centre	1
Vocational training/Training-cum-production Centre	4
Street Children Rehabilitation Centre	0
Night Shelter	0
Old Age Home	1
Social Welfare facilities	**No. of Holders**
Old Age Pensions (No. of Holders)	229
Widow Pensions (No. of Holders)	178
Disabled Pensions (No. of Holders)	60
General Insurance (No. covered)	273
Health Insurance (No. covered)	29
Self Help Groups/DWCUA Groups in Slum	110
Thrift and Credit Societies in Slum	414
Slum-dwellers Association	**No. of slums**
Yes	63
No	4
Youth Associations	13
Women's Associations/ Mahila Samithis	62

Source: AKM data

25 slums out of 67 have facility of community halls; 6% of the slums do not have slum dwellers association however 99% of the slums have women's associations to empower women with home based employment. In addition, the slums do have self groups as well as credit societies.

Picture 1- 57: D.C. Camp belagal road

Picture 1- 58: Dr. Vishnu vardhan Udyanvan, Vinayaka nagar 2nd phase



Map 1- 14: Availability of Community hall

For slum wise details, please refer **Annexure-IF** on Social Infrastructure.

Section II – Slum Rehabilitation Strategy

CHAPTER 2 – SLUM REHABILITATION STRATEGY

Introduction

The major factors that influence the design of upgrading programs are scale of the problem, the severity of conditions, tenure, and relevant support for social and economic development, community participation, the institutional framework, the financial structure, political will, and good governance. As part of community up-gradation, there are factors that need to be considered in the planning and implementation of initiatives. Most of the up-gradation programmes undertaken throughout the world are one of three types: provision of *basic infrastructure to the community, tenure security, and comprehensive up-gradation*. The appropriateness of their use is driven by the status of existing conditions in the slums.

First component is provision of basic infrastructure to the slum households. Improvement of basic services is necessary when the environmental conditions and physical infrastructure are poor, but tenure is relatively secure. For improving the services, both the physical and social infrastructure elements such as sanitation, water supply, drainage, and often some community facilities are taken into account. This type of program tends to cost less per capita than more complex programs. The improvements can be financed easily by a program like RAY.

The second component is the incremental buildup of tenure security when the land tenure status is found to be insecure. In these circumstances, lack of tenure is a threat to the security of livelihoods, and a significant barrier to households investing in upgrading their own homes. The threat of forced evictions also looms over such settlements. In such cases rapid tenure regularization may lead to increased land values and, as a consequence, market driven displacement of beneficiaries. An incremental approach based on a 'continuum of land rights' and flexible tenure arrangements would be recommended. Temporary occupancy rights, lease agreements, possession rights, anti-eviction rights are among flexible and effective tenure systems that do not place unrealistic demands on local governments with weak resources, do not disrupt municipal land markets, and provide beneficiaries with adequate and incremental security of tenure. When and where it becomes appropriate and affordable, lot titling through the sale or allotment of land should be considered as a way of providing the strongest form of tenure security.

The third type of upgrading program – a mixture of the previous two – is comprehensive upgrading. It combines both provision of basic infrastructure and tenure security. It is appropriate where environmental conditions and physical infrastructure is poor, where population densities are high, and where tenure is insecure.

The comprehensive upgrading program is relatively complex and time-consuming because it has more administrative requirements, implicates more stakeholders, and depends on greater community involvement.

In order to best apply RAY objectives and create Bellary a Slum free city, an imperative slum rehabilitation strategy would be necessary depending on the expected outcomes from the findings or analysis of existing slum situation in a city.

The rehabilitation strategy comprises of several components such as:

- Physical targets – relocation, in-situ and up gradation
- Law and legislation for slum dwellers
- Stakeholder/ community participation
- Financial framework
- Institutional mechanism

The following flowchart details the rehabilitation proposed for Slum free Bellary.

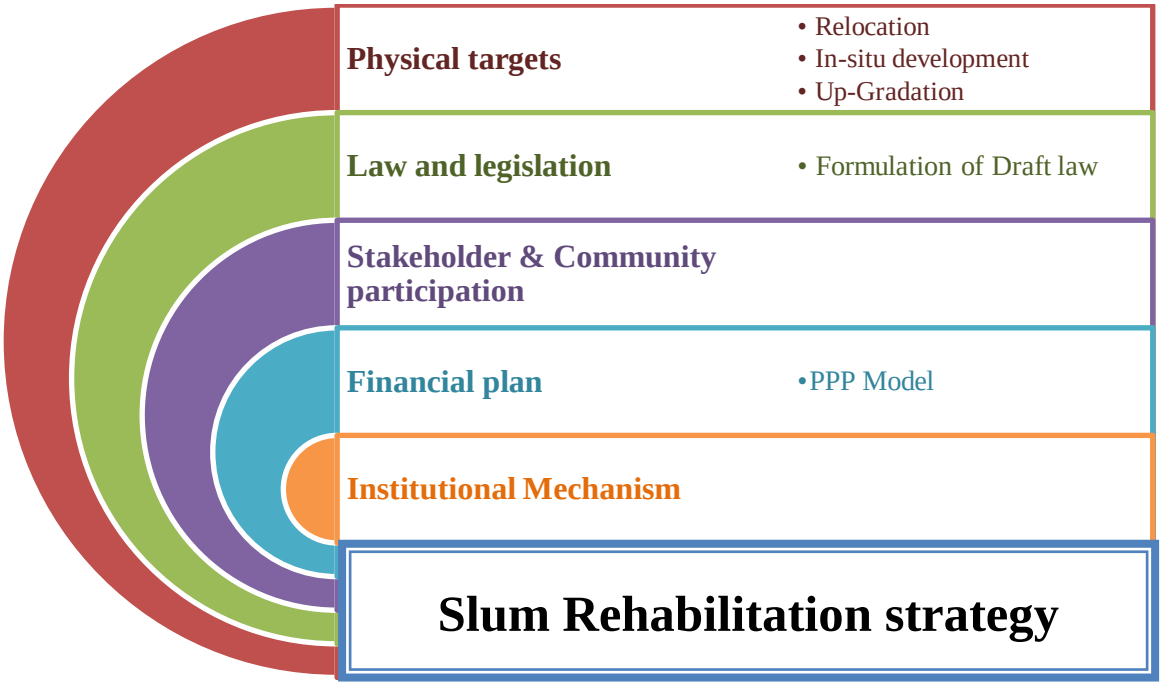


Chart 2- 1: Slum Rehabilitation Strategy

a) Physical targets

For slum rehabilitation, the top most priority would be given to the redevelopment/ rehabilitation of identified slums and measures to prevent future slums. The following three options of redevelopment that is categorized based on housing tenure, tenability, physical location, density and ownership:

- **Relocation mode**
  - Depending on the physical location of slums such as hazardous sites and environmental conditions and where there is no alternative
  - Involves communities in identification of alternative sites
  - Ensures that education, health, transport, basic services and infrastructure and provided before relocation

➢ **In situ slum redevelopment mode**

- Involves redevelopment of whole site to provide more living space and improved environmental conditions such as those in high density areas.
- Provision of transit accommodation and including of all residents, especially the extremely poor critical to success
- In this mode, new mixed-use mixed income communities can be created with a viable cross-subsidy model, which is a function of local land values, socio-economic needs and general context of the area.

➢ **In situ slum Up-gradation mode**

- Involves a mixture of provision or upgrading of service and infrastructure levels, incremental housing improvements or selective replacement of katcha houses

The following chart presents the recommended mode of development for 5 years in order to make Bellary a slum free city.

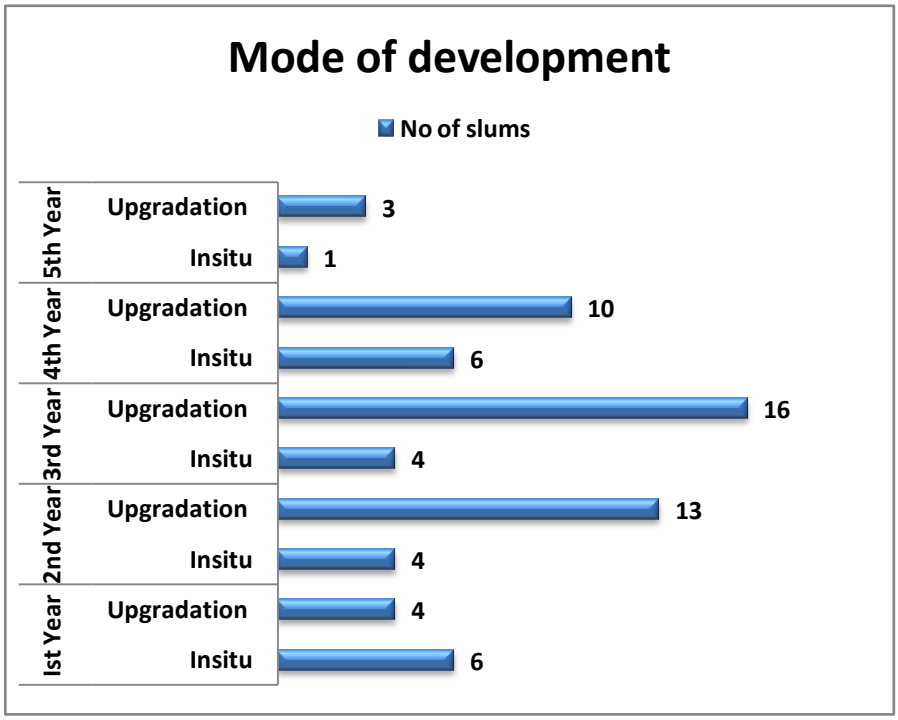


Chart 2- 2: Mode of Development

b) Law and legislation

An appropriate legislation is a necessity to achieve and implement the development strategies formulated for Slum Free Bellary. RAY promises a secured housing, provision of urban basic services helps the slums to become "slum free" through rehabilitation strategy. Legislation forms an important tool for Govt. to assign property rights, provide basic services and achieve the holistic mission of RAY. Hence, suitable implementable and customized legislation forms an integral part of Slum rehabilitation strategy.

c) Stakeholder/ community participation

It has been proved by several previous schemes for slum development that community /stakeholder participation is a key aspect in implementing rehabilitation strategy to achieve Slum Free Bellary. Community Participation calls for a strong and active participatory chain which would be involved throughout the implementation of RAY starting from surveys until project implementation and monitoring. This particular strategy would actually make the slum dwellers realize the motive behind the programme as an opportunity to raise their standard of living, achieve higher dignity and provide better facilities for present as well as future families. Community participation strategy is a promising bridge between the governments and the beneficiaries to understand the mutual benefits of the programme.

d) Financial framework

RAY has posed a significant challenge to the state, ULB and beneficiaries by announcing its 50% contribution towards the project. This calls for development of exclusive financial development strategy to meet the remaining 50% finances through various sources and mechanism. The alternatives as proposed by Govt. of India.

The development strategy has been finalized after careful observations/scores that have been evolved through derived matrix preparation according to the Govt. of India guidelines. The strategy would enable the most needed slums to be taken care in first year in a strategic manner and continue to do so in the coming five years. The strategically financial framework would enable the project implementation smoothly without any finance hurdle.

e) Institutional mechanism

RAY is a challenging task right from policy making until project implementation and monitoring. However the city should comprise of several teams which have to be coordinated within each other and successfully channelize step by step. The roles vary from Center, State, ULB, Slum clearance boards, RAY technical cell, NGO's and other associated agencies. The city should be able to actively involve the various agencies with various tasks as the programme advances yearly. There has to be hiring done at necessary levels/positions to complete coordination cycle. Hence institutional mechanism enables and proves to be a significant strategy for slum rehabilitation.

It is a necessary exercise to assess the existing slums to propose for a development strategy. A matrix analysis was prepared for Bellary slums to identify the level of urban services. The matrix details the deficiency in the overall infrastructure and housing services among the slums.

Deficiency Matrix

According to RAY guidelines, a deficiency matrix for the existing slums is prepared using the scoring and ranking method. The matrix is based on three important parameters: Housing, Infrastructure and Tenure. Within these, Housing and Infrastructure are the physical parameters that are directly related to the existing quality of the housing condition.

For evaluating infrastructure, individual scores are assigned to indicate the levels based on various parameters such as:

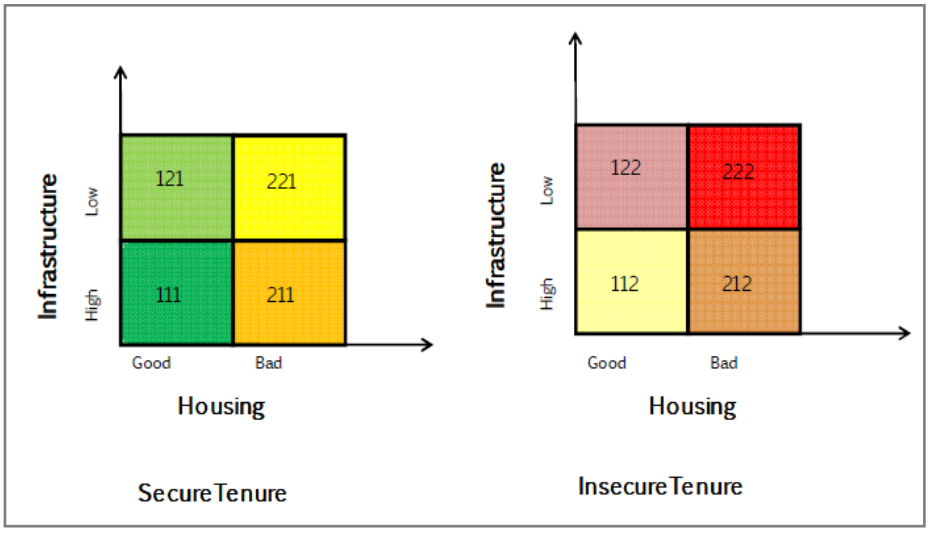


Chart 2- 3: Model Deficiency matrix

- **Water supply**

Score 1- 60% or more of household have individual connection and
Score 2- Less than 60% of households having individual connections.

- **Drainage**

Score 1- 60% or more in-slum drains are covered and / or pucca drains
Score 2- Less than 60% in-slums drains are covered and/or pucca drains

- **Solid waste management**

Score 1- Every day/alternate removal
Score 2- Removal of waste in frequent/once in fifteen days

- **Sanitation**

Score 1- 60% or more having individual toilet unit (with toilet seats)
Score 2- Less than 60% use individual toilets

- **Road**

Score 1: 60% or more of the in-slum roads have a min of 3 m width
Score 2: Less than 60% of the in-slum roads are of 3 m width.

Once the individual scores are obtained, a total score is stipulated and if the overall score of the infrastructure is less than 7, it is considered good infrastructure and greater than 7 is bad infrastructure. Based on which 38 slums were found to be having better infrastructure levels while 29 slums had lower levels of infrastructure, needing further improvement.

Similarly for housing, it is assessed by considering:

- Structural condition
  - Score 1: semi pucca + katcha houses < 60%
  - Score 2: semi pucca + katcha houses > 60%

- Age of the slum

- Space Per Person
  - Score 1: 60% or more houses having > or equal to 3 Sq.m per person
  - Score 2: Less than 60% houses having > or equal to 3 Sq.m per person

For Tenure status of the land - secured and in-secured

- **Score :1 For secured status**
  - Registered (including ownership, leasehold and use/occupancy rights)
  - Unregistered but documented (e.g. rental, rent to buy, unregistered leases, etc)
  - Group/family/household rights Unregistered & undocumented
- **Score :2 For Unsecured status**
  - Documented (e.g. written agreements between irregular owners and tenants, de facto recognition, illegal subdivisions, customary rights, tenancy at will, etc)
  - Undocumented
- **Density**

Based on the above individual scores, a final composite score for each slum is calculated using the parameters of security of tenure, housing condition and the infrastructure level. Once the score is obtained, the slums are then classified into:

- Good housing with good infrastructure;
- Good housing with bad infrastructure;
- Bad housing with good infrastructure
- Bad housing with bad infrastructure;

In reference to RAY guidelines, settlements without any security of tenure are considered most vulnerable and therefore should be given priority in selection for improvement. In addition, settlements with bad housing bad infrastructure are also given priority for choosing the most appropriate development options. With the above classification method, suitable mode of development is selected for each slum. Once all the slums are synthesized and assigned with overall score, the slums will be categorized further based on the degree of deficiency for the three modes of redevelopment.

