**Annexure 7C**

**(Para 14.5 of the Guidelines)**

**Format for Project under Beneficiary Led Construction Or Enhancement**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | Name of the State: | : | West Bengal | | | | | |
| 2 | Name of the District: | : | North 24 Parganas | | | | | |
| 3 | Name of the City: | : | Khardah | | | | | |
| 4 | Project Name: | : | HFA-KHARDAH 2017-18 | | | | | |
| 5 | Project Code: | : | 19801704024N0 | | | | | |
| 6 | State Level Nodal Agency: | : | State Urban Development Agency (SUDA) | | | | | |
| 7 | Implementing Agency/ ULB | : | Khardah Municipality | | | | | |
| 8 | Date of Approval by State Level Sanctioning and Monitoring Committee (SLSMC) | : | | | | | | |
| 9 | No. of location covered in project: No of Slum Area Covered & No of Non Slum Area Covered | : | Name of Location | No. of beneficiaries | Whether Slum / Non-Slum | If Slum, then Slum type | If slum, whether it gets completely rehabilitated | |
| | | : | Khardah Municipal Area | 450 | Covering both Slum & Non-Slum area | Notified | No | |
| 10 | Project Cost (Rs. In Lakhs) | : | 1,821.60 | | | | | |
| 11 | No. of beneficiaries covered in the project | : | GEN | SC | ST | OBC | Total | Minority | Person with Disability |
| | | : | 277 | 118 | 4 | 51 | **450** | 51 | 0 |
| 12 | Whether beneficiary have been selected as PMAY Guidelines? | : | Yes | | | | | |
| 13 | No. of Houses constructed / acquired. Please specify ownership (Any of these) | : | Joint | Female | Male | Transgender | | |
| | | : | 305 | 145 | 0 | 0 | | |
| 14 | No. of beneficiaries covered in the project | : | Male | Female | Transgender | | | |
| | | : | 305 | 145 | 0 | | | |
| 15 | Whether it has been ensured that selected beneficiaries have rightful ownership of the land ? | : | Yes | | | | | |
| 16 | Whether building plan for all houses have been Approved? | : | Yes | | | | | |
| 17 | i. GoI grant required (Rs. 1.5 lakh per eligible beneficiary) | : | 675.00 | | | | | |

| | | | |
|---|---|---|---|
| | (Rs. in Lakhs) | | |
| | ii. State grant, (Rs. in Lakhs) | : | 951.30 |
| | iii. ULB grant (Rs. in Lakhs) | : | 82.80 |
| | iv. Beneficiary Share (Rs. in Lakhs) | : | 112.50 |
| | v. Total (Rs. in Lakhs) | : | 1,821.60 |
| 18 | Whether technical specification / design for housing have been ensured as per Indian Standards / NBC/ State Norms? | : | Yes |
| 19 | Whether it has been ensured that balance cost of construction is tied up with State Grant, ULB Grant & Beneficiary Share ? | : | Yes |
| | Whether trunk and line infrastructure is existing or being provisioned ? | : | |
| | i. Water Supply | : | Yes |
| | ii. Sewerage | : | No |
| | iii. Road | : | Yes |
| | iv. Storm Water Drain | : | Yes |
| | v. External Electrification | : | Yes |
| | vi. Solid Waste Management | : | Yes |
| | vii. Any Other | : | No |
| | viii. In case, any infrastructure has not been proposed, reason thereof. | : | Sewerage Scheme has not been proposed due to desired level of supply of water as CPHEEO norms has not been achieved. |
| | Whether disaster (earthquake, flood, cyclone, landslide etc.) resistant features have been adopted in concept, design and implementation of the project ? | : | Yes |
| 21 | Whether Demand Survey Completed for entire city ? | : | Yes |
| 22 | Whether City-wide integrated project have been formulated ? If not reasons thereof ? | : | Yes |
| 23 | Whether validation with SECC data for housing condition conducted ? | : | Yes |
| 24 | Whether Direct Benefit Transfer (DBT) of fund to individual bank account of beneficiary ensured in the project ? | : | Yes |

| | | | |
|---|---|---|---|
| 25 | Whether there is provision in DPR for tracking/monitoring the progress of individual houses through geo-tagged photographs ? | | Yes |
| 26 | Whether any innovation/cost effective / Green technology adopted in the project? | : | Yes |
| 27 | Comments of SLAC after techno economic appraisal of DPR | : | Project covers the most needy beneficiaries |
| 28 | Project brief including any other information ULB/State would like to furnish | : | The project covers all wards |
| 29 | Project Submission Date to SLSMC | : | |

It is hereby confirmed that State/UT and ULB have checked all the beneficiaries as per guidelines of HFA. It is also submitted that no beneficiary has been selected for more than one benefit under the Mission including Credit Linked Subsidy Scheme (CLSS) component of the Mission.

Arpoon Paul
Chairman
Khardah Municipality

Signature of the
Mayor/ Chairperson/Municipal Commissioner

Signature
Chief Engineer
M.E Dte,GoWB

Signature

(Director,SUDA)

Signature

(Secretary,UD & MA Department,GoWB)

# Executive Summary

**Project Details**

| | | | |
|---|---|---|---|
| 1 | Name of the State: | : | **West Bengal** |
| 2 | Name of the District: | : | **North 24 Parganas** |
| 3 | Name of the City: | : | **Khardah** |
| 4 | Project Name: | : | **HFA-KHARDAH 2017-18** |
| 5 | Project Cost (Rs. in Lakhs) | : | **1,821.60** |
| 6 | Central Share (Rs. in Lakhs) | : | **675.00** |
| 7 | State Share (Rs. in Lakhs) | : | **951.30** |
| 8 | ULB Share (Rs. in Lakhs) | : | **82.80** |
| 9 | Beneficiary share (Rs. in Lakhs) | : | **112.50** |
| 10 | Total Infrastructure Cost (Rs. in Lakhs) | : | **165.60** |
| 11 | Percentage of Infrastructure Cost of Housing Cost | : | **10%** |
| 12 | Infrastructure Cost per Dwelling Unit (Rs. in Lakhs) | : | **0.368** |
| 13 | Year of Implementation | : | **2017-18** |
| 14 | Component Housing Construction | : | **Beneficiary Led Construction (BLC)** |
| 15 | SOR Adopted | : | PWD (WB) w.e.f 1.7.14 with current corrigendum |

**Project Contributions (Physical + Financial ) (Rs. in Lakh)**

| Sl | Scheme Component | Type | Qty | Unit | Rate (in Rs/Unit) | Proposed Project Cost (In Lakh) | Appraised Project Cost (In Lakh) | Central Share ( Rs. 1.5Lakh/ DU) | State Govt. Share ( Rs. 1.93Lakh/ DU) | ULB Share @ 0.184 Lakh/ DU | Beneficiaries Share @ 0.25 Lakh/DU) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **A. HOUSING** | | | | | | | | | | |
| 1 | New in-situ | | | | | | | | | | |
| | Single Storied Units | | 450 | Nos | 368000.00 | 1,656.00 | 1,656.00 | 675.00 | 868.50 | 0.00 | 112.50 |
| | **Total Housing Cost Sub Total (A)** | | | | | 1,656.00 | 1,656.00 | 675.00 | 868.50 | 0.00 | 112.50 |
| | **B. INFRASTRUCTURE** | | | | | | | | | | |
| Sl | Scheme Component | Type | Qty | Unit | Rate (in Rs/Unit) | Proposed Project Cost (In Lakh) | Appraised Project Cost (In Lakh) | Central Share ( Rs. in Lakh) | State Govt. Share ( @50% ) (in Lakh) | ULB Share ( @50% ) (in Lakh) | Beneficiaries (in Lakh) |
| 1 | ROADS | | | | | | | | | | |
| i | C.C. Roads | Cement Concrete | 4339 | SQM | 1736.00 | 75.33 | 75.33 | 0.00 | 37.66 | 37.66 | 0.00 |
| | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2. WATER SUPPLY NOT APPLICABLE** | | | | | | | | | | | |
| | | | | | | | | | | | |
| **3 STORM WATER DRAINS** | | | | | | | | | | | |
| i | **Surface Drain** | **Brick Masonry** | **3554** | **Mtr.** | **25.40** | **90.27** | **90.27** | **0.00** | **45.14** | **45.14** | **0.00** |
| | **Total Infrastructure Cost Sub Total (B)** | | | | | **165.60** | **165.60** | **0.00** | **82.80** | **82.80** | **0.00** |
| | **GRAND TOTAL (A+B)** | | | | | **1,821.60** | **1,821.60** | **675.00** | **951.30** | **82.80** | **112.50** |

NODAL OFFICER
Housing for All (PMAY)
Khardah Municipality

Signature of the ULB level mpetent Technical officer

Name & Designation: Subrata Chakraborty
Nodal Officer HFA & O.S.

Fax No: 033-25533060

Telephone No: 033-25533060

E-mail: hfa.khardah@gmail.com

Signature of the State level Competent Technical Officer

Name & Designation:Chief Engineer, MeDte,GoWB
Bikash Bhavan,South Block,1St Floor,Salt lake,Kol-91

Fax No: 033-23375474

Telephone No: 033-23371331

E-mail: ce_medte@yahoo.com

Chairman
Khardah Municipality

Signature

Director(SUDA)

Name & Designation: Sri Sutanu Prasad Kar,IAS, Director,SUDA

Fax No: 033-23585767

Telephone No: 033-23585767

E-mail: wbsudadir@gmail.com

Signature of the Mayor/ Chairperson/ Municipal Commissioner

Name & Designation: Sri Taposh Paul
Chairman Khardha Municipality

Fax No: 033-25533060

Telephone No: 033-25533060

E-mail: hfa.khardah@gmail.com

## PREFACE

Pradhan Mantri Awas Yojana (PMAY) aims at Providing Housing for All (HFA) by 2022 when the Nation Complete 75 years of its independence.

The urban homeless persons contribute to the economy of the cities and thus the Nation as cheap labour in the informal sector; yet they live with no shelter or social security. The urban homeless service with many challenges like no access to elementary Public Services such as health, education, food, water and sanitation. Pradhan Mantri Awas Yojona (PMAY) also aims at providing a pucca house to every family with water connection, toilet facilities, 24 X 7 electricity supply and access.

The Mission seeks to address the housing requirement of urban poor including slum dwellers through "In Situ" Slum Redevelopment, Affordable Housing through credit linked subsidy, Affordable Housing in partnership and subsidy for beneficiary led individual house. Under the mission, beneficiaries can take advantage under one component only.

Total beneficiaries of the scheme are **450** nos from 352 nos slum and 98 nos of Non Slum projected for the year 2017-18.

Total cost of the project is **Rs. 1821.60 lakhs** as per relevant department & P.W.D. schedule of rates.

## Introduction to Khardah Municipality:

Khardah is an industrial township located on the eastern bank of the Hooghly River. It is only 20 k.m. away from Calcutta City center. It is located between the cordial point 22° 43'N to 22° 72'N. and 88° 23'E to 88° 38'E. Khardah has an average elevation of 15 m (49 ft) from the sea level.The town is easily accessible by rail, road and waterway. The Municipality was formed in the year 1920. As per 2001 census, the total population of Khardah is 1,16,252. Usually, the western side of the rail-station is called Khardaha and the eastern side is called Rahara. The western part of Khardaha is a much older settlement. The eastern part Rahara is a much newer settlement. It used to be dense forest even 200 years back. The place was named after famous Portuguese dacoit "Rada" (pronunciation - Raw-ra) of late 17th Century. The nearest towns within 10 k.m. radius are Titagarh and Panihati.

The municipality currently comprises of a total area of 6.87 sq Km. extending over 22 administrative wards. Owing to strategic location of the town on the industrial belt of Kolkata Metropolitan Area (KMA), Khardah grown up as an industrial town with major industries like-Steel, Chemical, silk ,Machinery and Textiles etc. Beside the large scale industries there are a number of medium and small scale industries existing in this area.

The town is served by eastern railway at Khardahe Station .The town is well connected kolkata and adjacent towns by B.T. Road , Belghoria-Expressway and Kalyani expressway etc. Besides roads and railways , the town is well connected to Hoogly district through its ferry services at Khardah Ghat.

## Map No. 2.3.1 LOCATION MAP OF KHARDAH MUNICIPAL AREA


Map of India

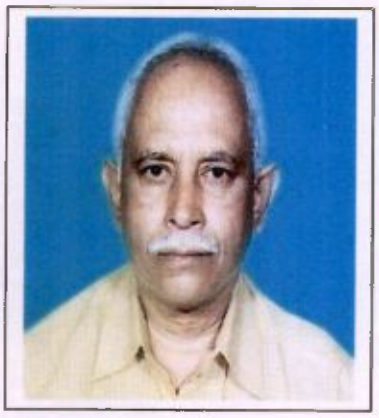

Map of West Bengal


Map of Khardah Municipal

Map of Khardah Municipal

# CONTENT

## Introductory Note by Chair*man*



Khardah is a small but important KMA town located on the eastern bank of river Hooghly. About 20 kms from the State Capital Kolkata, the town comes under the Barrackpore subdivision in North 24 Parganas district. It is one of the oldest Municipalities in the district. The history of this region dates back to a few hundred years. The region has its first municipality in 1869.
Khardah Municipality with the active cooperation of citizen for last so many years has emerged as capable and robust institute for effective service delivery and better governance. During these years the shape and the socio-cultural atmosphere of the Municipality has changed to unimaginable extent. And gradually it too has imbibed the spirit of contemporary civilization of 21st century and got acquainted with the sphere of Modernization, Industrialization and Globalization.

Today Khardah has finished the preparation of Detailed Project Report(DPR) on Beneficiary led construction under Pradhan Mantri Awas Yojana (PMAY) for the time frame 2015-16 to 2021-22. In the last 5years, with the help of the people , we have tried to address the problems of urban poor & slums keeping the aspirations of people and development objectives and targets in mind .At some point we have been successful in realizing the dreams of the people while in others we were not. The Preparation of Detailed Projects Report (DPR) of Beneficiary led construction along with, its implementation and monitoring opened a new challenge to us – the challenge of providing all basic services to all poor people and ensuring equitable socio-economic development of the people of Khardah.

Development is not a one point agenda. With the complex social, political and economic situation it is indeed a daunting task. However we believe that we are progressing in the right direction with the support of Government of West Bengal and Ministry of Housing and Urban Poverty Alleviation, Government of India we will be able to achieve the desired objectives.
It is an honour and privilege to present before the people of Khardah ,the Detailed Project Report (DPR) on Beneficiary led construction under Pradhan Mantri Awas Yojana (PMAY) which offers to provide development of all slums and non-slums ensure that new address the housing requirement of urban poor including slum dwellers. Learning from the past we look forward towards achieving long term benefits, perspectives and convergences rather than short term goals.

I wish that this **Pradhan Mantri Awas Yojana (PMAY)** would enable the ULB to undertake comprehensive, sustainable development of its jurisdiction with the growing demand of 21st century's modernized society.

*Chairman*
**Khardah Municipality**
**Chairman**
**Khardah Municipality**

## Abbreviations

| | | | |
|---|---|---|---|
| A&OE | Administrative and Other Expenses | LIG | Low Income Group |
| AHP | Affordable Housing in Partnership | MD | Mission Directorate |
| AIP | Annual Implementation Plan | MoA | Memorandum of Agreement |
| BMTPC | Building Materials & Technology Promotion Council | MoHUPA | Ministry of Housing and Urban Poverty Alleviation |
| CDP | City Development Plan | MoU | Memorandum of Understanding |
| CLS | Credit linked subsidy | NA | Non Agricultural |
| CNA | Central Nodal Agencies | NBC | National Building Code |
| CPHEEO | Central Public Health and Environmental Engineering Organisation | NHB | National Housing Bank |
| CSMC | Central Sanctioning and Monitoring Committee | NOC | No Objection Certificate |
| DIPP | Department of Industrial Policy and Promotion | NPV | Net Present Value |
| DPR | Detailed Project Report | PLI | Primary Lending Institution |
| EMI | Equated Monthly Installment | RWA | Residents' Welfare Association |
| EWS | Economically Weaker Section | SECC | Socio Economic and Caste Census |
| FAR | Floor Area Ratio | SFCAPoA | Slum Free City Plan of Action |
| FSI | Floor Space Index | SLAC | State Level Appraisal Committee |
| HFA | Housing for All | SLNA | State Level Nodal Agency |
| HFAPoA | Housing for All Plan of Action | SLSMC | State Level Sanction and Monitoring Committee |
| IEC | Information Education & Communication | TDR | Transfer of Development Rights |
| IFD | Integrated Finance Division | TPQMA | Third Party Quality Monitoring Agency |
| IIT | Indian Institute of Technology | ULB | Urban Local Boday |
| IS | Indian Standard | UT | Union Territory |

## Physical Features:

### (i) Location

Khardah Municipality is located in the north-eastern suburbs of Kolkata (22°43'N to 22°72'N. and 88° 23'E to 88°38'E), on the eastern bank of the river Hooghly. The Municipality is bound by:

- Titagarh Municipality on the north.
- Panihati Municipality on the south,
- Patulia Panchayat on the north-east and Bandipur Panchayat on the eastern side of the Municipality
- River Hooghly bordering along the western side

Geographically, the ULB is positioned in the northern part of Kolkata Metropolitan Area (KMA) .It has an average elevation of 15 metres from sea level.

### (ii) Climate

Strong monsoon Khardah is located in the hot humid climate winds blowing from the South Bay of Bengal over this area from early June to early October, generates average rainfall of 150-200mm. Temperatures varying from minimum of 10-12 degrees to a maximum of 40 degrees – 42 degrees Celsius during summer. Thunderstorms, sometimes accompanied by hail are quite frequent at dusk during the months of April and May. The municipality experiences short winter with chilling dry wind coming from the northeast. It starts from middle of November and lasts up to the end of February with temperatures varying from a minimum of 7degrees – 10 degrees to a maximum of 25 degrees – 28 degrees Celsius and relative humidity between 50% in March and 90% in July.