Detail Methodology Diagram

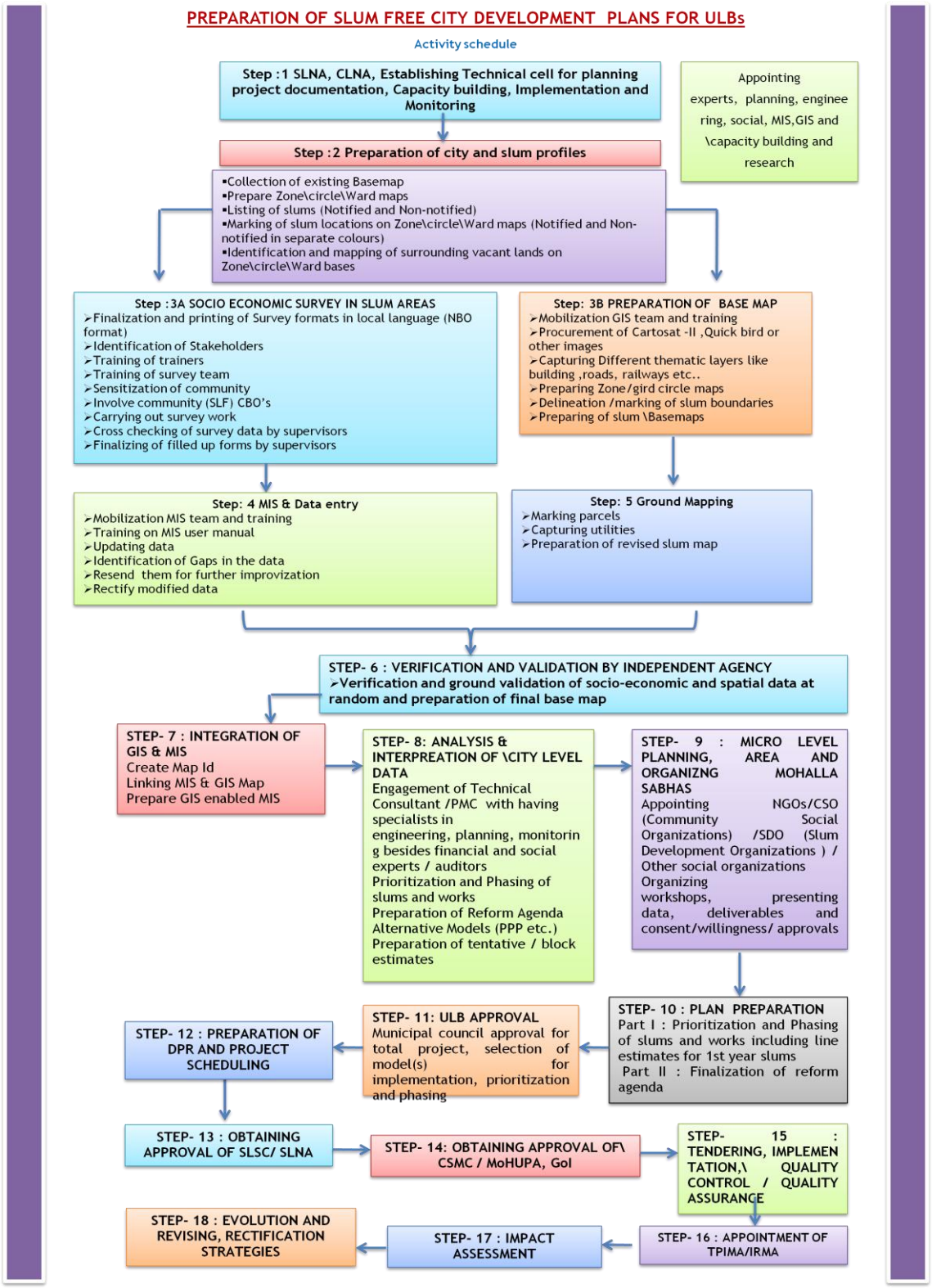


Chart 2- 4: Detailed Methodology

With respect to Bellary, the above methodology in *chart 2-4* is being followed for preparation of Slum Free City Plan, starting with:

- **Step-1:** Establishment of a **slum free technical cell** at the state nodal agency level for city for planning, documentation, capacity building and monitoring the POA through selection of professionals from various departments and disciplines.

- **Step-2: Preparation of city and slum profiles** involves collection of secondary information such as CARTOSAT II images and relevant slum information. Next preparation of base maps to an appropriate scale using GIS application. In addition, identification and inventory of all slum clusters along with inventory of all possible vacant lands in each zone and that could be used for slum redevelopment/ rehabilitation development purposes

- **Step-3A: Socio Economic Survey in slum areas**: reputed NGO/CBOs were selected for conducting socio economic surveys and data validation. Identification of survey personnel from nearest slums with local knowledge and extensive training to be provided for survey personnel by the local organizations on survey formats as specified by MoHUPA.

- **Step-3B: Preparation of GIS based maps** involves mobilization of GIS team and training, acquiring Satellite images for the cities and creating geo-databases with required spatial layers such as roads, buildings, land use and capturing utilities. In addition, involves preparation of base maps, thematic maps and slum maps.

- **Step-4: MIS & Data Entry** involves collection of data of slum dwellers, compilation and collation of primary data, preparation of a robust Slum-wise, City and State Slum Survey Database and Baseline Reports. In addition, the MIS team is responsible for identifying data gaps validation, resend them to the concerned authorities and updating the database.

- **Step-5: Ground Mapping** involves survey personnel team to map the parcels, capture utilities and updating the revised slum maps.

- **Step-6: Verification and Validation by Independent Agency** on socio-economic, spatial data and base maps on a random basis.

- **Step-7: MIS includes Integration of Slum MIS with GIS Maps** to enable the preparation of GIS-enabled MIS maps for the preparation of meaningful Slum Development Plans and Slum-free City.

- **Step-8: Data analysis and decision for Slum Redevelopment Plan** based on models like PPP development, infrastructure provision only, community-based development through involvement of the community mobilization and dialogue for deciding the model to be adopted.

- **Step-9: Micro level planning & organizing workshops** with community stakeholders for prioritization of slums and the mode of development.

- **Step-10: Plan Preparation-** Prioritization and phasing of slums and works including line estimates for 1st year slums.

- **Step-11: ULB Approval involves** prioritization and phasing of slum rehabilitation models.

- **Step-12: Preparation of Slum-free City Plan and DPR** should include strategies for the prevention of future slums, including reservation of land and housing for the urban poor. The Plan should contain timeline of activities for achieving slum-free city, phasing information and financial estimates against each of the activities.

- **Step-13: Obtaining approvals** from ULB and other concerned authorities

- **Step-14: Obtaining approval** of SLSC/SLNA/MoHUPA

- **Step 15 & 16:** tendering process, implementation of proposals and appointing of TPIMA team

- **Step 17:** Impact Assessment

- **Step-18: Revisions** and rectifications of the strategies, reforms.

2.1. Surveys, Investigations & Consultations

a. Introduction

Listing of Surveys and Timelines (annexure)

Directorate of Municipal Administration (DMA) is the nodal agency to implement 'Rajiv Awas Yojana' in the State. As per the directions of Government of India, Slum Survey & Mapping Process has started in Karnataka from 14.07.2009. Initially DMA has identified 2073 Notified Slums & 1495 Non-notified Slums in 214 Urban Local Bodies. Various meetings were conducted by calling different para-statal agencies to discuss the required methodology for conducting surveys and initiate the steps of RAY. A State Level Workshop was conducted on 26.11.2009 by calling all the Deputy Commissioners /Project Directors/ Commissioners /Chief Officers/ Master Trainers. Several discussions were held at length and in depth about the conduction of surveys and to finalize a methodology. The following institutional methodology has been adopted for the state.

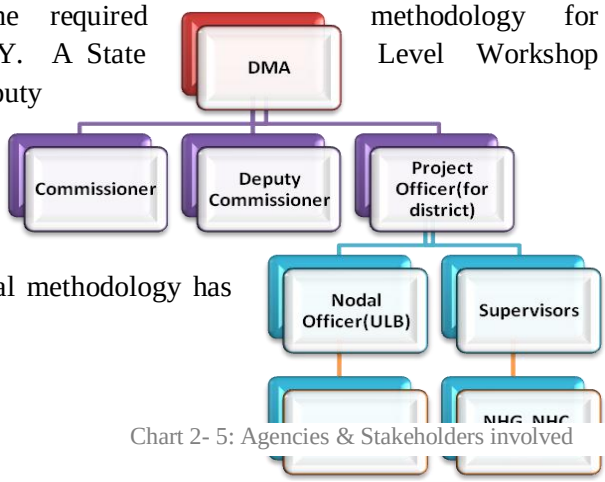


Chart 2- 5: Agencies & Stakeholders involved

Agencies (including procurement process) & Stakeholders involved

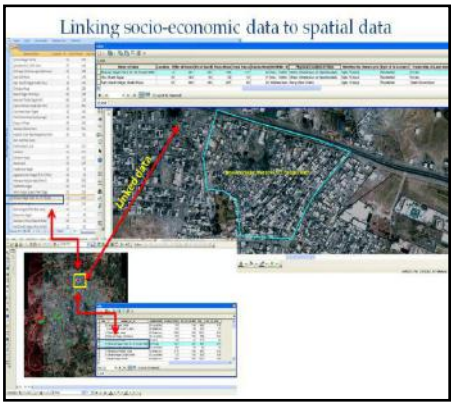
Picture 2- 1: Enumerators collecting information from community officers

DMA has been the Nodal agency to monitor the quantity and quality of surveys performed by individual cities. Commissioners and deputy commissioners have established a system where in a Project Officer has taken in charge for one district, a project officer for a ULB and number of supervisors for quality and quantity check upon the enumerators who have done the surveys.

Member of Self Help Groups constituted under SJSRY/Urban Sthree Shakthi Scheme & Anganwadi Teachers with minimum qualification of SSLC were taken as Enumerators to collect information and to fill up the survey forms. A set of two Enumerators to cover 20-22 households in a day for every 300 to 400 households one set of enumerator was appointed. The various stakeholders involved in the process comprised of NHG's, NHC's, CDS and reputed NGO's working in the local areas.

b. GIS mapping

Methodology: Karnataka State Remote Sensing Applications Center (KSRSAC) has been awarded the job of GIS Mapping. The satellite images were acquired for all cities and digitization of city and slum boundaries are in process. KSRSAC is the only stakeholder involved in preparation of GIS maps for the state and it directly reports to DMA.

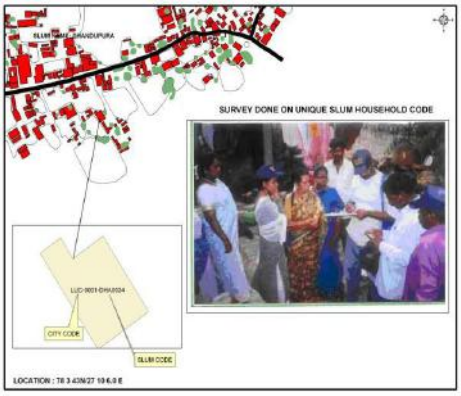


Picture 2- 2: Spatial Linking of Data

c. MIS

Methodology: DMA has initiated a project division under the operation of Municipal Reforms Cell (MRC), which has performed the operations of MIS. Data Entry has been done at ULB level and ported the data to the main server at MRC. A routine checkup of data has been performed and uploaded in a web tool specially prepared for RAY project called Asha Kirana Mahithi (AKM) @ http://www.mrc.gov.in/akm. Every ULB has given a USER Name & PASSWORD to access their data from the Central Server. The front and back end of the web tool is Java and Oracle. Once the data is frozen and migrated to centralized data base at MRC, any editing of data will be done by the Project Director, DUDC in case of Town Panchayath, Town Municipal Council, and City Municipal Council and by Commissioners in case of City Corporations. In case of BBMP it will be done by Zonal Commissioners. AKM web tool has the synchronizing database structure with that of national MIS database prepared by Centre for Good Governance (CGG), so that at any required time, database can be transferred to the national tool.

d. Stakeholder Consultation



Picture 2- 3: Stakeholder consultation

The stakeholder consultations are done at 3 stages:

1) **City level consultation:** This is the first stage of stake holder meeting where the city level data is analyzes and the major problems in the city are discussed with sectoral officials like water supply, sanitation, slum clearance board, etc.
2) **Slum level consultation:** At this stage the slum dwellers play a key role in explain the existing situation of slums and in giving the correct picture of the basic employment and other details of the slums.
3) **Official meeting:** At this stage of meeting the proposals of the development are discussed in detail with the commissioner, urban poverty alleviation cell, slum clearance board and other officials concerned...

Once a development option is chosen for a particular slum habitation, the implementation structures are to be decided based on the extent of public, community and private involvement. It is envisaged that for any of the implementation structures chosen, the community and the implementing ULB will have overarching roles as set out below. The same would need to be taken into account while formulating the implementation options.

2.2. Slum Categorization

The Categorization of Slums is done based on the scoring and ranking method where certain parameters are taken into account to identify the deficiencies and make suitable decisions. The three important parameters that play equal role in determining the slums that are deficient are **Housing, Infrastructure and Tenure status**. In this section, the following parameters such as ***Tenability, Abutting Land use, Tenure status, Ownership of the land, density and land value*** *are being discussed.*

a. Tenability

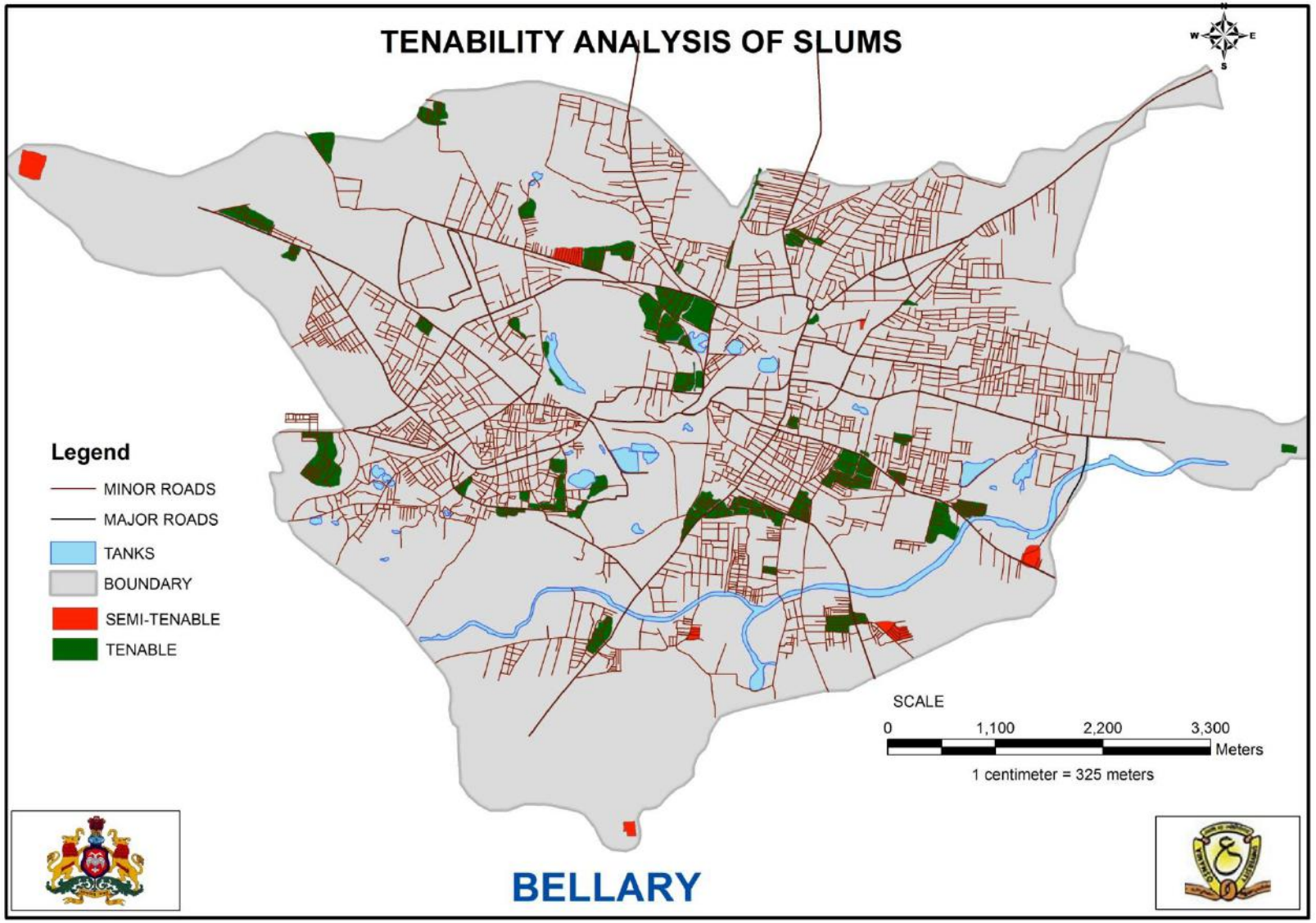
As a first step, the slums and vacant lands will be categorized as tenable, or untenable. Untenable slums will be only those which are 'unsafe' or 'health hazard' to the inhabitants or to their neighborhoods, even if redeveloped. Such untenable sites or portions will be earmarked for relocation to other redevelopment/vacant sites, preferably within the same zone.