### (iii) Rainfall

Maximum rainfall occurs during the monsoon in August (285 mm) and the average annual total is 1,582 mm. Total duration of sunshine is 2,523 hours per annum with maximum rainfall occurring in mid July/August.

### (iv) Temperature

Early morning mists are common in winter. The annual mean temperature is $25.8^0$ C. The maximum temperature often exceeds $40^0$ C. The temperature does not fall below $8^0$ C.

### (v) Geology

Geologically the area represents the southern extremity of Gangetic Plain covered with older alluvial deposits and younger alluvial deposits of Ganges River with flood plains. Bed slope of the area is very gentle varying from 1:100000 to 1:200000.Average elevation is 15 mtr.

### (vi) Environment

The economic sector is the main anchor behind the progress and growth of any town. Khardah is a major hub of economic activity in the North 24-Parganas region. The establishment of large scale industries i.e.-Electro Steel Casting Ltd., ESSAB India Ltd., Hindustan Heavy Chemical Ltd., Hindware Industries, Texmaco Ltd., Cal silk manufacturing Ltd. marked the industrialization in this town. There are many Medium scale industries located within Khardah municipal area; i.e.- Induction Heat Treatment & Co. , K. S. Engineering Workshop, P.P. Enterprise, Essen Synthetics Pvt. Ltd., Sarkar Plastic, Das Traders, Quality Steel Furniture Mfg., Texmaco Rail & Engineering LTD., Monika Enterprise, Aritra Enterprise , Sree Durga food products etc. Moreover, there are many approximate 145 numbers of small manufacturing units exist in Khardah municipal area who basically produces small engineering parts, processed foods, papers items, jewelries, garments, polythene pipe and fittings, steel furniture, almirah , P.V.C doors and windows, mosaic

tiles, bags, shoes, electronic goods, biscuits , sweets etc. As per Census'2001, there are total 46,200 industrial workers engaged in different manufacturing industries within Khardah Municipal area.

**(vii) Wind**

In the summer season winds are mostly North Easterly or easterly but in afternoon Westerly winds blow which are absorbed frequently. During the monsoons the winds blow from the Northeast and Southern direction.

## Population

Table : Overview Of Khardah Municipality

| No. | Indicators | 1991 | 2001 | 2011 | 2015 (P) |
|---|---|---|---|---|---|
| 1. | **Population (In Lakhs)** | 0.88 | 1.17 | 1.09 | 1.28 |
| 2. | **Decadal Population Growth Rate** | 96% | 32% | -6% | 15% |
| 3. | **No of HHs** | - | 31715 | 37312 | 30080 |
| 4. | **Average Household Size** | - | 5.6 | 4.26 | 4.26 |
| 5. | **Population Density (Persons per Sq. Km)** | - | 16922 | 15916 | 18660 |

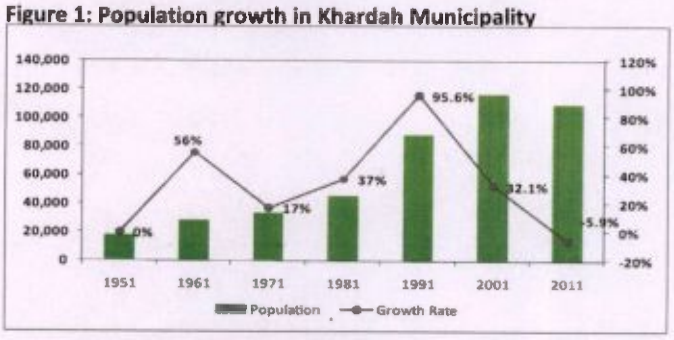
**Source: Census Database; Population Projection**

Overall population and the corresponding decadal growth rates of Khardah Municipality over the past 60 years have been presented in the figure alongside:

Following observations can be inferred from the table-3 and the figure alongside:

Khardah grownup as rich industrial town with major industries are-jute mill, Chemical, Textile machinery
etc.

**Figure 1: Population growth in Khardah Municipality**



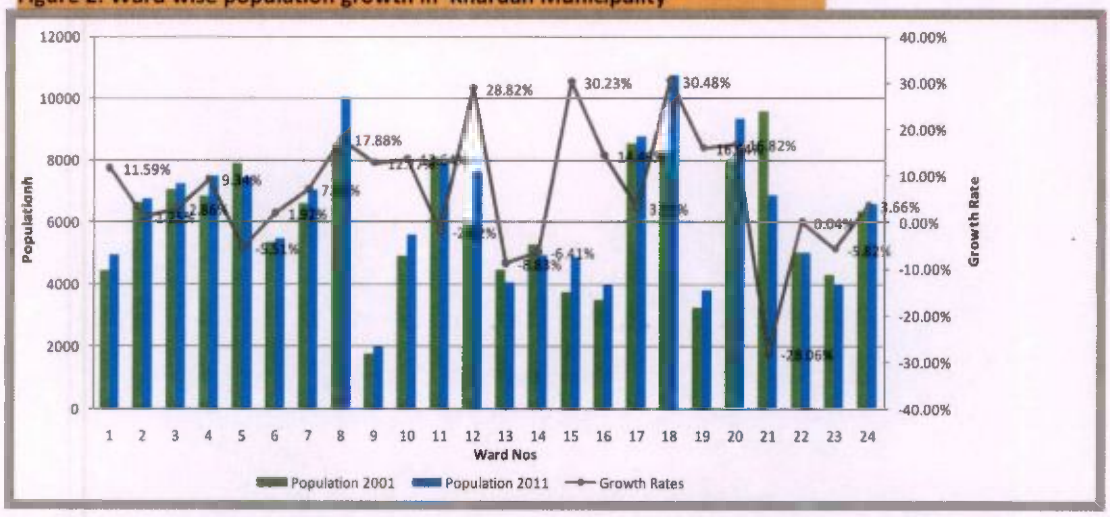

**Source: ULB & Census of India**

Afterwards factories number of medium and small industries came into existance

- Thus during its evolution ,the town witnessed a steady rise in population with high decadal growth rate due to inward migration of labour from various parts of the country on account of the setting up of number of industries.
- Like most other towns in the State of West Bengal, Khardah was also affected by the partition of the country and had grown substantially during 1951 to 1961.
- Increase in municipal area is accounted for high population growth rate during 1961 to 1971 (about 17% ) and 1971 to 1981(about 37%).Municipal records shows that the area of Khardah Municipality was increased by 0.11 sq.km. during 1951 to 1961, 2.27 sq.km. during 1961 to 1971,0.8 sq.km. during 1971 to 1981.
- Migration of thousands of workers from Bihar and Orissa during these decades (1961-1981) contributed to the increased rate of population of khardah.
- Maximum population growth is seen 95.55% during 1981 to 1991 when the area was increased by 0.23 sq.km.
- During 1991 to 2001, the population growth was 32.1% and during that decade the area was increased to 6.87 sq.km.

Unlike previous decade , Population growth rate declined to as low as 5% during the period 2001-2011, primarily on account of over densification coupled with lockout of few sick

**Figure 2: Ward wise population growth in Khardah Municipality**




**Places of Interest** :

There are many notable places and heritage buildings within the town. Few are mentioned below:

1. 26 – Shiva Temple
2. Annapurna Temple
3. Kunjbati
4. Madan Mohon Temple
5. Shyam Sundar Temple
6. Rashmancha
7. Ancestral house of Khirodprasad Bidya Binod
8. Laxmi Narayan Temple
9. Rahara Ramkrishna Mission
10. Temple of Nanda Dulal
11. Rabindra Nath Memorial
12. Vivekananda Stadium
13. Hari Sava Rahara
14. Vasha Sahid Uddyan

## Economic Activities

The economic sector is the main anchor behind the progress and growth of any town. Khardah is a major hub of economic activity in the North 24-Parganas region. The establishment of large scale industries i.e.-Electro Steel Casting Ltd., ESSAB India Ltd., Hindustan Heavy Chemical Ltd., Hindware Industries, Texmaco Ltd., Cal silk manufacturing Ltd. marked the industrialization in this town. There are many Medium scale industries located within Khardah municipal area; i.e.-Induction Heat Treatment & Co. , K. S. Engineering Workshop, P.P. Enterprise, Essen Synthetics Pvt. Ltd., Sarkar Plastic, Das Traders, Quality Steel Furniture Mfg., Texmaco Rail & Engineering LTD., Monika Enterprise, Aritra Enterprise , Sree Durga food products etc. Moreover, there are many approximate 145 numbers of small manufacturing units exist in Khardah municipal area who basically produces small engineering parts, processed foods, papers items, jewelries, garments, polythene pipe and fittings, steel furniture, almirah , P.V.C doors and windows, mosaic tiles, bags, shoes, electronic goods, biscuits , sweets etc. As per Census'2001, there are total 46,200 industrial workers engaged in different manufacturing industries within Khardah Municipal area.

## Occupational Profile

***Year of establishment of Municipality***

Khardah Municipality was established in the year 1920, vide Government notification No. 646 M dated 09.03.1920 & 28.03.1920.Initially, this Municipality consisted of 4 wards and 6000 number of total population and it was known as South Barrackpore Municipality. At that time, Khardah Municipality had four wards only and the annual budget was only Rs. 4604/-.At that time, the total area of the municipality was 0.95 Sq. Km. and total number of registered holdings was 1068.During 1922, the municipality had its first election. House owners and license holders were eligible for voting and the voting was through secret ballot. During 1931, the municipality's annual budget was Rs. 17,642/- and expenditure was 14,937/-.In 1938, carcass vans were introduced for removal of dead animals. In 1939, two tube wells were sunk – one in Rashkhola and other in Kulinpara. In 1950, a market was established near B.T.Road. In 1959, a medical store was established and an ambulance was purchased. Four primary schools were established in 1929 and in 1933, the municipality constituted School Education committee. In 1938, street lighting was introduced and in 1946, municipal building got electrical power connection.

***Administrative Boundaries***

Khardah municipality is located in the North 24-Parganas District on the eastern bank of River Hooghly. It is bounded by Titagarh Municipality on the north, Panihati Municipality on the south, Patulia Panchayat on the north-east and Bandipur Panchayat on the eastern side of the Municipality. River Hooghly is flowing at the western boundary of Khardah Municipal area.

***Linkage of Rail, Road, Port & Air***

Khardah is well linked by rail and road with the Kolkata city centre. The Eastern railway Sealdah – Ranaghat section passes the town through Khardah railway station. The B.T. Road passes through the town from Barrackpore to the South connecting Khardah with Dunlop and Shyambazar. Belghoria-Expressway connects Khardah with NH-2 and NH-3 via. Dakshineswar and makes easier access with the Netaji Subhash International Airport. Kalyani Expressway connects Khardah with the town Kalyani to the north. Khardah ferry service is operating in the Municipal area - from Khardah Ghat to Rishra Ghat.

***Demographic Growth & Population Projection***

According to the Census'2011 (provisional), Khardah had a population of 1,09,342. Males constitute 51% of the population and females 49%. Khardaha has an average literacy rate of 89.88%, higher than the national average of 75%; male literacy is 52%, and female literacy is 48%. In Khardaha, 6% of the population is under 6 years of age. An overwhelming majority of the population is Hindu Bengali having fled from what is now Bangladesh following religious persecution in the hands of Muslims majority of that area.

**Demographic Data for Khardah Municipality**

| Year | Population | Area (Sq. km) | Density (Pop/Sq. km) | % Growth 81-91 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Khardah | KMC | West Bengal | India |
| 2001 | 116470 | 6.87 | 16953 | -6% | 20.45 | 24.77 | 23.52 |
| 2011 | 108496 | **Source : Percentage of growth rate - KMDA Vision 2025** | | | | | |
| 2021 | 1,39,739 | | | | | | |

**Milstones:**

**ELECTRIC Crematorium :**

Our electric crematorium namely has been constructed by Khardah Municipality in the bank of river Damodar. The Crematorium is double Furnace Unit and with secondary burning chamber. Most modern in its category and Air pollution is nearly Zero.

**Sesh Kheya :**

For carry of dead body in decent manner from Hospital residence and finally upto Burning Ghat a Sesh Kheya is always ready available at our main Administrative Office. The body chamber of our Sesh Kheya is fully Air Conditioned and stainless steel finish.

**Ambulance Facility :**

This corporation is providing Ambulance facility for carrying patients to Hospital within and outside Municipality area. This service is available from main administrative building at City Centre and from Maternity Centre.

**Health Service** : For the benefit of down trodden & weaker section of our society this Corporation has established Health units are as follows:–

- Health Centre
- Maternity Centre
- Diagnostic Centre
- Primary Health Posts

**Preservation of Surface Water:**

For eco-friendly environment and preservation of sweet potable water this corporation has stressed on Pond cutting for preservation of surface and rain water.

**Water Supply**

Various Institutions work for development of the water supply within the Khardah municipal area. The support from these institutions may come in the form of technical support or financial support. The following are such related institutions working in the field of water supply.

**Table 5.1. Roles and mandates of various Water Supply related institutions**

| Sl. No | Institutions | Function | Role played by agency and Department within that agency | Role of ULB so far | Key observation/ issues |
|---|---|---|---|---|---|
| 1. | KMDA, Water Supply Dept. | Construction of water treatment plants | Setting up of water treatment plants to serve more than one ULB | Providing municipal land for Underground reservoir | Municipality has already demarcated a site for construction of an **UGR** for the surface water supplied from BKTP. |
| 2. | ULB, Water Supply Department: | Distribution management | Providing water through household connection & public stand posts | Maintaining water distribution system, billing and collection | As municipal area and settlement has been expanding in an unplanned way, distribution network has become inefficient and outdated. |
| 3. | PHE | Quality Monitoring | Testing water quality and reporting. | Monitoring water quality | Need to procure water quality testing kit. |

**Summary of Public Consultations – related to Water Supply:**

Chairman and Board members conducted ward level Problem Identification meetings with public to gather the feedback on different issues pertaining to infrastructure development and service improvement. These feedbacks were then compiled on the basis of issues and put forward to the technical personnel of the municipality to get those validated keeping in mind technical feasibility of the suggestions put forward. The problems identified are compiled below and the details of the same are being attached in Annexure Volume-4.

**Table 5.2 Summary of Public Consultation related to Water Supply**

| Sl. No. | Issues as suggested by citizens | Wards demanded |
|---|---|---|
| 1. | laying of Pipeline for water supply | 1,2,4,6,9,10,11,12,14,17,21 |
| 2. | Surface water treatment Plant | 5,9,12 |
| 3. | Required sinking and re-sinking of Tube wells | 4,6,10,11,19 |
| 4. | Required Street stand posts | 6,18 |
| | Water quality need to be improved | 10 |
| 6. | Replacement of existing 3" dia. pipeline to 4"dia pipeline | 12 |
| 7. | Replacement of Asbestos pipeline to iron based casting pipeline | 12,13,14 |
| 8. | Pump house needed | 14 |
| 9. | Repairing of pipeline | 3,20, |
| 10. | Inadequate water supply | 7 |

It is observed from the list above that total 11 number of issues raised on status of water supply by ULB. It is evident that maximum number of wards (11 numbers of wards) demanded pipeline laying for water supply purpose due to inadequate water supply. Few wards (5 numbers of wards) demanded sinking and re-sinking of tube wells. Few wards proposed to repair the existing pipelines and replace the existing asbestos based pipelines to ductile iron pipe (D.I.Pipe).Few stated to improve water quality and suggested to set up a Surface water treatment Plant. Few suggested pump houses for supplying water.

- **Citizen Charter and Right to Public Service Act.**
- **Double Entry Accrual Based Accounting System**
- **Birth & Death Certificate computerization system**
- **Tax collection computerization system**
- **Store computerization system**
- **85% increase in own source revenue.**

## Jawaharlal Nehru Nation Urban Renewal Mission ( Jnnurm )

Government of India has decided to launch Jawaharlal Nehru Nation Urban Renewal Mission (JNNURM) with an aim to encourage reforms and fast-track planned development of identified cities. The focus is majorly on efficiency in urban infrastructure and service delivery mechanisms, community participation and accountability of ULBs / parastatal agencies towards citizens. Solid Waste Management Best performing city.

***Overview:***

It would be worthwhile to note that there are two submissions under JNNURM, Sub-Mission-I, titled Urban Infrastructure and Governance (UIG), will be administered by the Ministry of Urban Development through the Sub-Mission Directorate to deal with up-gradation/renewal of basic infrastructure in the selected cities and towns and implementation of various reforms pertaining to improved municipal governance including sustenance of development activities.

The Sub-Mission-II, titled Basic Services for Urban Poor (BSUP), will be administered by the Ministry of Urban Employment and Poverty Alleviation through the Sub-Mission Directorate to deal exclusively for urban poor living in slum/squatter settlements in cities and towns. The focus

of BSUP is to improve the living conditions of the urban poor by way of providing housing along with infrastructure, with a view to gradually removing slums/squatter settlement from cities and towns.

The Government of India has identified 63 cities from India based on population which will get the benefit of JNNURM. From West Bengal two cities have been identified namely Kolkata and Asansol. In Kolkata there are 42 ULBs including 3 Municipal Corporations and in Asansol there are 5 ULBs including 2 Municipal Corporations. Kolkata Metropolitan Development Authority has been selected as State Level Nodal Agency (SLNA) to monitor JNNURM projects both for UIG and BSUP.

## The project slums and existing scenario of infrastructure:

46 nos Slums have been selected as a First Project for the year 2017-18 under PMAY scheme by Khardah Municipality in consultation with the state level Nodal Agency - The State Urban Development Agency (SUDA) under M.A. Department, GoWB.