Table 2- 1: Tenability of Slums

	Tenable	Semi - Tenable	Un- Tenable
No of Slums	59	8	0

Source: Guide lines for preparation slum free city of action 2011

Of 67 slums identified, 88% of the slums are found to be tenable while 12% to be semi-tenable. Due to surrounding land use non-residential uses and any other land reservation. In order to make these slums tenable it is recommended to change in present land use zoning be made however it will be decided competent authority. For visual illustration of tenability analysis of slums, Please refer *Map 2-1* and for slum wise details refer **Annexure – IA.**



Map 2- 1: Tenability Analysis of Slums

b. Abutting Land use

Table 2- 2: Notification Status / land use

Legal Status/ Land use	Notified		Non - Notified		Slums in category as % of Total Number of Slums	Households in category in % terms of Total Number of slum Households
	No of slums	No of Households	No of slums	No of Households		
Residential	50	13293	9	1411	88%	90%
Commercial	0	0	1	67	2%	0%
Institutional	0	0	0	0	0%	0%
Industrial	2	542	0	0	3%	3%
Others	4	1043	1	52	7%	7%
Total	56	14878	11	1530	100%	100%

Source: Guide lines for preparation slum free city of action 2011

From *table 2-2*, it is established that 90% of the households are surrounded by the residential use, followed by 3% under Industrial and 7% by others. The slums and vacant lands will need to be further classified into sub-categories based on the land ownership information and land value (market price) to decide the redevelopment model to be followed for each slum pocket within the zone.

c. Land tenure of slums

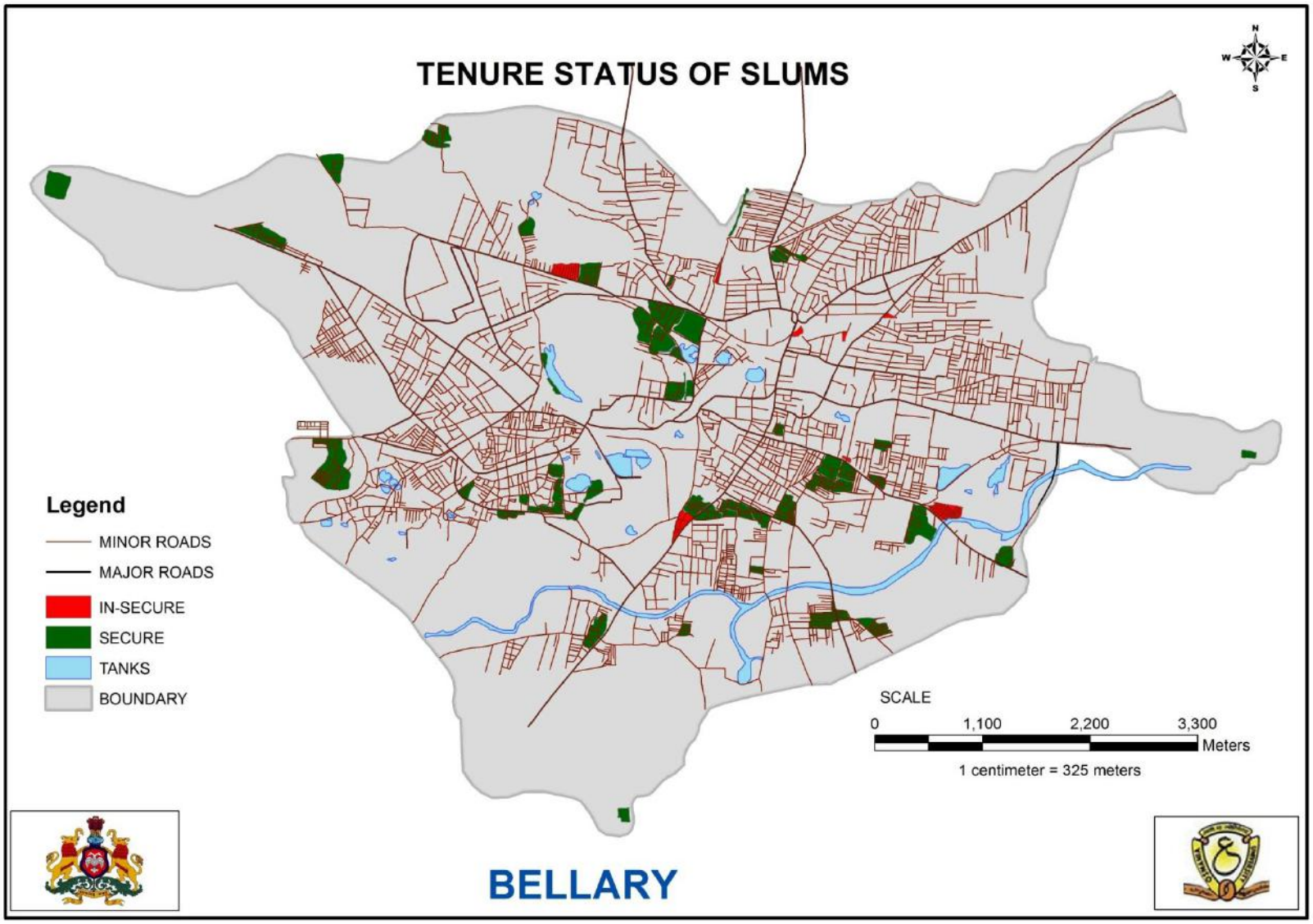
Table 2- 3: Land tenure Status

Land tenure Status	Pattas	Possession certificate)	Encroached public land	Encroached private land	On Rent	Others
No of HH's	6549	4071	492	551	4635	110

Source: AKM data

As seen in the above *table 2-3*, 25% of the slum households have registered with possession certificates while 40% are registered and have pattas for their respective lands. On the contrary, 6% of the households are not registered and hence live on encroached lands of private as well as public owned the remaining of the slums are rental and others.

For visual illustration of tenure status of slums, please refer *map 2-2.*



Map 2- 2: Tenure status of slums

d. Ownership of Land Status

The categorization based on land ownership of slums can be used in assigning strategies for development and priorities for implementation under various strategies for development. The following *table 2-4*: classifies the legal status of the slum households based on the ownership and land tenure status.

Table 2- 4: Ownership of Land Status

Ownership of Land/ Notification Status		ULB	State government	Private
Registered (No. of HH)	Pattas	4335	2113	101
	Possession certificate	1884	1760	427
Un – Registered (No. of HH)	Encroached	229	512	302
	On Rent	3108	1401	126
	Others	67	39	4

Source: Guide lines for preparation slum free city of action 2011

The above table indicates that 65% of total households have registered and the remaining 35% are not registered with any agency. Under the ownership of ULB, 38% of the households are registered and 21% are unregistered. Similarly 3% are registered and 3% households are unregistered, belong to the private ownership of the land. Overall under the state Govt. owned lands, 36% belong to registered and unregistered. Speaking of ownership, ULB ownership is termed to be the highest with 59% of the households under it. Still 35% of the households need a secured status in order to avail better infrastructure.

Table 2- 5: Land Ownership / Notification Status

Ownership of Land / Legal Status	ULB	State government	Private
Notified Slums	27	23	6
Non - Notified Slums	4	7	0

Source: AKM data

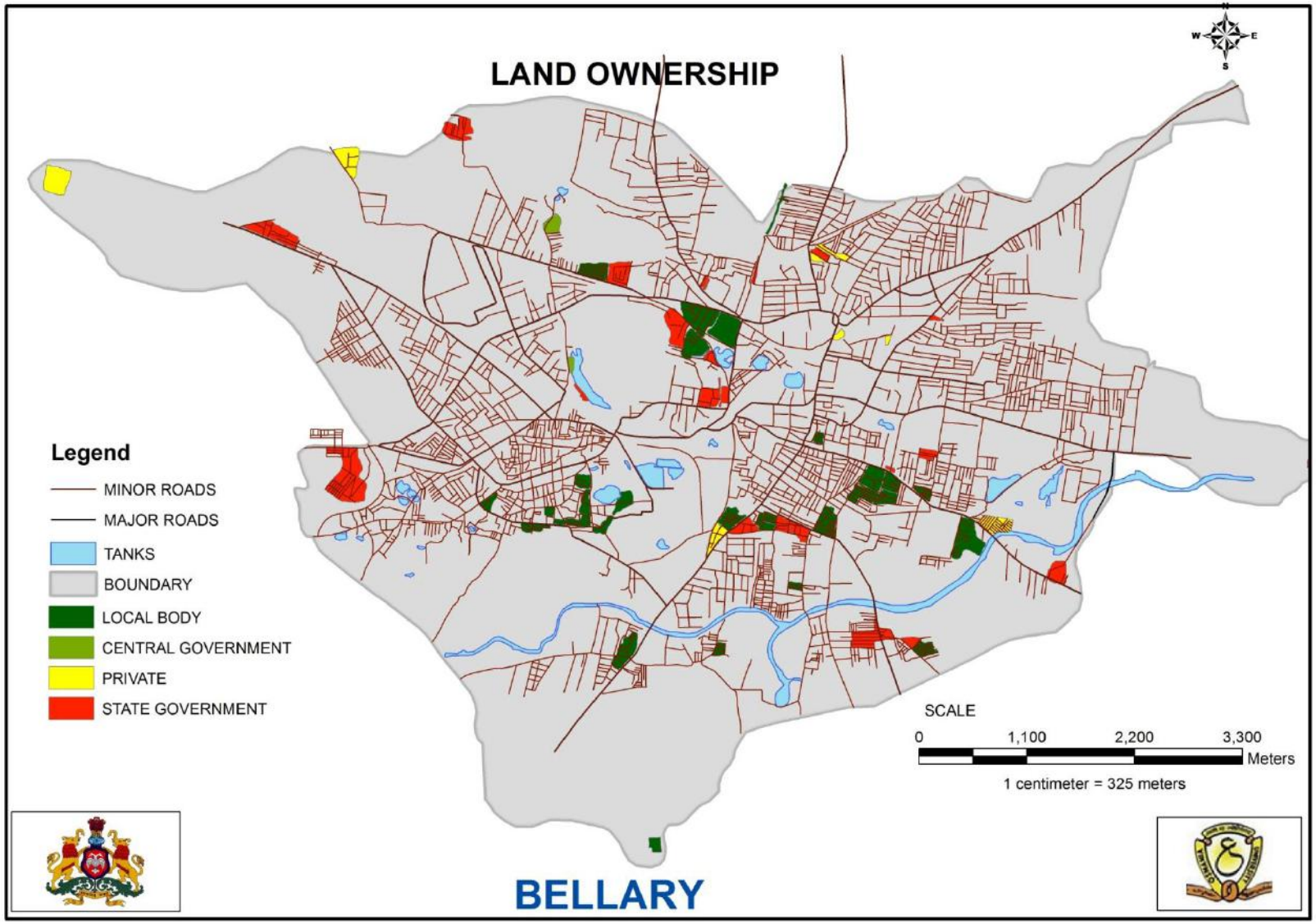
As seen in the above *table 2-5*, 9% of the slums are under the ownership of Private agencies and 46% built on lands owned by ULB, thus making it the largest owner.

Table 2- 6: Land Ownership / Area

Land Ownership / Area	ULB	State government	Private
Area	56%	40%	4%

Source: AKM data

As far as land covered by respective agencies, it is found that ULB holds the highest percent (56%) owning the lands under slums.



Map 2- 3: Land ownership of slums

e. Density

In this context, due consideration will have to be given to existing density of each slum pocket within a zone, in order to propose a suitable development option. Based on Section-I data analysis, the classification of the slums is based on the values of density where:

- **Low** where density is less than 120 dwelling unit per hectare
- **Medium** where density ranges from 120- 250 dwelling unit per hectare
- **High** where density is greater than 250 dwelling unit per hectare

The following *table 2- 7* presents the mode of development and additional accommodation of density for the slums based on its classification:

Table 2- 7: Density / Mode of Development

Density / Mode of Development	Low Density	Medium Density	High Density
Relocation (No of Slums)	0	0	0
In - Situ (No of Slums)	13	8	0
Up gradation (No of Slums)	27	14	5
Total	**40**	**22**	**5**

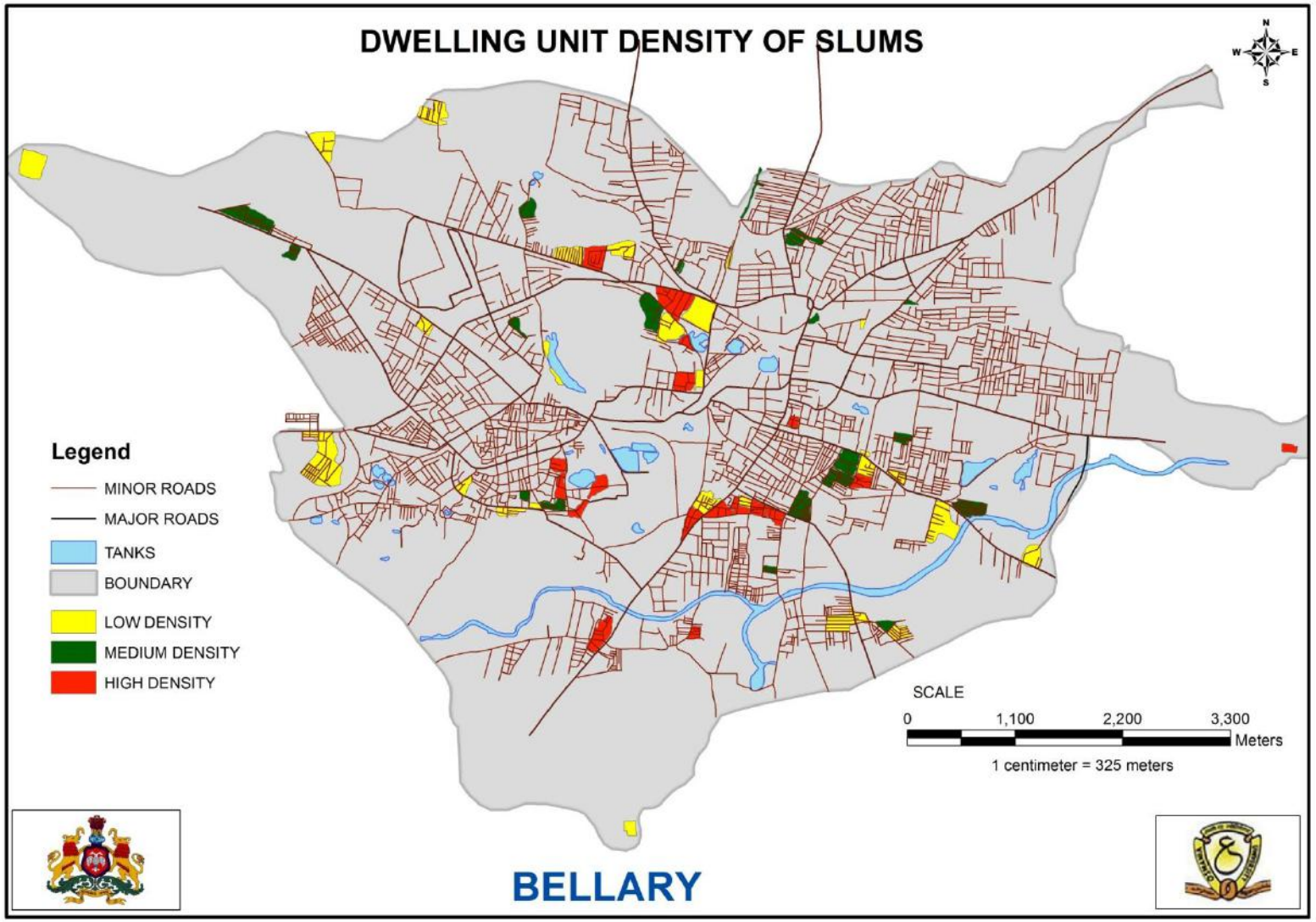
Source: Guide lines for preparation slum free city of action 2011

As per the prioritization, it was found that 5 slums have high density while 22 slums are moderately dense and the remaining pretty low. Under the category of low density, 13 slums have been chosen for In - Situ and 27 slums for up-gradation. At the same time, 14 slums which are moderately dense have selected for up-gradation mode. On other side, 5 of the highly dense slums have selected for up-gradation.

Picture 1- 59:Vinayakanagar 2nd Phase

Picture 1- 60: Condition of Sanganakkal road slum

Picture 1- 61: Condition of Shanthi nagar slum



Map 2- 4: Density of Dwelling unit in slums

For slum wise details please refer **Annexure-II D**

f. Land value

For Bellary City, the land values will be determined with reference to the slum and it is case specific and based on the mode of development, which will be calculated during preparation of DPR. At this is stage, it might be difficult to determine the land value as it is expected to vary in concord with market prices.

2.3. Slum Rehabilitation Framework

According to RAY guidelines, preparation of housing condition & infrastructure deficiency and tenure insecurity matrix for all slum settlements is based on scoring and ranking. The matrix is based on three important parameters: Housing, Infrastructure and Tenure. Within these, Housing and Infrastructure are the physical parameters that are directly related to the existing quality of the housing condition, while land tenure defines the legal status of land ownership.

In this section, the following infrastructure components were considered for calculating deficiency from the existing data:

- Percentage of households not covered with piped water supply
- Percentage of households that are not covered with sewerage system and storm water drainage system
- Percentage of households that do not have any form of solid waste clearance
- Percentage of households not covered with toilets
- Percentage deficiency in availability of street lights

a. Observations / Findings of Analysis of Existing Situation

Housing

- 40% of the slums have been into existence for more than 30 years in the city without dated infrastructure
- 85% of the slum lands are secured and have access to basic amenities and in possession of certification while 15% of the slums are still unsecured, which needs regularization.
- As far as electricity connection is concerned, nearly 11% of the total households do not have electricity connection.
- Even though 44% of the houses are pucca in nature, but most of them are found to be in dilapidated condition.56% of the houses are found to be semi pucca & Katcha in nature and most vulnerable to any kind of disaster.

Demography & Employment

- Nearly 91% of the total slum population is below poverty line (BPL) with 14929 households.
- On minority group front, it is observed that 47% of the total population constitutes the mentioned group with 57% of Child Laborers. It is also observed that 13% of the child labor falls under school dropouts.
- 23% of the BPL population falls under illiterate category

- 22% of the notified slum households are still un-employed.
- 30% of the households are found to be working as casual laborers and 12% on regular wage basis as they are unskilled. Therefore, nearly 46% of the poor households do not have access to a dependable occupation and secure incomes. Further, the livelihood pattern has been become indefinite and irregular for the households, where only 69% of them are earning more than Rs.3000/- per month.

Water Supply

Table 2- 8: Water Supply details

	Notified Slums		Non Notified Slums		Total		% HH's of total Households
	No of slums	No of HH's	No of slums	No of HH's	No of slums	No of HH's	
Connectivity to Water Supply							
Fully	53	14332	9	1330	62	15662	96%
Partially	2	306	2	200	4	506	3%
Not Connected	1	240	0	0	1	240	1%
Total	56	14878	11	1530	67	16408	
Duration of Water Supply							
daily Less than 1 hr	56	14878	1	67	57	14945	91%
daily 1-2 hrs	0	0	0	0	0	0	0%
Daily more than 2 hrs	0	0	0	0	0	0	0%
Once a week	0	0	2	312	2	312	2%
Twice a week	0	0	8	1151	8	1151	7%
Not regular	0	0	0	0	0	0	0%
No Supply	0	0	0	0	0	0	0%
Total	56	14878	11	1530	67	16408	
Source of Drinking Water							
Individual tap	56	6832	10	643	66	7475	46%
Public tap	56	6697	11	793	67	7490	46%
Tube wells/Bore well/hand pump	53	541	10	26	63	567	3%
Open well	29	70	4	8	33	78	0%
Tank/pond	6	34	1	1	7	35	0%
River/canal/lake/spring	0	0	0	0	0	0	0%
Others	51	703	7	59	58	762	5%
Water tanker	1	1	0	0	1	1	0%
Total	252	14878	43	1530	295	16408	

Source: AKM data

Of the total households, 95% are fully connected to city wide water supply system. With respect to drinking water sources 46% of the households have individual taps as primary source and 54% of the households are dependent on public water taps, tube wells, open wells, hand pump water tanker and other sources. Yet there is a short fall of 54% of households that needs to be addressed for the provision of individual taps. Regardless of the connectivity to city wide water supply system, the major problem in Bellary slums is poor quality of water due to waste disposal and contamination of leaked water pipes.