1. **GAJIPIR BUSTEE (Slum Code:-002):**

The project slum site is at the core area of the Municipality at Ward no-01. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 11303.286 square metres. The ownership of land lies with ULB. The existing number of households is 114.Proposal for Beneficiary Led Construction are 17 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

2. **CHAI MAHALLA BUSTEE (Slum Code:-005):**

The project slum site is at the core area of the Municipality at Ward no-01. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 4780.4227 square metres. The ownership of land lies with ULB. The existing number of households is 79 .Proposal for Beneficiary Led Construction are 12 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

3. **LOKENATH NAGAR (Slum Code:-019):**

The project slum site is at the core area of the Municipality at Ward no-02. Road condition is

very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 9880.7719 square metres. The ownership of land lies with ULB. The existing number of households is 87.Proposal for Beneficiary Led Construction are 18 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

4. **RAMKRISHNA PALLY PURBA (Slum Code:-031):**

The project slum site is at the core area of the Municipality at Ward no-04. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 10552.8849 square metres. The ownership of land lies with ULB. The existing number of households is 135 . Proposal for Beneficiary Led Construction are 14 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated

5. **SOUTH BANDIPUR GOVT COLONY (Slum Code:-037):**

The project slum site is at the core area of the Municipality at Ward no-05. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 10880.4906 square metres. The ownership of land lies with ULB. The existing number of households is 114 .Proposal for Beneficiary Led Construction are 12 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated

6. **MATHPARA DOSTIDAR COLONY (Slum Code:-043):**

The project slum site is at the core area of the Municipality at Ward no-06. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 15013.7835 square metres. The ownership of land lies with ULB. The

existing number of households is 57 .Proposal for Beneficiary Led Construction are 12 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated

7. **ARABINDA NAGAR (Slum Code:-046):**

The project slum site is at the core area of the Municipality at Ward no-06. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 19437.2768 square metres. The ownership of land lies with ULB. The existing number of households is 208 .Proposal for Beneficiary Led Construction are 19 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated

8. **DAKSHIN MISSION PALLY (Slum Code:-061):**

The project slum site is at the core area of the Municipality at Ward no-10. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 7555.92 square metres. The ownership of land lies with ULB. The existing number of households is 86. Proposal for Beneficiary Led Construction are 18 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated

9. **SARAT BOSE COLONY (Slum Code:-066):**

The project slum site is at the core area of the Municipality at Ward no-11. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 7924.624 square metres. The ownership of land lies with ULB. The existing number of households is 170. Proposal for Beneficiary Led Construction are 33 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local

industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

### 10. GHOSH PARA (Slum Code:-069)

The project slum site is at the core area of the Municipality at Ward no-12. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 15608.7641 square metres. The ownership of land lies with ULB. The existing number of households is 120 .Proposal for Beneficiary Led Construction are 12 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

### 11. NARKEL BAGAN (Slum Code:-090)

The project slum site is at the core area of the Municipality at Ward no-16. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 6746.3128 square metres. The ownership of land lies with ULB. The existing number of households is 83. Proposal for Beneficiary Led Construction are 12 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

### 12. TILAR BAGAN (Slum Code:-121)

The project slum site is at the core area of the Municipality at Ward no-16. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 4856.3088 square metres. The ownership of land lies with ULB. The existing number of households is 114 .Proposal for Beneficiary Led Construction are 14 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

### 13. DAS PARA (Slum Code:-093)

The project slum site is at the core area of the Municipality at Ward no-17. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 10302.5347 square metres. The ownership of land lies with ULB. The existing number of households is 61 . Proposal for Beneficiary Led Construction are 13 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

### 14. SIDHESWARI (Slum Code:-123)

The project slum site is at the core area of the Municipality at Ward no-20. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 9501 square metres. The ownership of land lies with ULB. The existing number of households is 173. Proposal for Beneficiary Led Construction are 13 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

### 15. DAKSHIN KULIN PARA (Slum Code:-100)

The project slum site is at the core area of the Municipality at Ward no-21. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 4452.9263 square metres. The ownership of land lies with ULB. The existing number of households is 83 .Proposal for Beneficiary Led Construction are 18 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with

surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

16. **SHYAM SUNDAR NAGAR (Slum Code:-101)**

The project slum site is at the core area of the Municipality at Ward no-21. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 3363.3992 square metres. The ownership of land lies with ULB. The existing number of households is 66 .Proposal for Beneficiary Led Construction are 12 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

17. **R.N.GHOSH GARDEN RD. BY LANE (Slum Code:-107)**

The project slum site is at the core area of the Municipality at Ward no-22. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 3645.2908 square metres. The ownership of land lies with ULB. The existing number of households is 52 . Proposal for Beneficiary Led Construction are 20 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas.

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 100% street lights present in the slum. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

18. **BOSE PARA (Slum Code:-086)**

The project slum site is at the core area of the Municipality at Ward no-14. Road condition is very poor in this slum and most of roads are Kutcha and Bitumious. The slums are 30 years old with a total site area is 11326.72 square metres. The ownership of land lies with ULB. The existing number of households is 117 . Proposal for Beneficiary Led Construction are 83 dwelling units for the year 2017-18. Most of the slum dwellers works as casual labour in local industries, others engaged in local housekeeping, as sweepers in local areas, as cleaners at Municipal area and as vegetable sellers in nearby areas. .

The environmental condition in the slums is little bit poor. The slum is partially covered with surface drains but drains are tilted and broken condition resulting clogging. Most of the roads within slums are semi metallic or kuchha road. There is 89% street lights present in the slum.

Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health. The site visit has revealed a unhygienic condition prevailing there at present due to absence of any organized structures and infrastructure for keeping them. Most of the dwelling units are kaccha or dilapidated.

## National Poverty Alleviation Programmes and PMAY

Slum: the focus Area

Under section-3 of the Slum Area Improvement and Clearance Act, 1956, slums have been defined as mainly those residential areas where dwellings are in any respect unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and designs of such buildings, narrowness and faulty arrangement of streets, lack ventilation, light or sanitation facilities or any combination of these factors which are detrimental to safety, health and morals. Thus, conceptually slums are compact overcrowded residential areas (and not isolated or scattered dwellings) unfit for habitation due to lack of one or more of the basic infrastructure like drinking water, sanitation, electricity, sewerage, streets etc.

It is in this background that in the 2001 Census, an innovative attempt was made to collect demographic data slum areas across the country.

As per 2001 population census, the slum population is estimated to be 61.8 million, out of a total urban population of 285.35 million people reside in urban areas.

The analysis of the data in this report provided an overview of the population characteristics of slums and squatter settlements and is expected to serve as a benchmark for pragmatic and realistic town planning while dealing with the issue of slums and slum dwellers.

***Background***

i. Urbanization is fast becoming the defining process in shaping the course of social transformation & ensuing development concerns in India. About 377 million persons or about 31% of India's population of 1.21 billion lived in urban areas in 2011, spread over 5161 towns.

   As per Report on Indian Urban Infrastructure and Services (NIUA) Report_, the urban population is likely to grow to about 600 million by 2031. About one-fourth (24%) of the urban population of India is poor i.e. their expenditure on consumption goods is less than the poverty line benchmark. The benefits of urbanization have eluded this burgeoning 67 million urban poor population, most of who live in slums. An analysis of population growth trends between 1991 and 2001 shows that while India grew at an average annual growth rate of 2%, urban India grew at 3% mega cities at 4% and slum populations rose by 5%. This rapid and unplanned urbanization and simultaneous growth of urban population in the limited living spaces has a visible impact on the quality of life of the slum dwellers of the city.

ii. It is increasing clear that sustainable growth can only take place when it is inclusive and when the entire population including the poor and marginalized need to have at the least access to descent shelter, basic amenities, livelihoods and a voice in governance.[c] Keeping this in mind the Government of India and the various State Governments have been taking up several schemes on partnership mode.

## National Missions for Slum Development and Poverty Reduction

i. The Government of India is committed to creating a slum free India as part of the Jawaharlal

Nehru National Urban Renewal Mission (JNNURM) sub mission on Basic Services for the Urban Poor (BSUP). More recently it has also launched the Pradhan Mantri Awas Yojana (PMAY) for providing Housing for All (HFA) by 2022 when the Nation Complete 75 years of its independence.

ii. **Jawaharlal Nehru National Urban Renewal Mission (JNNURM) :** JNNURM is a reform- linked urban development and slum upgrading program. Under JNNURM, the Government of India has been providing central assistance to 65 metro and large cities to invest in infrastructure improvements with governance reforms under sub mission on Urban Development.

iii. **Basic Services for Urban Poor (BSUP) : BSUP is focussed** on slum upgradation and poverty reduction through creating access and networking slums to **urban** infrastructure improvements. **BSUP** also has a 7-Point Charter that envisages integration of urban slum upgrading activities with social development programs/missions such as for health, education, social welfare, etc. to ensure comprehensive development.

iv. **Swarna Jayanti Shahri Rozgar Yojana (SJSRY)** : SJSRY is a centrally sponsored program and it mainly emphasizes on the poverty reduction through employment generation. Main target groups of the program are: Urban poor, Women, SC/ST, Disabled etc.

v. **National Slum Development Program (NSDP):** NSDP is a centrally assisted slum development program. NSDP is mainly for improvement in the environment in the slums as a broader objective through provision of infrastructure facilities and shelter for improving living conditions in the slums.

vi. **Valmiki Ambedkar Awas Yojana (VAMBAY):** VAMBAY is a central Government scheme to provide housing to the poor. Under VAMBAY scheme, an amount of Rs. 50,000 is extended to a beneficiary in a city with more than 10 lacs population while in the cities having population less than 10 lacs. each beneficiary gets Rs. 40,000/- fifty percent of the amount is central government grant while the rest could be taken as loan from HUDCO/ other nationalized banks/ state government/ urban local bodies.

vii. **Integrated housing and slum development program (IHSDP):** IHSDP was under Jawaharlal Nehru Urban Renewal Mission (JNNURM) beginning from the year 2005-2006. The major objectives for the IHSDP program are:-

- Focussed attention to integrated development of basic services to the poor. The basic services include security of tenure at affordable price, improving housing, water supply and sanitation.
- Secure effective linkages between asset creation and asset management so that the basic services to the urban poor created in the cities, are not only maintained efficiently but also become self sustaining over time.

## HFAPoA and Prodhan Mantri Awas Yojana (Housing for All)

To give pucca house for every family is currently on the global agenda. One of the Millennium Development Goals (MDGs) is to 'achieve significant improvement in the lives of slum dwellers, by 2022 . Similar goals are set forth by Pradhan Mantri Awas Yojana in 2022, to create pucca house for every family.

ULB undertake a demand survey through suitable means for assessing the actual demand of housing. While validating demand survey, Cities should consider possible temporary migration from rural areas to the city just to take advantage of housing scheme and exclude such migrants from list of beneficiaries. On the basis of demand survey and other available data, cities will prepare Housing for All Plan of Action (HFAPoA). HFAPoA should contain the demand of housing by eligible beneficiaries in the city along with the interventions selected out of four verticals. The information regarding beneficiaries should be collected by ULB in suitable. While preparing HFAPoA, ULB and Implementing Agencies should also consider the affordable housing stock already available in the city as Census data suggests that large number of houses are vacant.

Bank account number and Aadhaar number/Voter ID card/any other unique identification details of intended beneficiaries or a certificate of house ownership from Revenue Authority of beneficiary's native district will be integrated in the data base of HFAPoA for avoiding duplication of benefit to one individual family. Beneficiaries will be validated by ULBs thereby ensuring their eligibility at the time of preparation of the projects and approval of projects.

On the basis of HFAPoA, States/Cities will subsequently prepare the Annual Implementation Plans (AIPs) dividing the task upto 2022 in view of the availability of resources and priority. For larger cities, HFAPoA and AIPs can be prepared at sub-city (ward/zone etc.) level with the approval of concerned State/UT Government. The result of demand survey, draft HFAPoA and draft AIP should be discussed with the local representatives including MLAs and MPs of that area so that their views are adequately factored in while finalising the plans and beneficiary list.

Cities which have already prepared Slum Free City Plan of Action (SFCPoA) or any other housing plan with data on housing, should utilise the existing plan and data for preparing "Housing for All Plan of Action" (HFAPoA). Houses constructed under various schemes should be accounted for while preparing HFAPoA

**Urban Population Living in Slums and the Indian Scenario (source: UN-HABITAT)**

**The preparation of HFAPoA will broadly involve Slum Development /Rehabilitation Plans based on**

a. Survey of all slums – notified and non-notified;

b. Mapping of slums using the state-of-art technology;

c. Integration of geo-spatial and socio-economic data; and

d. Identification of development model proposed for each slum.

1. Base maps to an appropriate scale would be a pre-requisite for the preparation of Slum Development Plan/Slum-free City Plan. States/UTs may need to proceed in the following steps for the preparation of Slum-free City Plans.
2. Securing CARTOSAT II/latest satellite images from NRSC/ISRO and preparation of base maps for the whole city and its fringes using the images;
3. Identification and inventory of all slum clusters of all descriptions in the urban agglomeration with the help of satellite image and other available data;
4. Inventory of all possible vacant lands in each zone of the urban agglomeration that could be used for slum development/ rehabilitation development purposes;
5. Development of Slum Map of every slum within the city and its fringes using GIS with CARTOSAT II images, ground level spatial data collected through total station survey, collating spatial information with respect to plot boundaries, network of basic infrastructure like roads, sewerage, storm drainage and water lines, etc and superimposing this on the satellite image and importing them into GIS platform as the first step towards the preparation of Slum Development Plans and Slum Free City Plan.
6. This may be undertaken with the help of technical partners of NRSC/ ISRO/other technical Institutions / agency;
7. Identification and engagement of Lead NGO/CBO to guide and anchor community mobilization for the purpose of slum survey, (May be more than one NGO/CBO in different slum zones) of the city. These Lead NGOs/CBOs should also be associated in slum survey operations and dialogues for preparation of slum level development plans;
8. Conduct of Slum Survey based on the detailed formats (with or without changes) prepared by the Ministry of Housing & Urban Poverty Alleviation with the help of National Buildings Organization (NBO) - after due training of trainers, training of survey personnel /canvassers and canvassing. It would be helpful for community mobilization to pick as many canvassers from the sourced slum or nearby slum pockets;
9. Collection of bio-metric identification data of slum dwellers based on the above survey (subject to guidelines issued by Unique Identity Authority of India (UIDAI));
10. Entry of data from Slum Surveys in the web-enabled MIS application (to be provided by Ministry of HUPA), compilation and collation of data, preparation of Slum-wise, City and State Slum Survey Database and Baseline Reports. The MIS will assist in developing a robust Slum and Slum Households Information System. (Guidelines and software for development of the MIS will be issued by the Ministry of HUPA);
11. Integration of Slum MIS with GIS Maps to enable the preparation of GIS-enabled Slum Information System that is to be used for the preparation of meaningful Slum Development Plans and Slum-free City Plan using a city-wide/zone-based approach.(Guidelines and software for development of GIS platform and its integration with the MIS will be issued by the Ministry of HUPA);
13. Preparation of Slum-free City Plan should be based on the development plans for all slums and 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

## Introduction to Prodhan Mantri Awas Yojana (PMAY)

Pradhan Mantri Awas Yojana (PMAY), a path breaking scheme for the slum dwellers and urban poor envisages a 'Pucca house to every family' through encouraging States/Union Territories to tackle the problem of slums in a holistic manner. It calls for a multi-pronged approach focusing on:

- Bringing existing slums within the formal system and enabling them to avail of the same level of basic amenities as the rest of the town.
- Redressing the failures of the formal system that lie behind the creation of slums.
- Tackling the shortages of urban land and housing that keep shelter out of reach of the urban poor and force them to resort to extra-legal solutions in a bid to retain their sources of livelihood and employment.
- Enactment of a set of reforms at the state and city level related to inclusive planning, regulation and financing, which would ensure that adequate fresh housing stock and services get created on an ongoing basis to address both current and future needs of cities.
- An integrated approach covering shelter, services and livelihoods for poor slum communities.

***The duration of Pradhan Mantri Awas Yojana [PMAY] 2015 TO 2022***

iv. ***Eligible Components of the PMAY:***

A EWS beneficiary family will comprise husband, wife and unmarried children.

The beneficiary family should not own a pucca house (an all weather dwelling unit) either in his/her name or in the name of any member of his/her family in any part of India to be eligible to receive central assistance under the mission.

EWS households are defined as households having an annual income up to Rs.3,00,000 (Rupees Three Lakhs). States/UTs shall have the flexibility to redefine the annual income criteria as per local conditions in consultation with the Centre.

Projects pertaining to the following will not be considered for support under PMAY:

1. Water connection
2. Toilet facilities
3. 24 x 7 Electric facilities
4. Road

***Need for Projects***

The projects are needed to fully understand and develop redevelopment models that can be replicated in the city with benefits. One of the key objectives of developing The Projects is to incentivize innovation and encourage new approaches and solutions that can demonstrably improve the quality and quantity of shelter and services for the poor.

Such innovation could encompass:

- Projects with strong community participation i.e. Slum upgradation/ redevelopment projects initiated/spearheaded by the community; or with their demonstrable involvement and participation in design, planning and implementation
- Creation of fresh rental housing stock and transit shelters
- New models of public-private partnerships whereby the private sector can be encouraged to take up affordable housing for the EWS/LIG
- Innovations in planning, demonstrating integrated livelihoods, shelter and services; or convergence
- Innovative or cost effective and green building design and technologies
- Financial innovations in delivering the city/state wide programme

***Aims and Objectives Vision***

The mission seeks to address the housing requirement of urban poor including slum dwellers through following programme verticals:

- Slum rehabilitation of Slum Dwellers with participation of private developers using land as a resource
- Promotion of Affordable Housing for weaker section through credit linked subsidy
- Affordable Housing in Partnership with Public & Private sectors
- Subsidy for beneficiary-led individual house construction

**Objectives**

The project has been designed keeping in mind the following objectives.