Sanitation

Table 2- 9: Sanitation details

	Notified Slums		Non Notified Slums		Total		% HH's of total Households
	No of slums	No of HH's	No of slums	No of HH's	No of slums	No of HH's	
Connectivity to wide Sewerage system							
Fully	43	11998	8	874	51	12872	78%
Partially	8	2009	2	604	10	2613	16%
Not Connected	5	871	1	52	6	923	6%
Total	56	14878	11	1530	67	16408	
Connectivity to Storm water drainage							
Fully	45	12820	6	674	51	13494	82%
Partially	7	1319	4	804	11	2123	13%
Not Connected	4	739	1	52	5	791	5%
Total	56	14878	11	1530	67	16408	
Drainage and Sewerage Facility							
Access to storm water drainage	54	5647	11	1060	65	6707	27%
Access to underground drainage/sewer line	53	5367	11	973	64	6340	25%
Access to digester	47	2647	11	698	58	3345	13%
Not connected to sewer or digester	56	8226	11	436	67	8662	35%
Total	210	21887	44	3167	254	25054	
Latrine Facilities							
Public/Community latrine-Septic tank/flush	44	4765	9	294	53	5059	31%
Public/ Community latrine-Service latrine	0	0	0	0	0	0	0%
Public/ Community latrine-Pit	32	741	5	67	37	808	5%
Shared latrine -Septic tank/flush/	42	353	8	36	50	389	2%
Shared latrine- Service latrine	0	0	0	0	0	0	0%
Shared latrine-Pit	43	1264	9	193	52	1457	9%
Own latrine -Septic tank/flush/	56	4893	10	695	66	5588	34%
Own latrine- Service latrine	0	0	0	0	0	0	0%
Own Latrine-Pit	52	1168	9	137	61	1305	8%
Open Defecation	27	1694	6	108	33	1802	11%
Total	296	14878	56	1530	352	16408	

Source: AKM data

- Of 67 slums, 94% of households are connected while 6% are not connected to city wide sewerage system.
- With regards to storm water drainage, 95% of households are connected and 5% of the slums are not connected to city wide system.
- For drainage and sewerage facility, 27% of households have Underground drainage / Sewer lines and 25% have storm water drainage system. 13% of households are provided with

digester system. Hence there is a deficiency in overall sewerage and storm water drainage system which needs to be upgraded to a more complete as well as sustainable underground drainage system.

- 35% of the total slum households has neither digester nor sewer lines.
- 11% do not have proper individual toilet systems in their houses hence resulting in open defecation.

Solid waste management

Table 2- 10: Solid waste management details

	Notified Slums		Non Notified Slums		Total		% HH's of total Households
	No of slums	No of HH's	No of slums	No of HH's	No of slums	No of HH's	
Arrangement of Garbage Disposal							
Municipal Staff	28	8113	7	909	35	9022	55%
Municipal Contractor	15	3426	4	621	19	4047	25%
Residents themselves	1	174	0	0	1	174	1%
Others	12	3165	0	0	12	3165	19%
No Arrangements	0	0	0	0	0	0	0%
Total	56	14878	11	1530	67	16408	
Frequency of Garbage Disposal							
Daily	20	5936	10	1404	30	7340	45%
Once in 2 days	25	6974	1	126	26	7100	43%
Once in a week	11	1968	0	0	11	1968	12%
Once in 15 days	0	0	0	0	0	0	0%
Not Collected	0	0	0	0	0	0	0%
Total	56	14878	11	1530	67	16408	
Frequency of clearance of open drains							
Daily	9	2935	0	0	9	2935	17.2%
Once in 2 days	29	8347	9	1135	38	9482	58%
Once in a week	17	3464	2	395	19	3859	24%
Once in 15 days	1	132	0	0	1	132	0.8%
Not Collected	0	0	0	0	0	0	0%
Total	56	14878	11	1530	67	16408	

Source: AKM data31286

- 19% of households lack in arrangement for regular garbage collection. In areas where there is lack of solid waste disposal or collection, the arrangement is taken care by the slum dwellers, constituting 1% of the total.

- 12% of slum households are not adequately covered with solid waste disposal.

- 24% of slum households lack in frequent clearance of open drains, further deterioration of environmental conditions and there by contaminating the ground water quality.

Roads and street lighting

Table 2- 11: Roads and Street lights details

	Notified Slums		Non Notified Slums		Total		% HH's of total Households
	No of slums	No of HH's	No of slums	No of HH's	No of slums	No of HH's	
Approach Road/Lane/Constructed Path to the slum							
Motorable Pucca	9	2690	6	1144	15	3834	23%
Motorable Katcha	23	6157	4	286	27	6443	39%
Non Motorable Pucca	24	6031	0	0	24	6031	37%
Non Motorable Katcha	0	0	1	100	1	100	1%
Total	56	14878	11	1530	67	16408	
Internal Road							
Motorable Pucca	5	1687	2	228	7	1915	12%
Motorable Katcha	21	5296	8	1250	29	6546	40%
Non Motorable Pucca	29	7820	1	52	30	7872	48%
Non Motorable Katcha	1	75	0	0	1	75	0%
Total	56	14878	11	1530	67	16408	
Distance from Nearest Motorable Road							
Less than 0.5 Km	17	3602	9	1154	26	4756	29%
0.5-1 Km	27	8400	2	376	29	8776	53%
1-2 Km	12	2876	0	0	12	2876	18%
2-5Km	0	0	0	0	0	0	0%
>5 Km	0	0	0	0	0	0	0%
Total	56	14878	11	1530	67	16408	
Availability of Street Light							
Yes	56	14878	11	1530	67	16408	100%

Source: AKM data

- 23% of slums have Motorable pucca roads and 39% with Motorable katcha roads; 37% of households have non Motorable approach roads, which need to be upgraded.
- 48% of slums are lack in proper internal roads with BT surface.
- In case of street lighting facility, all slums have street lights and Yet they are not in good condition and not sufficient as per the requirement, hence Street lights are essential to prevent any kind of accidents and other inconveniences.

Slum Deficiency matrix and Development Options

With reference to process for generating deficiency matrix in Chapter -2 and based on the data analysis, 67 slums in Bellary City have been categorized based on housing condition and the infrastructure levels. As a result, the existing condition is assessed in the following way:

- Good housing with good infrastructure
- Good housing with bad infrastructure
- Bad housing with good infrastructure
- Bad housing with bad infrastructure

Given in RAY guidelines, settlements without any security of tenure are most vulnerable and therefore should be given priority in selection for improvement / Up gradation**.** In addition, settlements with bad housing and infrastructure should also be the priority for selecting appropriate mode of development options.

As mentioned earlier, to obtain the above result, it is necessary to evaluate each parameter using the following criterions;

- **Water supply**

Score 1- 60% or more of household have individual connection and
Score 2- Less than 60% of households having individual connections.

- **Drainage**[4]

Score 1- 60% or more in-slum drains are covered and / or Pucca drains
Score 2- Less than 60% in-slums drains are covered and/or Pucca drains

- **Solid waste management**

Score 1- Every day/alternate removal
Score 2- Removal of waste in frequent/once in fifteen days

- **Sanitation**

Score 1- 60% or more having individual toilet unit (with toilet seats)
Score 2- Less than 60% use individual toilets

- **Roads**[5]

Score 1: 60% or more of the in-slum roads have a min of 3 m width
Score 2: Less than 60% of the in-slum roads are of 3 m width.

Once the individual scores are obtained, a total score is stipulated and if the overall score of the infrastructure is less than 7, it is considered good infrastructure and greater than 7 is bad infrastructure. Based on which 38 slums were found to be having better infrastructure levels while 29 slums had lower levels of infrastructure, needing further improvement. Similarly for housing, it is assessed by considering:

Similarly for housing, it is assessed by using the following variables:

- **Structural condition**

Score 1: semi pucca + katcha houses < 60%
Score 2: semi pucca + katcha houses > 60%

[4] Running length of existing Sewer lines is not available.
[5] Since data for current width of roads are not available; condition of roads is taken into account.

- **Age of the slum**
- **Density for housing Units**

  Score 1: 60% or more houses having > or equal to 3 Sq.m per person
  Score 2: Less than 60% houses having > or equal to 3 Sq.m per person
- **Tenure status of the land - secured and in-secured**
  - *Score1:* For secured status
    - Registered (including ownership, leasehold and use/occupancy rights)
    - Unregistered but documented (e.g. rental, rent to buy, unregistered leases, etc)
    - Group/family/household rights Unregistered & undocumented
  - *Score 2:* For Unsecured status
    - Documented (e.g. written agreements between irregular owners and tenants, de facto recognition, illegal subdivisions, customary rights, tenancy at will, etc)
    - Undocumented

The following *table 2-12* presents the tenure status with reference to housing and infrastructure conditions:

Table 2- 12: Slum deficiency and vulnerability matrix

	Secure Tenure	**Non - Secure**	
% of Security	85%	15%	
Status of tenure			**No of slums**
Secure tenure	Good housing	Good infrastructure	9
	Good housing	Bad infrastructure	1
	Bad housing	Good infrastructure	36
	Bad housing	Bad infrastructure	11
Non - Secure tenure	Good housing	Good infrastructure	1
	Good housing	Bad infrastructure	0
	Bad housing	Good infrastructure	6
	Bad housing	Bad infrastructure	3

Source: Guidelines for preparation of slum free plan of action-2011

As seen above, 85% of the slums are secured and the remaining 15 % is not secured. Fewer than 15% of the good housing and infrastructure, (90% of the secured slums and 10% of the in-secured slums) are found to be having good levels of both housing and infrastructure. On the other hand, 21% of the slums (78% under secured and 22% in-secured) are found to be having bad housing and poor infrastructure. Hence, those slums with bad housing and bad infrastructure as well as in-secured are considered as a priority for redevelopment model.

In addition to the above characteristics additional parameters such as land ownership, housing densities and land values has been consider to evaluate development option for each slums. Based on data findings, it is observed that only for 1 slum the current land tenure status is secured with good housing and infrastructure however the ground reality shows that these slums still requires Up-gradation of existing housing and infrastructure.

For more details, Please refer **Annexure-2D** for slum wise evaluation index and choice of development modes.

b. Physical requirements for Housing

As seen in earlier section, the variables of tenure status, tenability, density, housing type, housing condition and age of the structure has been considered to calculate the housing deficiency. To determine the mode of development for the identified slums based on their deficiencies, it was decided to use the following criterions has been taken into account:

Relocation of slums

- Physical location of slums - along nallah and on hazardous sites
- Flood prone – water logging for a month or more
- Land ownership under local bodies; earmarked land use zones in master plan
- Slums in close proximity to High Transmission lines such as 220 KV

In-situ

- Semi pucca and katcha houses greater than 75%

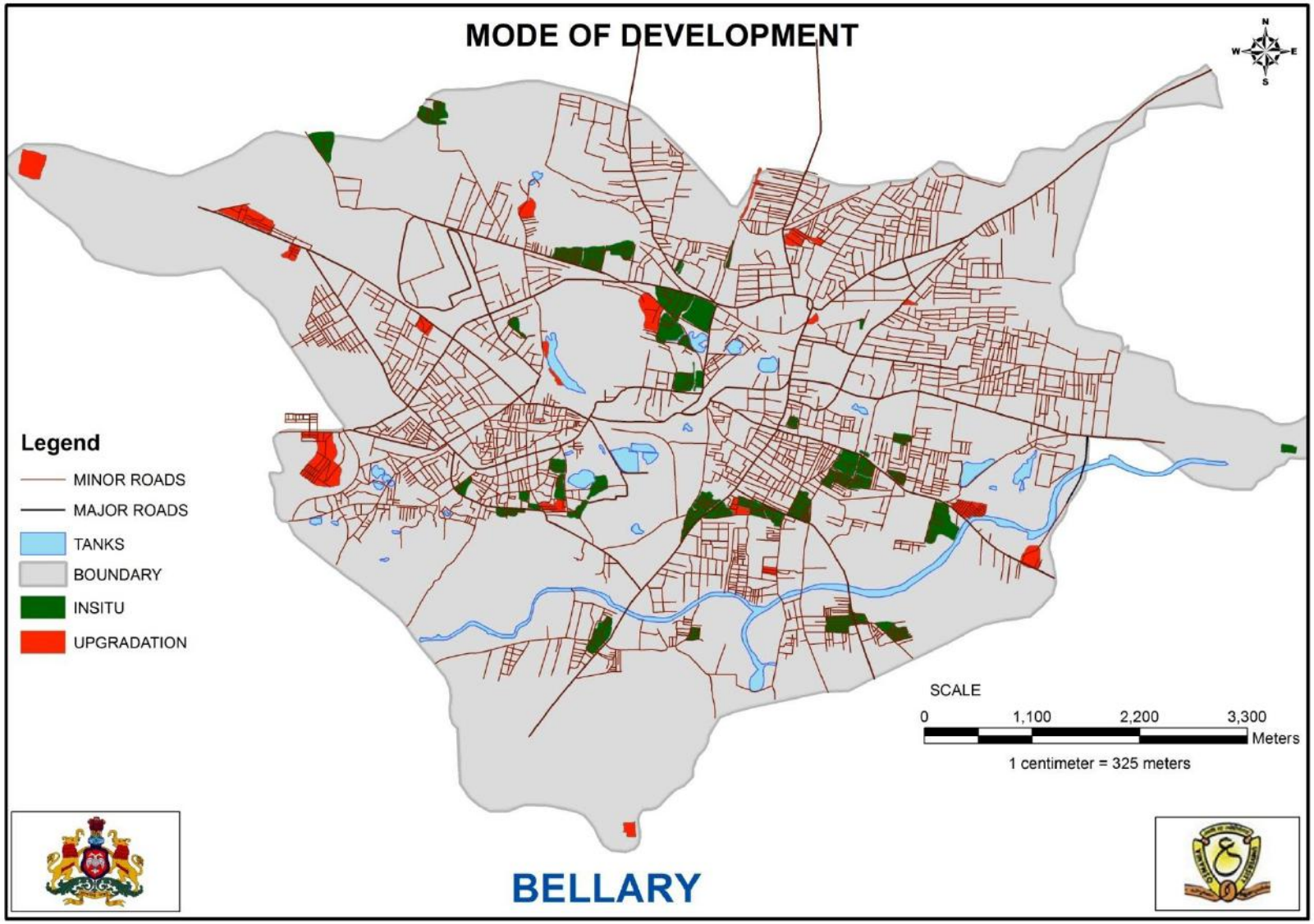
Up-gradation of slums

- Semi pucca and katcha houses less than 75%

Table 2- 13: Housing requirements

Mode of development	Hazardous	Non-Hazardous	
		Semi-Pucca + Katcha houses > 75%	Semi-Pucca + Katcha houses < 75%
	Relocation	**In – Situ**	**Up-Gradation**
No. of Slums	**0**	**21**	**46**
No. Households	**0**	**4661**	**5174**
Housing Deficit	**9835**		

From the *Table 2-13*, it was identified that there is a housing deficit of **9835**households in 67 slums. From development point of view, 21 slums are found to be having semi pucca and katcha houses greater than 75%, hence considered for In-Situ development while 46 slums with semi pucca and katcha houses less than 75% for slum up gradation. As per the data findings, 21 slums were found to be hazardous in nature hence considered for In-Situ mode of development; and 45 slums for slum Upgradation.



Map 2- 5: Mode of development in slums

c. Physical requirements for Infrastructure

With reference to RAY and UDPFI guidelines, additional requirement for the existing slums have been calculated for each element where the following assumptions were made in terms of:

Water supply

- For sub line running length, 98% of the total internal roads were considered
- Raising main length = total households x 3m (In – Situ)
- Raising main length = Proposed taps x 3m (Up gradation)
- Proposed number of taps = total households - Existing taps
- For every 2500 population, an overhead tank of capacity 1 lakh litre

Sanitation

- Additional length of underground sewer lines and Storm water drainage line=80% of the total road length
- Proposed toilets = Total households- Existing individual toilets (Up gradation)

Solid waste management

- For every 30 households = 1 garbage bin

Street lighting

- For every 30 m = 1 street light/light pole

Roads

- Approach road = 2% of the total road length with a width of 4.5 m
- Internal roads = 98% of the total road length with a width of 3 m

The following *tables 2- 14* and *2- 15* presents the proposed requirements for each element of the physical and social infrastructure that needs to be implemented.

Table 2- 14: Physical Infrastructure requirements

Sl. No	Sector	Unit	Proposed
1	Water Supply System		
		Running length of sub line (KM)	46.70
		Raising Main (KM)	31.82
		No. of individual taps	8785
		Overhead water tanks	22
2	Sanitation	Length of Underground Drainage/Sewer Lines (KM)	69.41
		Length of storm water Drainage Lines (KM)	30.26
		No. of individual toilets	6390
3	Solid waste management	No. of Bins	323
4	Roads	Total length of Approach roads in Kms	1.53
		Total length of Internal roads in Kms	69.43
5	Street Lighting	No. street lights	1995

Table 2- 15: Social Infrastructure requirements

Sl. No	Sector	Unit	Proposed
6	Education facilities	Anganwadi/Pre-primary, Primary and High schools	0
7	Health Facilities	Primary Health Centre	0
8	Social development	Comm. Halls	4
9	Recreation and Open spaces (Sq.Km)		0.062

As per UDPFI Guidelines, for every 7500 population a secondary school is required, for every 2500 population a pre-primary school and a primary school for 5000 persons has been recommended. Similarly for every 5000 population, a community hall has to be proposed. Hence 5 community halls have been proposed. In addition to social infrastructure, recreation and open spaces has been recommended with an area 0.062 Sq.km.

d. Implementation Plan

A DPR would be recommended for each and every slum for implementation of slum development plan. The plan implementation and modalities would be discussed in detail through slum level community participation.