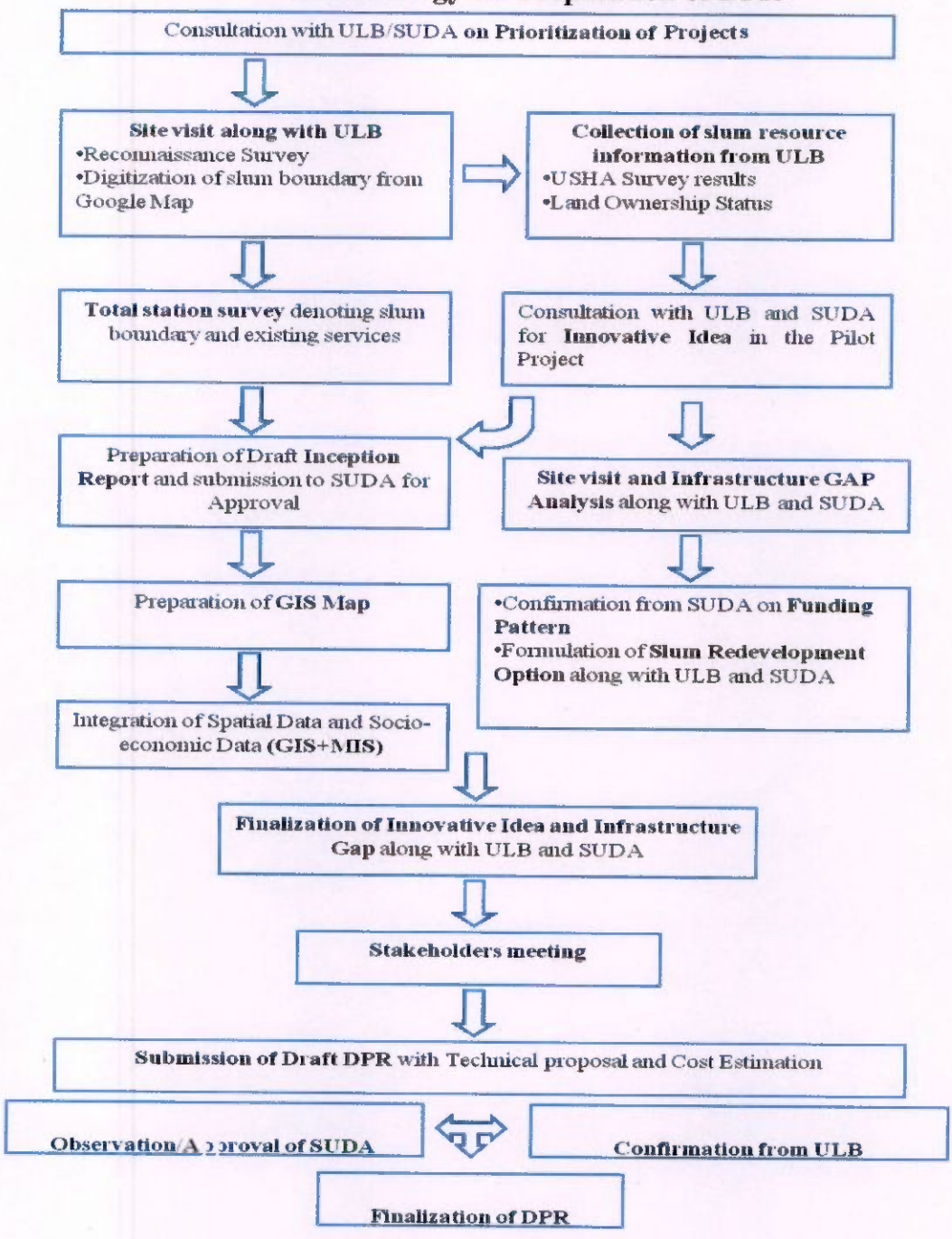
- Integrated development of all existing slums, notified or non-notified, i.e., development of infrastructure and housing in the slums/rehabilitation colonies for the slum dwellers/urban poor, including rental housing.
- Development/improvement/maintenance of basic services to the urban poor, including water supply, sewerage, drainage, solid waste management, approach and internal road, street lighting.
- The Creation of affordable housing stock, including rental housing with the provision of civic infrastructure and services, on ownership, rental or rental-purchase basis.
- Encouraging Public Private Partnership by having pay and use toilets and educate the slum dwellers for keeping the environment clean and hygienic.

## State PMAY Mission Director

The Nodal Ministry and National Mission Directorate is Ministry of Housing & Urban Poverty Alleviation, Government of India.

The Nodal Department for West Bengal is Municipal Affairs Dept. (M.A. Department), Government of West Bengal. The state level Nodal Agency is State Urban Development Agency (SUDA) under M.A. Department. State Urban Development Agency was set up in 1991 with a view to ensuring proper implementation and monitoring of the centrally assisted programmes for generating employment opportunities and alleviation of poverty throughout the State. SUDA is a Society registered under the West Bengal Societies Registration Act, 1961.

## Methodology for Preparation of DPR



## Funding Pattern of PMAY

Support from Central Government shall include -

- 1.5 LAKHS of total cost of dwelling unit
- State + ULB to bear the cost of infrastructure
- State share for infrastructure to be minimum 5%
- Cost of infrastructure 10 % of sum total cost of dwelling unit
- Cost of capacity building 5 % of sum total cost of dwelling unit

## Approvals & Release of Funds

- Releases and approvals to be on the basis of DPRs which need to be submitted with approval of State Level Sanctioning and Monitoring Committee
- Innovative projects to be considered for sanction even in the preparatory stage
- Central Funds to be released in 3 installments to the State Governments/SLNA;
- First Installment – after sanction of DPR and on submission of financing plan for State/ULB share for the project
- The subsequent installments on receipt of Utilization Certificate for 70% of the earlier release;
- 3 Mandatory reforms within 1 year of DPR sanctions

## Status of existing infrastructure & services

**Municipality**, with its elected local body in place, has developed institutional strength to implement, operate & maintain proposed infrastructure. The Municipality spreading over an area of 6.87 square kilometres is comprised of 22 wards With efficient and trained manpower, the Municipal has developed both technical and administrative skills. The development of appropriate municipal organizational structures with qualified staff is essential if municipalities are to provide cost effective services to citizens. With local government reform municipalities are required to take on new tasks, and provide new services. This will only be possible if municipalities have cost-effective and appropriate structures and staff that are well qualified and highly motivated. The municipalities should plan in such a way so as to ensure that they can meet the needs of citizens effectively and efficiently.

## Demographic features of the Khardah Municipality :

| | |
|---|---|
| Total Area of Corporation | 6.87 Sq. Km. |
| Population (as per 2011 SECC) | 1,09,342 |
| Male (as per 2011 SECC) | 55,868 |
| Female (as per 2011 SECC) | 53,466 |
| Density of Population (as per 2011 SECC) | 15,915 |
| Number of Municipal Wards | 22 |
| Number of Councillors | 22 |

## Urban Services

Role of various agencies engaged in urban sector related services whose jurisdiction includes ULB (Urban Local Bodies).

| | |
|---|---|
| **Water Supply** | **ULB** |
| **Solid Waste Management** | ULB |
| **Electricity & Street Lighting** | WBSEDCL, DPL, DSP, ULB |
| **Sewerage** | ULB |
| **Roads** | ULB |
| **Drains** | ULB |
| **Health Services** | ULB |
| **Education Services** | ULB |
| **Social Welfare Services** | ULB |
| **Sports & Games** | ULB |
| **Building Plan** | ULB |
| **Urban Planning** | ULB |

### Water Supply

Overall water supply scenario in Khardah municipal area is comparatively good in respects to other adjacent municipalities. The source of water supply in Khardah municipal area is mainly ground water supply system through deep tube wells with pump, hand tube wells and bore wells and a very meager quantity supply comes from Baranagar-Kamarhati Treatment Plant (BKTP). The ground water supply system is designed for intermittent supply. Keeping in view the depleting ground water resource and the

location of the municipal area is near the Hooghly River, presently a Surface Water Treatment Plant being augmented by KMDA.

The town has well developed distribution pipe network based on 33 deep tube wells and presently being augmented by surface water. Keeping in view the depleting ground water resource and the location of the municipal area is near the Hooghly River, presently a Surface Water Treatment Plant being augmented by KMDA.