Prioritization of slums

Parameters for prioritization of slums for implementation of in-situ improvement/redevelopment for first phase of implementation for tenable slums are suggested below:

- **Insecure tenure of slum pockets:** Settlements without any security of tenure are most vulnerable and therefore should be given priority in selection for improvement.
- **Housing conditions and infrastructure deficiency**: Settlements with poor housing conditions and infrastructure deficiency should be given high priority for improvements.
- **Public land ownership**: Slum pockets on public sector owned land should be prioritized for improvement, as slums on private land would either require negotiations with owner or time consuming acquisition. Slum improvement/redevelopment should first be taken up where land is owned by Government agencies.
- **Existence of trunk infrastructure**: - Areas near existing trunk infrastructure with spare capacity should receive priority, since investments will be more cost effective.
- **Population Density**: - Priority should be given to small and medium size slums with low or moderate densities as it is difficult to improve very high density /large slums.

The total percentage is divided into 5 ranges and four (5) ranks have been given for prioritization. Then, addition of ranks for each indicator has done for all the slums. Mean from this total have been taken to prioritize slums year-wise for period of 5 years.

All the slums in the ULB are proposed to be covered under RAY in the phased manner indicated in the *Table 2 - 16.* As mentioned above, three different mode of development has been chosen to improve the existing slum conditions as well prevent future growth of the same. The following gives a brief these modes and its characteristics:

Relocation

- Depending on the location and where there is no alternative
- Involves communities in identification of alternative sites
- Ensures that education, health, transport, basic services and infrastructure and provided before relocation

In situ

- Involves redevelopment of whole site to provide more living space and improved environmental conditions such as those in high density areas.
- Provision of transit accommodation and including of all residents, especially the extremely poor critical to success

Slum Up gradation

- Involves a mixture of provision or upgrading of service and infrastructure levels, incremental housing improvements or selective replacement of katcha houses

The following *table 2-16* gives a brief picture of the year wise phasing of development that needs to be taken up to improve the living conditions of the already existing slums for the next 5 years

Table 2- 16: Slums to be covered under RAY from 2012 – 2017

Year of Development	Period	No of the Slums	Mode of Development
I	**2012-13**	0	Relocation
		6	In - Situ Development
		4	Up gradation
Total		**10**	
II	**2013-14**	0	Relocation
		4	In - Situ Development
		13	Up gradation
Total		**17**	
III	**2014-15**	0	Relocation
		4	In - Situ Development
		16	Up gradation
Total		**20**	
IV	**2015-16**	0	Relocation
		6	In - Situ Development
		10	Up gradation
Total		**16**	
V	**2016-17**	0	Relocation
		1	In - Situ Development
		3	Up gradation
Total		**4**	
Total 5 Years		**67**	

Source: Guidelines for preparation of slum free plan of action-2011

Under Private

- In situ redevelopment + Incentive FSI or TDR
- In-situ improvement/Upgradation with but with consent of the owner and purchase of property rights by the occupants TDR to owner
- In situ with land sharing
- In situ development + Incentive FSI or TDR

Under State Govt. and Urban local body

- In situ redevelopment with densification
- In situ redevelopment with densification and credit support to households
- In situ redevelopment by public agency and credit support /TDR
- In situ redevelopment by public agency/PPP
- Redevelopment by group housing with densification including remunerative use of land

Proposed Housing

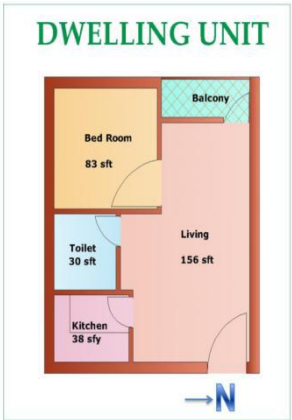
To make Bellary a slum free city, there is a need to redevelop housing for **9858** households as estimated. Based on the physical location, ULB land ownership and surrounding land use, two slums have been chosen to replicate the future development and improved livelihood in terms of housing layout shown with all services. The layouts developed are in accordance with byelaws, JNNURM standards and facilitated with infrastructure services. According to Norms and Standards of Municipal Basic Services in India given by Jawaharlal Nehru National Urban Renewal Mission (JNNURM) for Housing, each flat has a plinth area of 330.60 square feet including common area.

Proposed Layout

All proposed housing units will be are facilitated with a living room, a bedroom, kitchen and toilet with total covered area with provision of 8 nos. houses has been kept on each floor to minimize the common area. The proposed structure would consist of ground +1, with 15% ground coverage and a proposed density of 100 dwelling units per acre.

The following table and plan provides brief specification of a single unit:

Item	**Dimension**
Living room	11.63 Sq.m
Bed room	7.68 Sq. m
Kitchen	3.4 Sq.m
Bath	1.85 Sq.m
W.C	0.9 Sq.m
Passage in front of Bath & W.C	0.68 Sq.m
Total area	**26.14 Sq. m**



Infrastructure

Provision for individual sump tank, over head LDPE tanks and pumps with all accessories will be made available to each of the building blocks for water supply arrangement.

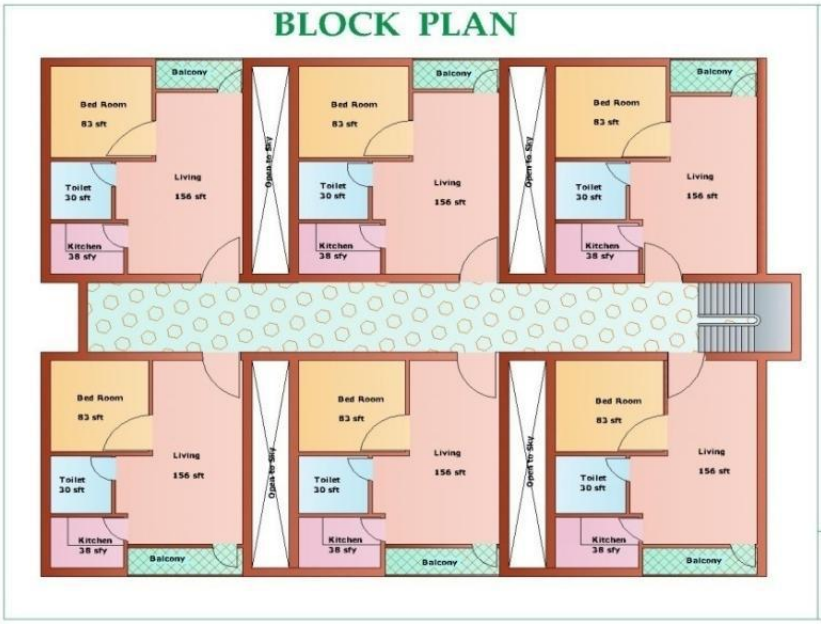
Construction

The type of construction will vary with several factors like soil conditions, local requirements and cost of the land. Generally in the smaller towns, which basically have rural culture, multistoried buildings are not acceptable but with circumstances, G+3 has been proposed for slums where ever required. The type of housing would generally be small but independent houses/ combined houses with some free space around the houses. Given the occupation status of the slum households, some of them might have push carts or some of them may use this space for cottage industries or vegetable gardening.

Structure wise, a permanent housing unit with a plinth area of 330.60 Square feet will be constructed. The walls shall be built with solid concrete blocks and slabs shall be RCC. Ready mixed concrete shall be used in all RCC elements of the building for quality assurance and providing a smooth finish to the surface requiring less finishing.

The specifications and plan of single block are as follows:

Description	Unit
Area of Block	2670.40 sq. ft.
No.of Dwelling Units per block	6
Corridor width	7 Ft
Stair case	45 Sq.Ft
Area of layout	3.5 Ha
No of Blocks	46
No of Dwelling units	(46*18) = 828



Picture 2- 4: Proposed layout for a single block

Map 2- 6: Model layout

e. Modalities / Approach

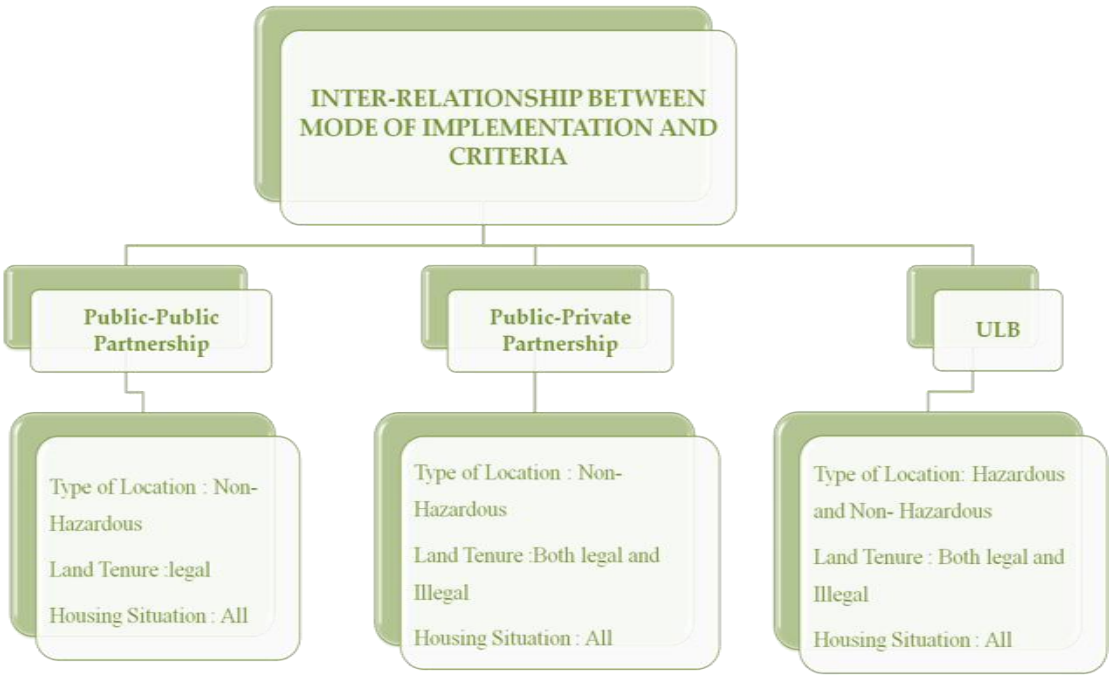


Chart 2- 6: Modalities & Approach

A gap is sometimes called "the space between where we are and where we want to be." A gap analysis helps bridge that space by highlighting which requirements are being met and which are not. The tool provides a foundation for measuring the investment of time, money and human resources that's required to achieve a particular outcome.

Slum Up-gradation / Redevelopment Options

With spatial analysis and situation assessment done as above, a participative process will need to be undertaken with slum communities with assistance from NGOs/CBOs active in the area of slum housing/ redevelopment to identify the possible development options. The *table 2-16* provides an indicative list of alternative development options and implementation modalities. The dialogue for choice of the model will also explore the possibilities of relocating slum households from high density/untenable slums to low-density tenable slums within the same zone. The following physical development options are possible

i. **Slum Improvement**: Extending infrastructure in the slums where residents have themselves constructed incremental housing.

ii. **Slum Up gradation**: Extending infrastructure in the slums along with facilitation of housing unit up gradation, to support incremental housing.

iii. **Slum Redevelopment**: In-situ redevelopment of the entire slum after demolition of the existing built structures

iv. **Slum Resettlement**: In case of untenable slums to be rehabilitated on alternative site

Potential for Private Sector Participation

Private sector participation can be envisaged in redevelopment of slums where reasonable returns are expected for the investor. In order to assess the potential for PPP, ULB will need to map and tabulate land values in immediate environs of all slum pockets.

Outputs of the Slum Redevelopment Plans

- Development options and cost of each option for different categories of slums, which are to be proposed and vetted by community.
- Identification of options for development model proposed for each slum.
- Selection of development model for the slums to be followed by project development in consultation with the communities
- Identification of resettlement pockets
- Identification of slums to be densified
- Creation of vacant land,
- Identification of TDR loading corridors
- Integrated infrastructure planning including the identification of trunk infrastructure alignments and capacities(existing & proposed)

In relation to slum pockets

- Analysis of slums with low densities to assess slum pockets with possibility of densification to rehabilitate households from other slum pockets and creating vacant land pockets
- Exploring relocating possibility of untenable slums in nearby (within the zone) vacant pockets/ existing low density slum keeping their relation to employment centers

Outputs

- Development Options for different categories of slums
- Implementation Structure.

2.4. Investment Requirements

Accurate assessment of investment requirements and devising a suitable financing strategy are the key components for any sustainable slum rehabilitation program. It is of vital importance that implementing bodies recognize and measure the various costs of developing infrastructure and housing, including the costs for subsequent maintenance of the same. The success of the slum rehabilitation program would depend on matching the investment needs with the vibrancy/buoyancy of the various elements of the proposed finances. The following section describes the costs projected for various sectors from 2012-2017.

a. Housing

Based on the mode of development, the slums in view of housing condition, and physical location, has been categorized accordingly. The following *table 2 -17* presents the required cost for each type of development for the identified slums.

Table 2- 17: Investment requirements for Housing (in INR/ Lakhs)

	Hazardous	Non-Hazardous	
		Semi-Pucca + Katcha houses More than 75%	Semi-Pucca + Katcha houses Less than 75%
Mode of development	**Relocation**	**In – Situ**	**Up-Gradation**
No. of Slums	0	26	46
No. Households	0	4661	5174
Housing Deficit	**9835**		
Cost(Lakhs)	0.00	14714.43	11399.80
Total Cost(lakhs)	**26114.23**		

As illustrated in *table 2-17*, 56% of the total estimated costs is allocated for In situ mode of development while 44% for slum up-gradation in Bellary City. For calculation purpose, costing per unit @ 2.9 lakh per house has been taken for katcha houses and @ 1.45 lakhs per house for Semi-pucca houses have been taken into view for the first year. Additionally for a duration of 5 years, an increase of 5% in the costs has been assumed with due consideration to changing market rate.

b. Infrastructure

This section covers the existing physical and social infrastructure and also the requirements for the same in **all slums** of the ULB including **perspective plan for 5 years.** Taking into account the additional requirement as mentioned in *tables 2-12* and *2-13*, the costing has been calculated for each sector shown in *table 2-18*.

Table 2- 18: Investment requirements for Infrastructure **(in INR/ Lakhs)**

S. No	Sector	Sector / Unit	Cost for 2012-17 (Rs. In Lakhs)
	Physical Infrastructure		
1	Water Supply System	Running length of sub line (KM)	184.53
		Raising Main (KM)	60.49
		No. of individual taps	0
		Overhead water tanks	365.83
	Sub Total		**610.85**
2	Sanitation	Length of Underground Sewer Line(KM)	1095.39
		Length of storm water Drainage Lines (KM)	478.06
		No. of individual toilets	769.76
	Sub Total		**2343.21**
3	Solid waste management	No. of Bins	28.32
	Sub Total		**28.32**
4	Roads	Length of main roads in Kms(Proposed)	79.12

		Length of internal roads in Kms (Proposed)	1772.89
	Sub Total		**1852.01**
5	Street Lighting	No. street lights	241.23
	Sub Total		**241.23**
		Total Physical Infrastructure	**5075.62**
	Social Infrastructure		
6	Education facilities	Anganwadi/Pre-primary schools	0.00
		Primary school	0.00
		High school	0.00
	Sub Total		**0.00**
7	Health Facilities	Primary Health Centre	0.00
		Maternity Centre	0.00
	Sub Total		**0.00**
8	Social development	Comm. Halls	20.70
		Recreation and Open spaces (sq Kms)	177.55
	Sub total		**198.24**
		Total Social Infrastructure	**198.24**
Grand total Cost (Physical + Social) Infrastructure			**5273.86**

From the *table 2-18*, it is observed that total cost estimates for physical and social infrastructure is Rs. **52.74** Crores where physical infrastructure is estimated for Rs.**50.75** Crores and for social infrastructure it is around Rs.**1.98** Crores.

The following *table 2 -19* presents sector wise cost estimated for five years (2012-17) by taking into consideration the cost calculated for the additional provisions/requirements, mentioned in earlier section:

Table 2- 19: Sector Wise Estimated Cost (In INR / Lakhs)

Sector	Estimated Cost for **2012-13**	Estimated Cost for **2013-14**	Estimated Cost for **2014-15**	Estimated Cost for **2015-16**	Estimated Cost for **2016-17**	Total **Project Cost** for **5 years (Rs. In INR / lakhs)**
Housing	4012.15	5783.98	7695.78	7467.90	1154.43	**26114.23**
Water Supply	34.79	147.97	215.12	181.59	31.39	**610.85**
Sanitation	236.96	580.20	851.30	521.37	153.38	**2343.21**
Solid waste management	2.80	6.80	10.05	7.59	1.07	**28.31**
Roads	158.8	387.03	657.32	525.46	123.38	**1851.99**
Street Lighting	18.81	67.57	72.52	67.49	14.84	**241.23**
Education	0.00	0.00	0.00	0.00	0.00	**0.00**
Health	0.00	0.00	0.00	0.00	0.00	**0.00**
Social development	23.01	46.10	69.61	48.16	11.37	**198.24**
Others	668.34	1040.59	1417.02	1309.42	220.12	**4655.49**
Grand Total	**5155.66**	**8060.24**	**10988.72**	**10128.98**	**1709.98**	**36043.58**

As seen above, the total cost projected for 5 years is Rs. 360.44 crores, in which 72% is allocated for housing with top priority; 14% for physical infrastructure and 1% for social infrastructure. Among physical infrastructure elements, due priority is given for sanitation for the next 5 years followed by roads. The above cost includes additional financing costs such as the rehabilitation costs, DPR, O& M, pre construction and others.

In the first year of development, 6 slums (963 housing deficit) have been tentatively proposed for in-situ development with estimated cost of **Rs. 35.16 crores** and 4 slums (598 housing deficit) proposed for Up gradation with estimated cost of **Rs. 16.53 crores**, on the lands belonging to the State Government, Local body, Private construction of **1561** houses with required infrastructure.

c. Operation & maintenance

In general, operation and maintenance costs form a sizeable share of a slum redevelopment budget. In case of Bellary slums, O& M costs makes up 13% of the total estimated cost for each year. The following list of related costs that will be incurred during the implementation of a slum rehabilitation/redevelopment includes:

- Pre cost Construction (1% of Housing)
- Temporary accommodation (5%)
- A& OE (2.5%)
- O&M (2.5%)
- DPR (1%)
- Project Implementation (1%)
- Capacity Building (1%)
- Offsite cost (1%)

Table 2- 20: Estimated Operation and Maintenance Cost (In INR / Lakhs)

Year Wise	Temporary accommodation	A & OE (Acquired & operating expenses)	O & M	DPR Prep. , IEC	Project preparation	Capacity building	Offset costing	Pre cost construction	Annual Estimated O&M (In INR /Lakhs)
Ist Year	224.37	112.18	112.18	44.87	44.87	44.87	44.87	40.12	**668.35**
IInd Year	350.98	175.49	175.49	70.20	70.20	70.20	70.20	57.84	**1040.59**
IIIrd Year	478.59	239.30	239.30	95.72	95.72	95.72	95.72	76.96	**1417.03**
IVth Year	440.98	220.48	220.48	88.20	88.20	88.20	88.20	74.67	**1309.41**
Vth Year	74.49	37.25	37.25	14.90	14.90	14.90	14.90	11.54	**220.13**
Grand Total	**1569.41**	**784.7**	**784.7**	**313.89**	**313.89**	**313.89**	**313.89**	**261.13**	**4655.5**

Depending upon the mode of development, the operation and maintenance costs will vary for the slums. Seen in *table 2-20*, the O & M cost catering to the housing and infrastructure investment requirements as set out earlier includes 8 sectors where **46.55 crores** has been estimated for a period of 5 years. Of the total estimated costs, 34% is allocated for temporary accommodation for slum dwellers and 17% for acquiring and operation expenses. Moreover, the initial costs such as preparation of project, DPR and pre construction expenses alone constitute 19%.

2.5. Capacity Building

Through the medium of ULB and community organizations, SJSRY Schemes will be integrated with MoHUPA.

a. Slum dwellers

Slum dwellers also act as **stakeholders** in planning for slums as they understand the slums, strategies implemented in those slums and future requirements. Hence they should be trained in developing their respective slums; otherwise the aims of SJSRY will not be fulfilled.

b. Intermediaries

CO's, CBO's and community volunteers are the **Intermediary stakeholders** to train the trainer's. Capacity building for them is convincing & managing the slum association to accept proposals. Training and adequate guidance to the CBO's and the community volunteers can be organized by the concerned cells/agencies/lead NGO to build common understanding on their role and purpose of data collection for the SFCP. The capacity building activities can also be undertaken by the National Network Resource Centre's (NNRCs), empanelled by the Mo/HUPA.

It is expected that the SFCPoA is prepared with active participation of community during the planning process. To enable the same suitable structures (cooperatives/ societies) might need to be formed, where necessary. The communities would need to demonstrate willingness to adopt the implementation option, plan for livelihood/ economic activities within the slum. Communities are also expected to assist in generating the beneficiary contribution.

c. Government stakeholders

Being the main sponsor of the RAY scheme, ULB would prepare the SFCPoA as a first step to clearly articulate the action plan for making the city "slum free". During the preparation of Slum Free City Plan of Action, ULB would continuously consult with the community in the planning process. During the process, ULB would categorize and prioritize for rehabilitation/ redevelopment, and would provide/ facilitate provision of infrastructure. ULB, in consultation with the community, will also allot dwelling units and enable provision of the legal titles to the beneficiaries.

Section – III -Slum Prevention Strategy

CHAPTER 3 - SLUM PREVENTION STRATEGY

Strategy for prevention of slums in future will include prevention of encroachments and illegal structures and further 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. City-wide policies for slum prevention should include:

- Inventory of Vacant and underutilized lands through GIS mapping
- Assessment of Housing demand for current slum population and future using Master Plan estimated values
- Formulation of demand side as well as supply housing strategies through exploration for various development options such as PPP model, direct subsidies and incentives

Land Reservation/Land pooling

- Reservation of 20-25% of developed land for EWS/LIG housing
- Land assembly mechanisms and policy obstacles to land supply
- Ensure continuous supply of developed land for EWS/LIG housing

Allocation of land to various organizations

- In new cases where land is allotted to various organizations or institutions by the government for development of work space, or industries, or institutions etc., there shall be reservation of land for economically weaker sections and low income groups of persons in respect of all municipalities, municipal corporations and urban development authorities.
- In respect of land where it has already been allotted, the unutilized portion may be reserved for economically weaker sections

New Housing

- Availability of public owned vacant lands
- Incentives provided to private sector
- Availability of housing finance to be ensured for low income groups through public agencies and retail finance.

Rental

- Decide eligibility of tenants
- Standards for rental housing
- Decide for rental housing policy for rents, modalities for allotment, evictions
- Mechanisms for maintenance and management
- Incentives for rental housing

3.1. Housing Stock Assessment

a. Population Projections

Population projection is important and basic requirement for the provision of basic services to the people. It is also required to plan for service provision and revenue realization from the users in a city, which is the direct function of the population and population growth. Given the fact that Bellary being a tourist attraction and one of the oldest inhabited cities, an increase of the population at 1% growth rate is taken into consideration to forecast the population from 2012-17.

Table 3- 1: Projected population for 5 years

Population projection		
Year	**Projected population**	**Projected population**
2012-2013	816	82691
2013-2014	825	83516
2014-2015	833	84349
2015-2016	841	85190
2016-2017	849	86039
Total	**4164**	-------

At the end of five years, a total population of 86,039 is estimated for 67 slums in Bellary City.

b. Household requirements

Table 3- 2: Housing requirement for 5 years

Projection	
Year	**Households**
2012-2013	163
2013-2014	165
2014-2015	167
2015-2016	168
2016-2017	170
Total	**833**

Similar to estimated population in slums, the additional requirement of households in the slums has been projected for a 5 year period assuming a growth rate of 1%. Assuming that the growth rate would be constant for every year, an increase of **833** households has been projected for five years (seen in *table 3-2*).

c. Infrastructure requirements

Using the model layout costs for proposed infrastructure elements has been calculated. The proposed dwelling units are **833** which indicate 1 model layouts are required for future demand. Hence the infrastructure requirement is indicated in the *table 3-3*:

Table 3- 3: Infrastructure requirement for slum prevention from 2012-2017

Sl. No	Sector	Unit	Requirement for Slum prevention
Physical Infrastructure			
1	Water Supply System	Running length of sub line (KM)	12.29
		Raising Main (KM)	2
		No. of individual taps	833
		Overhead water tanks	2
2	Sanitation	Length of Underground Drainage /Sewer Lines (KM)	10.24
		Length of storm water Drainage Lines (KM)	10.24
		No. of individual toilets	0
3	Solid waste management	NO. of Bins	28
4	Roads	Total length of Approach roads (4.5 mts wide)	0.25
		Total length of Internal roads (3.0 mts wide)	12.54
5	Street Lighting	No. street lights	426
Social Infrastructure			
6	Education facilities	Pre-primary schools	2
		Primary school	1
		Secondary school	1
7	Health Facilities	Primary Health Centers	0
		Maternity Centre	0
8	Social and community utilities	Community rooms	1
		Comm. Halls	0
		Parks & Play grounds (Sq. KM)	0.0032

d. Land requirements

Land requirement is estimated as per the spatial analysis of slums in the city. The location of high density slums is identified, city is divided into zones and land requirement for each zone is indicated for accommodating future population.

3.2. Implementation Plan

a. Options for Generating Stock

Public Private Partnership

The rationale behind creating public-private partnerships is that the private sector typically has access to upfront capital and a track record of delivering products efficiently, while the public sector/state/central Govt. controls the regulating environment and, occasionally, crucial resources needed to implement a project, such as land. The proposed layout plan is an alternative to develop the 3 slums, however it has to be approved by MCC & get community consensus from the residents. The layouts are subjected to change with respect to the inputs / insights provided by MCC & Stakeholders. The following illustrates three different slums chosen for PPP model wherein the housing type with infrastructure has been proposed.

KORACHEGERI BANDIMOT AREA

Korachegeri Bandimot Area is one among the 44 slums located in the Core area of Bellary City. It has a total population of 725 with 126 households and an area of 17766.05 Sq.m. Under the ownership of Bellary City Corporation, Korachegeri Bandimot Area slum is located in the Core area and surrounded by residential use. Of the 126 houses, 38% are semi pucca and 54% are katcha in nature. As far as water supply is concerned, 67% of the slum is not covered. Due to lack of well built housing structures and inadequate physical infrastructure, there is a need to improve the living conditions in Korachegeri Bandimot Area slum.

PROPOSALS

Based on the above information, in situ mode of development has been recommended to make the areas habitable and for provision of tenure rights to the slum dwellers. As part of in situ development, 132 dwelling units have been proposed with each unit of area 331.50 Sq.ft and comprises of living room, single bedroom, a kitchen and toilet .The following gives a description of a single housing unit:

Description	Dimensions (Feet)
Bed room	9.0 x9.0
Living	8.0 x 17.0
Toilet	6.0x5.0
Kitchen	7.0x5.6
Balcony	6.6x7.5
Total area of Dwelling unit	331.50 (Sq.ft)

Specifications for Doors & Windows in a single Dwelling unit:

Description		Dimensions (Feet)
Doors	D 1	3.11 x 6.5
	D2	3.30x 6.5
Windows		3.3x4.11
ventilators		1.12x4.11

Housing plan:

Per block 12 dwelling units (DU) has been proposed with a total area of 2636.10 sq. ft. A total of 11 blocks has been proposed preferred floors to be G+1 for each. The specifications and plan of a single block has been shown below:

- Area of Block – 2636.10 sq ft.
- No. of Dwelling Units – 6 per Floor ,Total 12 units
- Corridor
- Stair case

BLOCK CONSTRUCTION SPECIFICATIONS:

S.No	Description	Units
1	Earth Work Excavation for RCC footing	3.28' depth
2	CC 1:4:8 for footing	4'' thick
3	VRCC footing M20	5'X5'X12''thick
4	VRCC columns M20	9'' x12'' size
5	VRCC Plinth beam M20	9''x 12'' size
6	PCC BED for plinth beam	4'' depth
7	Earth Filling to foundation & Basement	1'5'' Depth
8	40x15x22.5 cms CC solid Blocks for Walls	9'3'' height
9	40x10x22.5 cms CC solid Blocks for partition walls	9'3'' & 6'10'' height
10	VRCC M20 for lintel	9'' Width
11	VRCC roof Slab M20	4'' Thick
12	Ceiling plastering	CM 1:4 of 2'8''thick
13	Wall plastering inside	CM1:4 of 2'8'' thick
14	Wall plastering outside	CM1:3 of 4'' thick
15	MS hallow Door with shutters for main Door & Bedroom	2'11'' X 6'5'' & 2'5''x 6'5''
16	NCL Windows & Ventilators	2'11'' x 6'5'' ,1'11'x 6'5'' etc
17	Acrylic Emulsion Paint	Inside walls & Ceiling
18	Acrylic Emulsion Paint	outside
19	Flooring	Inside houses
20	Internal Electrification	Provided
21	Internal Sanitation	Provided
22	Internal Water supply	Provided
23	Painting to Doors & Windows	Provided
24	Rooftop Plastering	Provided
25	Staircase	Provided

Source: 25th Revised Edition Estimation and Costing in Civil Engineering. (By B.N. DUTTA)

LAND USE

According to the land value records available at Bellary City Corporation, it has been decided the price per Square feet is Rs 1500 per for residential while for commercial it is Rs 2200 per Sq.ft. The following table presents the proposed land use for Korachegeri Bandimot Area Slum:

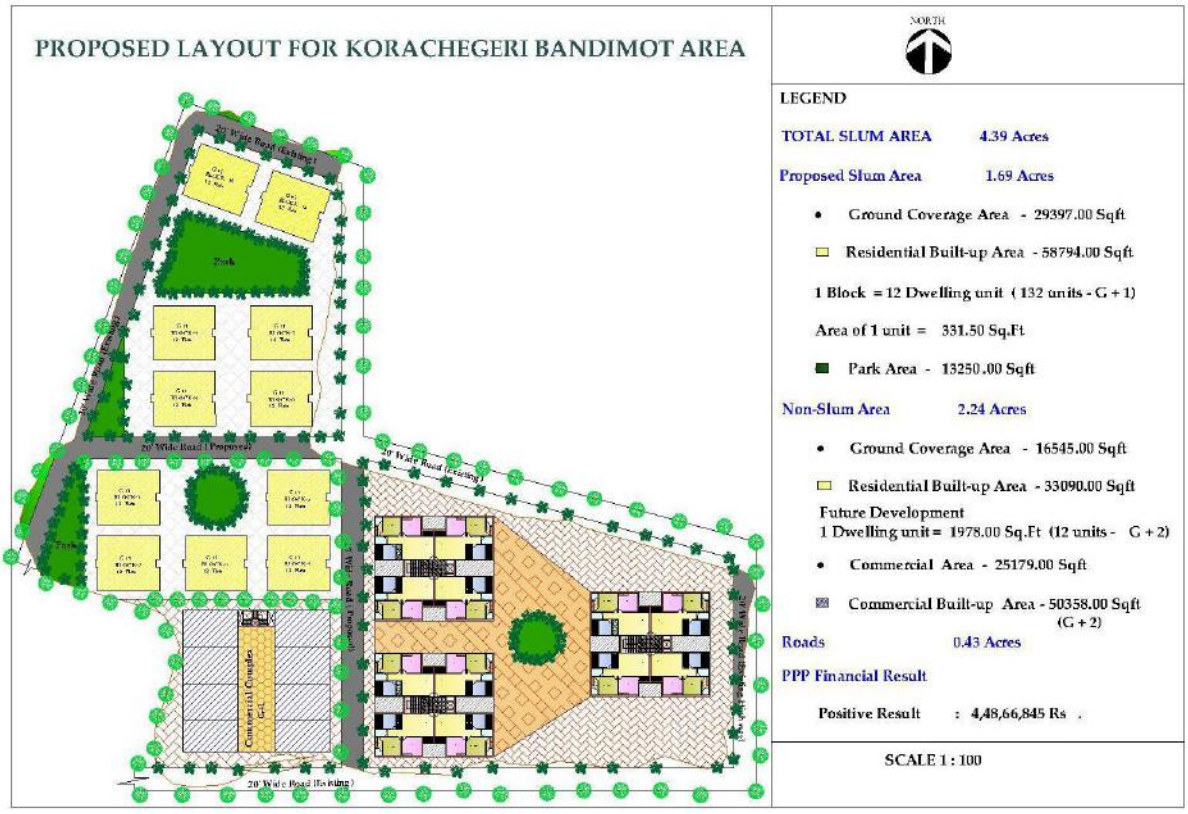
Description	**Area (Sq.ft)**
Slum Area	**4.39 Acres**
Proposed Slum Area	58794.00
Residential area	33090.00
Commercial	50358.00
Park	13250.00
Roads	21035.00

To encourage future development in the slum, a Public-Private partnership has been chosen for mixed land use where 33090.00 Sq.ft of land for regular residential and 50358.00 Sq.ft of land is allocated for Commercial space and 11% for roads has been reserved. Under this model, potential business opportunities can be created as well as better access to improved infrastructure, thus fostering Korachegeri Bandimot Area slum development in the long run.

PHYSICAL INFRASTRUCTURE

- **Roads** - B.T. are proposed as per the requirement
- **Surface / storm water drains** -RCC U-Shape drains are proposed on both sides of the road to drain out the Surface water as per the site requirement.
- **Sewerage** -Provision for sewerage distribution system has been made and the same will be connected to main Sewer line nearby wherever sewer facility is available.
- **Water Supply** -water supply distribution network linked to city wide has been proposed as per the requirement and individual sumps and overhead tanks have also been proposed.
- **Electricity -**Lump sum provision for layout electrification has been made along with provision for individual house connection. Obtaining the electricity Service Connection will be the responsibility of the dweller and observing the necessary formalities by metering. The houses will be provided with internal and external wiring for getting service connection from the electricity authorities concerned.

The following page presents the model layout for **Korachegeri Bandimot** Area slum:



Map 3- 1: Proposed layout for Korachegere Bandimot area

VINAYAKA NAGAR 2ND PHASE

Vinayaka nagar 2nd phase is one among the 23 slums located in the Fringe area of Bellary City. It has a total population of 390 with 82 households and an area of 18110.83 Sq.m. Under the ownership of Bellary City Corporation, Vinayaka nagar 2nd phase slum is located in the Fringe area and surrounded by residential use. Of the 82 houses, 34% are Semi pucca and 61% are katcha. Due to lack of well built housing structures and inadequate physical infrastructure, there is a need to improve the living conditions in Vinayaka nagar 2nd phase Slum.

PROPOSALS

Based on the above information, in situ mode of development has been recommended to make the areas habitable and for provision of tenure rights to the slum dwellers. As part of in situ development, 84 dwelling units have been proposed with each unit of area 331.50 Sq.ft and comprises of living room, single bedroom, a kitchen and toilet .The following gives a description of a single housing unit:

Description	Dimensions (Feet)
Bed room	9.0 x9.0
Living	8.6 x 17.0
Toilet	6.0x5.0
Kitchen	7.0x5.6
Wash area	10.0x2.6
Total area of Dwelling unit	331.50 (Sq.ft)

Specifications for Doors & Windows in a single Dwelling unit:

Description		Dimensions (Feet)
Doors	D 1	3.11 x 6.5
	D2	3.30x 6.5
Windows		3.3x4.11
ventilators		1.12x4.11

Housing plan:

Per block 6 dwelling units (DU) has been proposed with a total area of 2636.10 sq. ft. A total of 14 blocks has been proposed preferred to be Ground floor. The specifications and plan of a single block has been shown below:

- Area of Block – 2636.10 sq ft.
- No. of Dwelling Units – 6 per floor ,
- Corridor – 1’ wide
- Stair case

Block construction specifications:

S.No	Description	Units
1	Earth Work Excavation for RCC footing	3.28' depth
2	CC 1:4:8 for footing	4'' thick
3	VRCC footing M20	5'X5'X12''thick
4	VRCC columns M20	9'' x12'' size
5	VRCC Plinth beam M20	9''x 12'' size
6	PCC BED for plinth beam	4'' depth
7	Earth Filling to foundation & Basement	1'5'' Depth
8	40x15x22.5 cms CC solid Blocks for Walls	9'3'' height
9	40x10x22.5 cms CC solid Blocks for partition walls	9'3'' & 6'10'' height
10	VRCC M20 for lintel	9'' Width
11	VRCC roof Slab M20	4'' Thick
12	Ceiling plastering	CM 1:4 of 2'8''thick
13	Wall plastering inside	CM1:4 of 2'8'' thick
14	Wall plastering outside	CM1:3 of 4'' thick
15	MS hallow Door with shutters for main Door & Bedroom	2'11'' X 6'5'' & 2'5''x 6'5''
16	NCL Windows & Ventilators	2'11'' x 6'5'' ,1'11'x 6'5'' etc
17	Acrylic Emulsion Paint	Inside walls & Ceiling
18	Acrylic Emulsion Paint	outside
19	Flooring	Inside houses
20	Internal Electrification	Provided
21	Internal Sanitation	Provided
22	Internal Water supply	Provided
23	Painting to Doors & Windows	Provided
24	Rooftop Plastering	Provided
25	Staircase	Provided

Source: 25th Revised Edition Estimation and Costing in Civil Engineering. (By B.N. DUTTA)

LAND USE:

According to the land value records available at Bellary Corporation, it has been decided the price per Square feet is Rs 1500 per for residential while for commercial it is Rs 2200 per Sq.ft. The following table presents the proposed land use Vinayaka nagar 2nd phase Slum:

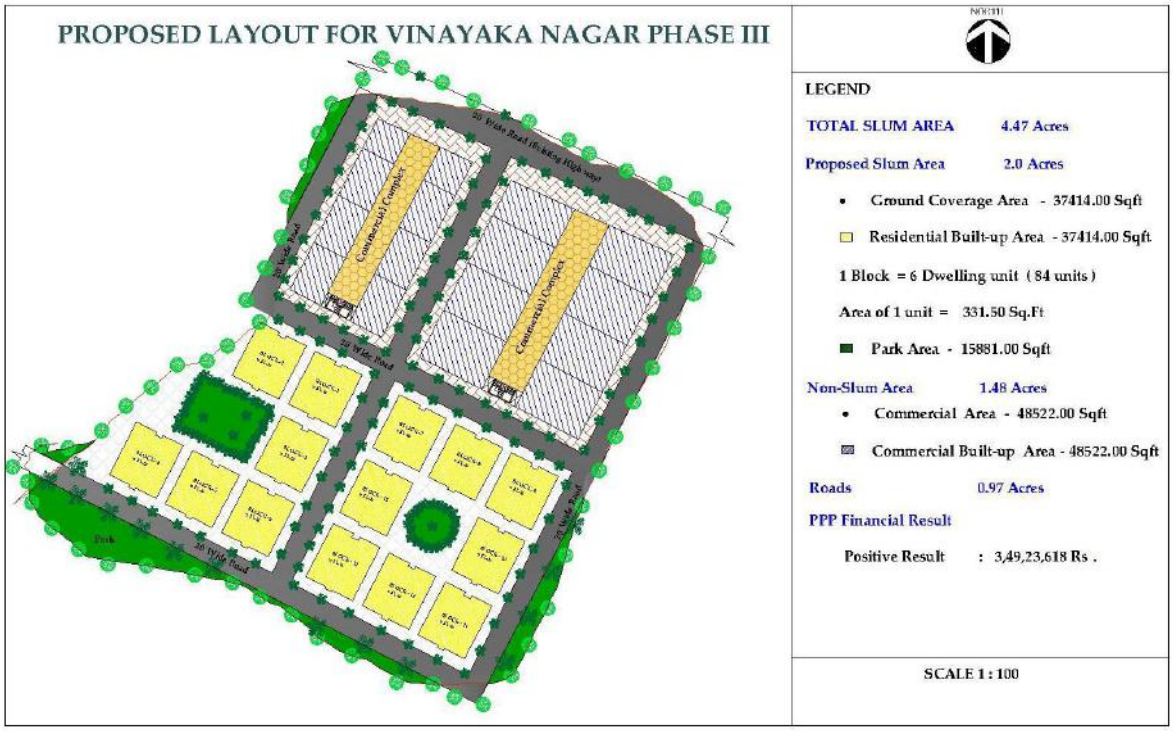
Description	**Area (Sq.ft)**
Slum Area	**4.47Acres**
Proposed Slum Area	37414.00
Commercial use	48522.00
Park	15881.00
Roads	42602.00

To encourage future development in the slum, a Public-Private partnership has been chosen for mixed land use where 48522.00 Sq.ft of land is allocated for commercial space and 22% for roads has been reserved .Under this model, potential business opportunities can be created as well as better access to improved infrastructure, thus fostering Vinayaka nagar 2nd phase slum development in the long run.

PHYSICAL INFRASTRUCTURE

- **Roads** - B.T. are proposed as per the requirement
- **Surface / storm water drains** -RCC U-Shape drains are proposed on both sides of the road to drain out the Surface water as per the site requirement.
- **Sewerage** -Provision for sewerage distribution system has been made and the same will be connected to main Sewer line nearby wherever sewer facility is available.
- **Water Supply** -water supply distribution network linked to city wide has been proposed as per the requirement and individual sumps and overhead tanks have also been proposed.
- **Electricity** -Lump sum provision for layout electrification has been made along with provision for individual house connection. Obtaining the electricity Service Connection will be the responsibility of the dweller and observing the necessary formalities by metering. The houses will be provided with internal and external wiring for getting service connection from the electricity authorities concerned.

The following page presents the model layout for Vinayaka nagar 2nd phase slum:



Map 3- 2: Proposed layout for Vinayaka nagara 2nd Phase

MAHANANDI KOTTAM (AMBEDKAR NAGAR)

Mahanandi Kottam (Ambedkar nagar) is one among the 44 slums located in the Core area of Bellary City. It has a total population of 1026 with 189 households and an area of 10362.39 Sq.m. Under the ownership of Bellary City Corporation, Mahanandi Kottam (Ambedkar nagar) slum is located in the Core area and surrounded by residential use. Of the 189 houses, 81% are Semi pucca and 11% are katcha. Due to lack of well built housing structures and inadequate physical infrastructure, there is a need to improve the living conditions in Mahanandi Kottam (Ambedkar nagar) Slum.

PROPOSALS

Based on the above information, in situ mode of development has been recommended to make the areas habitable and for provision of tenure rights to the slum dwellers. As part of in situ development, 192 dwelling units have been proposed with each unit of area 331.50 Sq.ft and comprises of living room, single bedroom, a kitchen and toilet .The following gives a description of a single housing unit:

Description	Dimensions (Feet)
Bed room	9.0 x9.0
Living	8.6 x 17.0
Toilet	6.0x5.0
Kitchen	7.0x5.6
Balcony	10.0x2.6
Total area of Dwelling unit	331.50 (Sq.ft)

Specifications for Doors & Windows in a single Dwelling unit:

Description		Dimensions (Feet)
Doors	D 1	3.11 x 6.5
	D2	3.30x 6.5
Windows		3.3x4.11
ventilators		1.12x4.11

Housing plan:

Per block 24 dwelling units (DU) has been proposed with a total area of 2636.10 sq. ft. A total of 8 blocks has been proposed preferred floors to be G+3 for each. The specifications and plan of a single block has been shown below:

- Area of Block – 2636.10 sq ft.
- No. of Dwelling Units– 6 per floor , total 24 units
- Corridor – 6’ wide
- Stair case

Block construction specifications:

S.No	Description	Units
1	Earth Work Excavation for RCC footing	3.28' depth
2	CC 1:4:8 for footing	4'' thick
3	VRCC footing M20	5'X5'X12''thick
4	VRCC columns M20	9'' x12'' size
5	VRCC Plinth beam M20	9''x 12'' size
6	PCC BED for plinth beam	4'' depth
7	Earth Filling to foundation & Basement	1'5'' Depth
8	40x15x22.5 cms CC solid Blocks for Walls	9'3'' height
9	40x10x22.5 cms CC solid Blocks for partition walls	9'3'' & 6'10'' height
10	VRCC M20 for lintel	9'' Width
11	VRCC roof Slab M20	4'' Thick
12	Ceiling plastering	CM 1:4 of 2'8''thick
13	Wall plastering inside	CM1:4 of 2'8'' thick
14	Wall plastering outside	CM1:3 of 4'' thick
15	MS hallow Door with shutters for main Door & Bedroom	2'11'' X 6'5'' & 2'5''x 6'5''
16	NCL Windows & Ventilators	2'11'' x 6'5'' ,1'11'x 6'5'' etc
17	Acrylic Emulsion Paint	Inside walls & Ceiling
18	Acrylic Emulsion Paint	outside
19	Flooring	Inside houses
20	Internal Electrification	Provided
21	Internal Sanitation	Provided
22	Internal Water supply	Provided
23	Painting to Doors & Windows	Provided
24	Rooftop Plastering	Provided
25	Staircase	Provided

Source: 25th Revised Edition Estimation and Costing in Civil Engineering. (By B.N. DUTTA)

LAND USE:

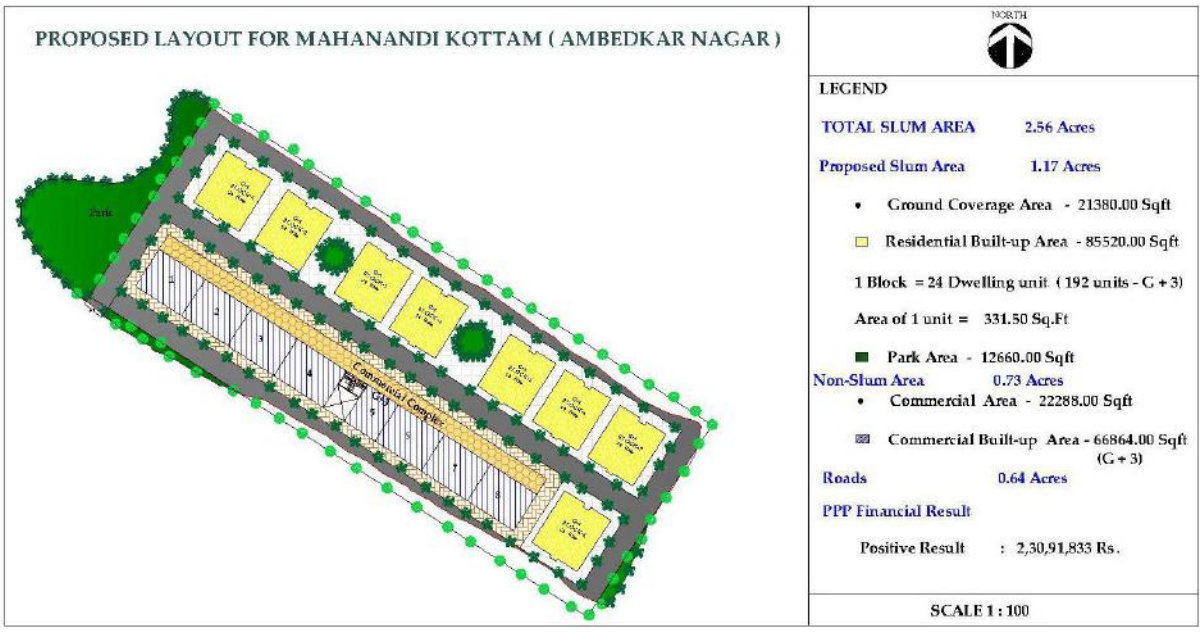
According to the land value records available at Bellary Corporation, it has been decided the price per Square feet is Rs 1500 per for residential while for commercial it is Rs 2200 per Sq.ft. The following table presents the proposed land use Mahanandi Kottam (Ambedkar nagar) Slum:

Description	**Area (Sq.ft)**
Slum Area	**2.56Acres**
Proposed Slum Area	85520.00
Commercial use	66864.00
Park	12660.00
Roads	28115.00

To encourage future development in the slum, a Public-Private partnership has been chosen for mixed land use where 66864.00 Sq.ft of land is allocated for commercial space and 25% for roads has been reserved .Under this model, potential business opportunities can be created as well as better access to improved infrastructure, thus fostering Mahanandi Kottam (Ambedkar nagar) slum development in the long run.

PHYSICAL INFRASTRUCTURE

- **Roads** - B.T. are proposed as per the requirement
- **Surface / storm water drains** -RCC U-Shape drains are proposed on both sides of the road to drain out the Surface water as per the site requirement.
- **Sewerage** -Provision for sewerage distribution system has been made and the same will be connected to main Sewer line nearby wherever sewer facility is available.
- **Water Supply** -water supply distribution network linked to city wide has been proposed as per the requirement and individual sumps and overhead tanks have also been proposed.
- **Electricity** -Lump sum provision for layout electrification has been made along with provision for individual house connection. Obtaining the electricity Service Connection will be the responsibility of the dweller and observing the necessary formalities by metering. The houses will be provided with internal and external wiring for getting service connection from the electricity authorities concerned.



Map 3- 3: Proposed layout for Mahanandi kottam (Ambedkar nagar)

The following page presents the model layout for Mahanandi Kottam (Ambedkar nagar) slum:

Rental Housing

Rental housing shall be developed in partnership with the private sector and ULBs may determine rents to be paid by the households. Families may also contribute to a maintenance fund. Both amounts shall be based on an assessment of affordability by the ULB. Developers, where applicable, may be permitted to collect rentals to recover the cost of construction in BOT arrangements, as appropriate. Maintenance charges may be collected by the cooperative/Resident Welfare Association/land trust, as the case may be. The following are the list of options available under rental housing:

a) Rental housing by employers/industries/SEZ - Employees housing for high paid employees
b) Rental housing by employers/industries/SEZ - Employees housing for low paid employees
c) Dormitory housing
d) Subsidy housing / FAR incentive
e) Others –Group Housing

b. Targets & Timelines

Table 3- 4: Targets & Timelines

Year of Development	Period	No of the Slums	Mode of Development
I	2012-13	0	Relocation
		6	In - Situ Development
		4	Up gradation
Total		**10**	
II	2013-14	0	Relocation
		4	In - Situ Development
		13	Up gradation
Total		**17**	
III	2014-15	0	Relocation
		4	In - Situ Development
		16	Up gradation
Total		**20**	
IV	2015-16	0	Relocation
		6	In - Situ Development
		10	Up gradation
Total		**16**	
V	2016-17	0	Relocation
		1	In - Situ Development
		3	Up gradation
Total		**4**	
Total 5 Years		**67**	

As seen in the above table, for 67 slums in Bellary city, 21 slums for in-situ mode of development and 46 for up-gradation programme based on assessment of the living conditions in those areas. Given the magnitude of problems faced, the slums have been prioritized and to be implemented year wise respectively.

Once the redevelopment process is initiated, it is imperative that slum wise targets should be set and adhered in order for the rehabilitation process to be accomplished within the set time frame. For this to happen, it is necessary that there needs to be high level coordinating mechanism between wide group of stakeholders such as Govt. officials, professionals from different disciplines, NGOs/CBOs, and slum dwellers

3.3. Investment requirements

a. Housing

The following table and chart shows the finance for projected households for 5 years (2012-2017).

Table 3- 5: Costing for projected households (In INR / Lakhs)

Costing for projected households		
Year	**Households**	**Estimated cost (In Lakhs)**
2012-2013	163	474.88
2013-2014	165	504.43
2014-2015	167	534.53
2015-2016	168	566.87
2016-2017	170	599.80
Total	**833**	**2680.52**

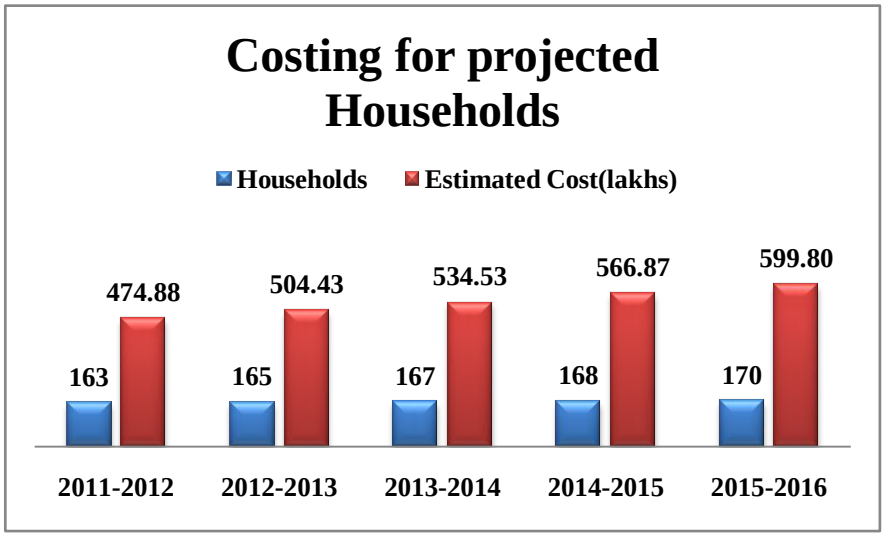


Chart 3- 1: Costing for Projected Households

As seen in the above chart, an increase of **833** households is expected, for which the estimated costs for 5 years is **Rs.2680.52** lakhs with an increase of 5%(construction inflation cost) per year.

b. Infrastructure

For the purpose of calculations, the following factors were taken into consideration:

- For sanitation, the total city wide trunk is considered to be as 1% of the total project cost
- For roads, costs was calculated for non Motorable pucca and katcha roads at the new formation costs, while for Motorable katcha the costs was calculated at re-carpeting and repair rates.

The following *table 3 – 6* shows the estimated costs for physical infrastructure components for a period of 5 years (2012-2017).

Table 3- 6: Estimated Infrastructure Cost for Projected Households (in INR /Lakhs)

Sl. No	Sector	Unit	Estimated Cost for 2012-17 (Rs. in Lakhs)
Physical Infrastructure			
1	**Water Supply System**	Running length of sub line (KM)	44.24
		Rising Main (KM)	3.48
		No. of individual taps	0.00
		Overhead water tanks	24.98
2	**Sanitation**	Length of Underground Drainage/Sewer Lines (KM)	147.46
		Length of storm water Drainage Lines (KM)	147.46
		No. of individual toilets	0.00
3	**Solid waste management**	No. of Bins	2.22
4	**Roads**	Total length of Approach roads (4.5 mts wide)	2.75
		Total length of Internal roads (3.0 mts wide)	100.32
5	**Street Lighting**	No. street lights	46.90
		Physical Infrastructure	**519.81**
Social Infrastructure			
6	**Education facilities**	Pre-primary schools	4.9
		Primary school	2.0
		Secondary school	3.9
7	**Health Facilities**	Primary Health Centers	0.0
		Maternity Centre	0
8	**Social & community utilities**	Community rooms	3.96
		Comm. Halls	0.0
		Recreation & Open spaces (Sq. KM)	0.0085
		Social infrastructure	**14.75**
Total (Physical + Social Infrastructure)			**534.55**

c. Operation & Maintenance

The following table shows the estimated costs for additional components and operation and maintenance for Bellary slums for a period of 5 years (2012-2017):

Table 3- 7: Estimated O & M cost for projected households (In INR / lakhs)

Operation and Maintenance Estimated cost (In Lakhs)							
Year	**A& OE (2.5%)**	**O&M (2.5%)**	**DPR (1%)**	**Project Implementation (1%)**	**Offsite costing (1%)**	**Pre construction cost (1% in Housing)**	**Annual Estimated O & M (In INR/Lakhs)**
2012-13	16.08	16.08	6.43	6.43	6.43	4.75	56.20
2013-14	16.08	16.08	6.43	6.43	6.43	5.04	56.49
2014-15	16.08	16.08	6.43	6.43	6.43	5.35	56.80
2015-16	16.08	16.08	6.43	6.43	6.43	5.67	57.12
2016-17	16.08	16.08	6.43	6.43	6.43	6.00	57.45
Grand Total	80.40	80.40	32.15	32.15	32.15	26.81	284.06

A total of **284.06** lakhs has been estimated for the additional costs that are going to be incurred during and after the implementation of the project.

Housing + Infrastructure +Operation and Maintenance = 2680.52+534.55+284.06

= ₹ 3499.12 Lakhs

The total of **3499.26 Lakhs** has been estimated tentatively for proposed development.

3.4. Slum Prevention Reforms

For any city, preventing the formation of newer slums is quite critical and pretty much the same as dealing with the existing slums. A key component in preventing future slums is the availability of developed lands at affordable prices, set aside for meeting the needs of the urban poor. To prevent further growth of slums and improve the social status of existing ones along with reconstruction, the states need to make the following provisions in terms of amendments to certain legislations, reservation of lands, as well as formulate newer laws such as:

- **Assignment of property rights**

The property rights shall not be assigned to the slum dwellers in the slum Areas notified and located on any of the following categories:

Objectionable government lands, such as tank beds, burial grounds, solid waste land fill cities etc., central government, defense , industrial units, disputed lands, protected monuments, public sector lands and other lands which are specified by government for a specific purpose and usage.

The legal title should be entitled either on the woman or jointly with the main male householder, provided it should be made on the house or the land and it must be alienable as per the transfer of title to state after a certain period.

- **Formation of Slum Redevelopment Authorities**

A slum redevelopment authority is to be created at state level with induction of members from various departments. The role of the authority would be to provide guidance in identification of slums, formulate policies and programmes for redevelopment and rehabilitation of slums, special zoning regulations and to administer the funds released by govt. of India, state govt. and other agencies. On similar lines of the slum redevelopment authority at state level, a district level authority can be formed to function as well as monitor the slum rehabilitation for each district.

- **Land Acquisition**

Just in case where no suitable government or ULB lands are available, suitable private Patta lands are identified for rehabilitation of slum areas. In process, the competent authority shall take action for acquisition of lands under the provisions of land acquisition act, 1894.

- **Land pooling**

In land pooling/town planning scheme, the owner or developer undertaking the development shall reserve and earmark the land in the proportions of 5% for the economically weaker sections (EWS) and 5% of land for low income group persons for housing purpose. In case of vertical development, 20% of built up space shall be earmarked for EWS and low income groups.

Once implemented, in the long term, availability of affordable land /housing will discourage squatting by poor on public lands and create slum free cities. It will also sustainably reduce urban poverty levels by providing legal access to better services and economic opportunities.

- **Transferable Development Rights (TDR) /Incentive Zoning**

TDR is aimed at providing to a land owner /builder additional FAR in another property/part of the city in exchange for presently occupied land so that the land could be consolidated. This method has been extensively used in other parts of India.

- **Microfinance for shelter up-gradation**

To make cities slum free, it is necessary to build partnerships with Self Help Groups and Micro Finance Institutions both formal and informal to help poor access money to purchase land /houses. Often Financial Institutions prefer to provide loans through NGOs, who works as intermediaries, to disburse loan to beneficiaries. State/ city administration can facilitate this process by standing guarantee or by framing appropriate regulations so that benefits of these transactions reach the target group.

- **Other legislations**
  - Under the 7- Point Charter of JNNURM in order to make serviced land available for the poor for the future and to prevent slums – there is a necessity to reserve 10%--25% of the land for every new public/private housing projects.
  - Amendment to enactments to enable revision of population density norms, FAR, land use, etc. and to allow private sector participation wherever reasonably possible.
  - When growth rate of a city deviates from the expected, it is necessary to amend the legislation under which land is obtained for expansion of urban areas and to enable creation of new rental housing stock.
  - Extension of basic network services including health and education to slum settlements through national sanitation and health related programmes
  - Provision of skills and training and nonwage, self employment assistance, the self-employment component in the SJSRY
  - Changes in Master Plans that allows for slum renewal and redevelopment, legislation and building byelaws

ULB's role

The implementing agency/ULB would need to continue fiscal reforms that have already been initiated under the JNNURM and other relevant schemes. Approach to financing of the ULB contribution would need to be a combination of initiatives that ring-fence and maximize internal accruals, and developing a framework for sustainable community participation/unlocking other sources of revenues.

3.5. Capacity Building

With the launch of RAY, capacity building efforts received a significant boost in terms of scale as well as scope. It is usually focused on provision of technical assistance, training and knowledge support to enable implementation of programmes and related components. Through incremental approach and comprehensive framework, capacity building requires in selecting the appropriate mode of training and should imply the flow of ideas, systems and processes, knowledge management through the creation of networks of sector managers for sharing emerging trends, ideas and best practices towards implementing slum free cities.

At State level,

The state needs to prepare state specific capacity building strategy should map existing arrangements/requirements/gap analysis/identify specific measures for strengthening existing facilities and expertise. This framework should incentivize knowledge and skill development and provide an environment for the use of skills acquired.

At ULB level,

Given the legal implications, it is essential for ULB staff to improve levels of performance in order to reduce evasion. Hence to gain expected outcomes, it is necessary for orienting ULB personnel to the role expected out of them in the context of rising expectations from the citizens in terms of service delivery, greater transparency and accountability etc.

At NGO's level,

Implementation of projects and reforms involves increased stakeholders participation among the general public, NGOs and the private sector. There is a need to create forums where different stakeholders can articulate their demands for better service delivery and governance levels.

Slum dwellers

Slum dwellers also act as stakeholders in planning for slums as they understand the slums, strategies implemented in those slums and future requirements. Hence they should be trained in developing their respective slums, otherwise the aims of SJSRY staff not be fulfilled.

An amount up to 5% of the total annual allocation of RAY scheme will be set aside for capacity building activities, of which 1% would be utilized by the Centre, 4% by the States/UTs. In addition, up to 5% of the total scheme allocation will be earmarked for preparatory activities regarding development of Slum-Free City Plans including pilot projects, preparation of DPRs, community mobilization, IEC, planning and administrative expenses for both the Centre and the States/UTs and creation of institutional space and capacities.

Section – IV –Road Map

CHAPTER 4 – ROAD MAP

4.1. Touchstone Principles

As per the report, the money for slum improvement has been mainly spent under four schemes namely,

- Slum Improvement Scheme;
- Swaran Jayanti Shahri Rozgar Yojana;
- National Slum Development Program; and
- Valmiki Awas Yojna.

Since RAY is embarked as path breaking scheme towards Slum free India, there is a need to integrate with other established national as well as state level programmes and Govt. organizations such as HUDCO in terms of harnessing technical as well as financial support through moderation in credit Availability for the Urban Poor for Housing.

a. Institutional Framework

A number of agencies are responsible for various activities pertaining to housing for urban poor. Although it is primarily the responsibility of the ULB, other departments/ agencies such as the Urban Development Department, Town Planning Department, Slum Redevelopment Board, Housing Board and NGOs, all have a role to play in provision of housing and infrastructure services to the urban poor.

The following institutional methodology has been adopted for the state.

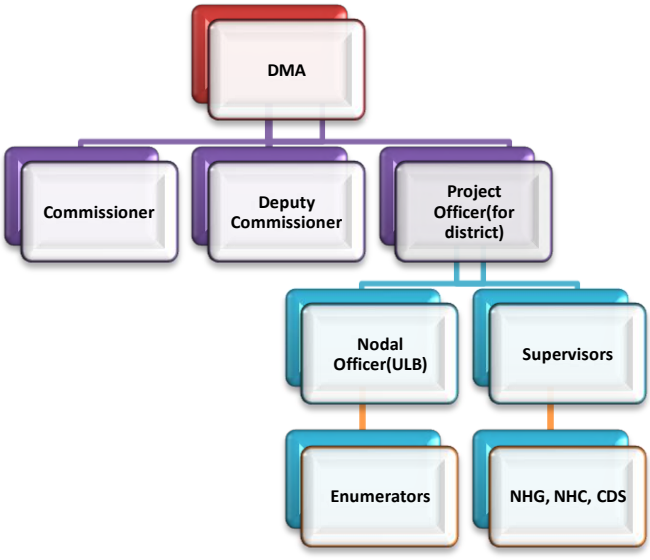


Chart 4- 1 Institutional setup for Slum free cities

The institutional responsibility for slum improvement vests with the **Directorate of Municipal Administration** (DMA), the apex policy making and monitoring agency for urban areas in the state. It executes various government schemes for urban renewal like – Balmiki Ambedkar Awas Yojana, Integrated Urban Slum Sewerage Plan, National Slum Development Program, and Golden Jubilee Urban Employment Scheme etc. DMA executes all its programs using beneficiaries for prioritization of needs and execution of schemes.

In case of Rajiv Awas Yojana, DMA is the nodal agency at state level to implement surveys for the scheme. Initially the survey was taken up under USHA programme, which had similar survey format of RAY. Various meetings were conducted by calling different para-statal agencies to discuss the required methodology for conducting surveys and initiate the steps for survey. Several discussions were held at length and depth about the conduction of surveys and to finalize a methodology. **DMA** as State level authority has been the Nodal agency to monitor the quantity and quality of surveys performed by individual cities. DMA is headed by Commissioner who is in charge for one city, a nodal officer for a ULB and number of supervisors for quality and quantity check upon the enumerators who have completed the surveys.

b. Assessment of Implementation Options

The assessment for implementing a mode of development for any slum in Bellary city would be based on the prevailing land value. The implementation could be both public and private depending on the public and stakeholders consensus with due approval of the city with respect to its land ownership and project implementation.

4.2. Financing Plan

a. Summary of Investments

Table 4- 1: Summary of Investments for 2012-2017

Sector	Total Project Cost for existing slums
Housing	26114.23
Water Supply	610.85
Sanitation	2343.21
Solid waste management	28.32
Roads	1852.01
Street Lighting	241.23
Education	0.00
Health	0.00
Social development	198.24
Others	4655.5
Total	**36043.58**

To make slum free city Bellary the overall cost is estimated tentatively at a value of **360.44** Crores.

For slum wise line estimates please refer **annexure 2E**

b. Financing Structure

Implementing slum free cities requires the concerned authorities to develop a legal framework based policy for internal earmarking of funds, ensuring the preparation of separate budget for urban poor, creating BSUP Fund etc.

Chart 4- 2: Financing Structure

Central Share

Speaking of the Govt. of India share in RAY project funding, 50% of the cost for provision of basic civic and social infrastructure and housing, including rental housing,- and transit housing for in-situ redevelopment -in slums would be borne by the Centre, including O&M of assets created under RAY scheme.The remaining half required the states or ULBs to use PPP models innovatively to generate resources for slum housing through land use concessions, etc to the private industry partners, and use of the central share as viability gap funding. States which demonstrate an innovative use of PPP models resulting in utilization of less than the specified central share of 50% in any project shall be incentivized by allowing them to use this saving in other projects in the city.

An amount of nearly 5% of the total annual allocation would be set aside for capacity building activities, of which 1% would be utilized by the Centre, 4% by the States/UTs. In addition, up to 5% of the total scheme allocation will be earmarked for, preparatory activities regarding development of Slum-Free City Plans including pilot projects, preparation of DPRs, Community mobilization, IEC, planning and administrative expenses.

Beneficiary Contribution

In order to ensure the communities interest and active participation, financial contribution by the beneficiaries is considered to be critical. As specified, the share of beneficiary contribution in the housing sector is anticipated to be a minimum of 12% of total cost and 10% in case of different social groups and other weaker sections. Options such as aggregation of loans to a community of beneficiaries wherever feasible, will be encouraged. Adequate security and credit enabling structures for such participation including mortgage insurance would need to be structured and made available to the beneficiaries. The option of linking to the Mortgage Risk Guarantee Fund (MRGF) to which the State has to contribute could be explored.

There are various initiatives that can be undertaken by the States/ ULBs to facilitate beneficiary contribution and to make finances available during the 5 year span of the RAY scheme. These include the following:

- Facilitating long-term concessional interest rate/differential interest rates to the beneficiaries
- Access to microfinance and alternate funding options
- Rajiv Awas Shelter Fund, to be used:
- To keep the slum/urban poor beneficiary from turning defaulter due to unemployment, death or other genuine distress and thereby risk forfeiture of dwelling unit and foreclosure on loan
- To share the lender's costs of servicing the loan.

c. Strategy for Sustenance

Local bodies need to explore options for raising finance through other avenues such as PPP, shared mortgage and pooled financing mechanisms. For sustenance, it is essential for a ULB to prioritize in a way that the maximum benefit is derived for the investments proposed to be made for implementing development works and service delivery for slums. This can be achieved only through beneficiary participation and consensus.

d. ULB Finances

To undertake financing for slum rehabilitation, ULBs need to adopt a different approach or a well designed strategy for financing by:

- Internal earmarking of funds for RAY in the municipal budgets., allocation of available surplus for slum rehabilitation under RAY
- Earmarking of property taxes, trade license fee, hawker-license fees, SWM cess etc.,
- Share of other devolutions, whenever applicable
- Proceeds from PPP projects
- Unlocking alternate revenues, using land based instruments such as FSI, TDR, land banking etc.

The reforms/other initiatives that ULBs would need to evaluate include the following:

- Setting up of a revolving fund for continued O & M of the infrastructure & housing
- Evaluate and converge with other existing schemes, as applicable.

e. Earmarking for Slum Rehabilitation & Prevention Strategy

For all new housing projects developed by public or private agencies, it would be mandatory to construct houses for LIG/EWS groups. Suitable amendment may be made to State/local enactments for this purpose. The percentage of housing units to be earmarked for LIG/EWS in apartments or group housing projects in large and small cities will be between 20-25% as prescribed under RAY. In case of vertical development, 20% of built up space shall be earmarked for economically weaker sections and low income groups of persons.

f. Community Participation

Community participation is critical for a successful slum rehabilitation and development. ULBs need to ensure that appropriate community processes and organization of community structures for planning and implementation of housing and upgrading projects. In addition, the local bodies need to facilitate Area and Ward Committees with representation of slum communities, in accordance with the Community Participation Law for participatory area and ward level planning and monitoring.

4.3. Monitoring & Review

RAY would be monitored at three levels: City, State and Government of India. The following agencies and departments would be monitoring at their respective levels:

- Ministry of Housing and Urban Poverty Alleviation will periodically monitor the scheme.
- State Nodal Agency would send Quarterly Progress Report (on-line) to the Ministry of Housing and Urban Poverty Alleviation. Upon completion of a project, the State Nodal Agency, through the State Government, would submit completion report to the Central Government.
- Central Sanctioning-cum-Monitoring Committee will meet as often as required to sanction and review/monitor the progress of projects sanctioned under the Mission.

- Monitoring of quality of projects executed by the implementing agencies in the States/Cities will be facilitated through independent quality control/ assurance/ third party teams at various levels that may be outsourced to specialized/technical agencies.
- Monitoring of projects by States/Urban Local Bodies by conducting Social Audit in conformity with guidelines to be prescribed, right from the stage of project preparation.
- The processes of implementation will be monitored by undertaking concurrent evaluation through reputed independent institutions to ensure that corrections to distortions, oversights or shortcomings can be made in time.

4.4. Reforms

A draft slum free act has been already in place in state of Karnataka. ULB/State Govt. agencies need to suggest the sequencing of steps and timelines to be adopted during implementation of slum redevelopment programmes for a period of five years.

LIST OF ANNEXURES

SLUM PROFILE

(DATA ANALYSIS AND PROPOSALS)

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Annexure 1B
Annexure 1C
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Annexure 2A
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