Recently, KMDA has been taken initiatives for augmentation of a Surface Water Treatment Plant in Titagah for supplying treated surface water of River Hooghly in two municipal areas; i.e. - Khardah and Titagarh with the fund shared by Central Govt., State Govt. and ULBs

**Drainage & Solid Waste Disposal**

**Drains**

Drainage seems to be an inherent and the most serious problem of Khardah as well as parts of adjacent municipal areas, as topography of the region shows a basin like structure and thus creating problem for natural drainage of water. Moreover, growing urbanization and consequent increase in built spaces and other infrastructural developments has blocked most of the natural drainage channels. The percentage of water bodies and wetlands in the land use pattern of the municipal area as well as in adjacent Panchayat areas which used to act as outfalls and reservoirs of drainage water are decreasing in a rapid pace. Thus water logging in slight rainfall has become a regular incident specially in rainy season when normal life gets totally disrupted in many parts of Khardah and even some places has to be evacuated.

**Solid waste disposal**

As an inevitable consequence of growing population and urban lifestyle, use of disposable items, a large portion of which is non-biodegradable, is increasing. Thus management of solid waste to keep out city clean and at the same time to make ourselves able to live a healthy life has become a serious problem and Khardah municipal area is not an exception to that. As per standard, generation of solid waste in urban areas is 0.5 kg/capita/day and thus considering a total population strength of 1,16,252 persons (2001 census), the total quantity of solid waste should be 58126 kgs i.e., 58.126 ton. But according to municipal records, solid waste generated in Khardah municipal area is 80 metric ton/day which indicates a per capita generation rate of 0.68kg/day. **Basic Information:-** Some basic data and information regarding solid waste management in this municipal area are given in the next page.

**Solid Waste Generation & Collection**

- **Quantity of Solid Waste generated per capita / day (gm.):-** 615 gm.
- **Quantity of solid Waste generated per day (MT):-** 71.49 approx.
- **Quantity of Solid Waste collected per day (MT):-** 61.50 approx.
- **Frequency of collection:** Daily/Alternate day
- **Frequency of waste collection in slums:** Daily/Alternate day
- **Total No. of Tractors:-**11; where 7 no.s of Tractors are used for Solid Waste disposal purpose, 2 are used in Cesspool and other 2 are used for water transportation purpose.
- **No. of Trailers available: -** 10 no.s
- **Capacity of Per Trailer: -** 1.8 Metric Ton / trailer
- **No. of trips of Tractor Trailer:**

  3 trips / trailer / shift; Total Shifts = 2.
- **Trip route for Trailers: -** No fixed route is followed. Route is fixed daily as per report of supervisors or Sardars who visit the wards to see waste dumping scenario in vats or other collection points.

There are total 7 no. of Sardars in 22 wards

- **No. of Hand Carts:-** 17 no.s
- **Capacity of hand carts:** 6 cu.ft. (3x2x1)
- **No. of shifts for Handcarts: -** Only one shift of handcarts from 6 a.m to 1 p.m.
- **No. of Drivers** = Total no. of Drivers are 25 where 9 no.s holds Permanent post, 6 are working as seasonal and 10 no.s are casual staffs.

- **Total no. of Vats:**-Total 57 numbers of vats were used for waste disposal purpose in Khardah municipal area, including total 51 no.s of Concrete vats and 6 no.s of Container vats located in all 22 wards.
- **Method of disposal of waste:-** Crude open dumping
- **Total no. of Labors:**-102; among them 87 no.s are permanent and 15 no.s are casual labors.
- **No. of Burning Ghats** = 1 no., wooden based. Nathupal Ghat located in Ward No.- 18 , maintained by Municipality.
- **No. of Burial ground** = 1 no. , Ground of Hari Ghosh located in Ward No.-5, maintained by Private Agency.

**Status of Slums under Municipality**

i. As per the available data, the total number of people living in 125 slums covering an area of 1.096 sq.km. Thus over one-third of Municipality's population resides in slums, squatters and other poor settlements. Their contribution to city's economy has been also been growing over the period.
ii. In the absence of a focused program and in a background of ever-increasing urbanisation, the slum dwellers continue to be deprived of access to basic services, socio- economic needs. The problems are multiplied by increasing migration. It is necessary, therefore, to develop clear-cut strategies, Programmes and action plans to provide the basic Services to the Urban Poor.
iii. Municipality is basically a town and has been having substantial industrial and economic growth over the years. This has resulted in substantial growth in population triggered of by substantial migration. Continued influxes of migrants have resulted in mushrooming of slums and squatter settlements. Quality of life has thus suffered and the gaps between the demand and supply of essential services and other infrastructures have widened many fold.
iv. Slum settlements have multiplied over decades and the living conditions of the poor have not improved. Environmental decline, vehicular pollution, inadequate basic services and infrastructure in the poor settlements hit the poor hardest. Slums are scattered across the city occupying both private
land and lands belonging to various public entities. However, they were neither adequate nor did they have proper ventilation or hygiene.

Lack of sufficient ventilation in the rooms, low and damp floor levels, congestion, want of proper drainage, and general unhygienic conditions from the characteristics common feature of these bustees. Privy accommodation in many cases is far too inadequate considering the number of the inmates. Through the service privies have been converted, but the numbers are not increased. In fact the slums found in Khardah Municipal area.

- Firstly slums that grew up in the own lands of the dwellers but have no civic amenities, which are basically found in the listed 125 slums.

## Slum Infrastructure Improvement Plan

The development objectives are:

- Ensure basic infrastructure services to all slums to provide better quality of life by giving emphasis on water supply and sanitation.
- Ensure maintenance of the asset created locally by ensuring collection of user charges locally and to enhance community participation.
- Ensure regular water supply and safe drinking water.

- To improve drainage system removing water logging in the slum.
- To ensure timely disposal of garbage of the slum.
- To provide housing for the dwellers of the slum.
- To provide streetlight facilities in the slum area.
- To provide road, community bathroom, community toilet and community seva kendra.
- To ensure economic upliftment

| City Level Number of notified and non-notified slums | | | | | |
|---|---|---|---|---|---|
| | | | | %Proportion of Slums | |
| City | No. of Non-Slums Slums | No. of Notified Slums | No. of Notifies | No. of Notified Non-Slums | No. of Notified |
| KHARDAH MUNICIPALITY | 22 | 18 | 0 | 0% | 100% |

**Key Findings – Slums under Khardah Municipality :**

**Water Supply:**
The main source of water supply in Municipality Municipal area is Ground water. Besides that another source is canal, which is used for different purposes except drinking purpose. Like other areas slum dwellers also use the ground water through street tap, municipal pipeline.

**Sanitation:**
This is one of the most important services to be provided in the slum. Most of slum dwellers use community latrine.

**Drainage system:**
In this slum there is insufficient drainage network. These areas are generally low and having water logging problems. Drainage network within the slum is to be designed. This system is to be connected to the main drain network of the ULB. Thus in most cases drainage system will not be effective without this development.

Most households, mainly in the added areas, have made kaccha outlets from their premises that permit wastewater to flow out in to the street. All the kaccha and pucca drains are connected with approach drain. Most of the drains are filled with waste materials of the slum. As a result, the situation becomes even worse during the monsoons. Most of the drains are in overflow and water logged in slum areas.
Slums of Municipality have both type of drainage system i. e. kaccha and pucca.

**Solid waste management:**

There is no door to door waste collection in this municipal area as well as slum areas. BWMC held meeting for the campaigning of the system. Proposal for solid wastes collection has taken in all over the municipal area as well as in the slums.

## List of slums under Khardah Municipality :

| Slum No. | Slum Code | ward no | Name of Slum | Area Sqm | Number of total Households(Including pucca ) |
|---|---|---|---|---|---|
| 1 | 002 | 1 | GAJIPIR BUSTEE | 11303.29 | 114 |
| 2 | 005 | 1 | CHAI MAHALLA BUSTEE | 4780.42 | 79 |
| 3 | 019 | 2 | LOKENATH NAGAR | 9880.77 | 87 |
| 4 | 031 | 4 | RAMKRISHNA PALLY PURBA | 10552.88 | 135 |
| 5 | 037 | 5 | SOUTH BANDIPUR GOVT COLONY | 10880.49 | 114 |
| 6 | 043 | 6 | MATHPARA DOSTIDAR COLONY | 15013.78 | 57 |
| 7 | 046 | 6 | ARABINDA NAGAR | 19437.28 | 208 |
| 8 | 061 | 10 | DAKSHIN MISSION PALLY | 7555.92 | 86 |
| 9 | 066 | 11 | SARAT BOSE COLONY | 7924.62 | 170 |
| 10 | 069 | 12 | GHOSH PARA | 15608.76 | 120 |
| 11 | 090 | 16 | NARKEL BAGAN | 6746.31 | 83 |
| 12 | 121 | 16 | TILAR BAGAN | 4856.31 | 114 |
| 13 | 093 | 17 | DAS PARA | 10302.53 | 61 |
| 14 | 123 | 20 | SIDHESWARI | 9501.00 | 173 |
| 15 | 100 | 21 | DAKSHIN KULIN PARA | 4452.93 | 83 |
| 16 | 101 | 21 | SHYAM SUNDAR NAGAR | 3363.40 | 66 |
| 17 | 107 | 22 | R.N.GHOSH GARDEN RD. BY LANE | 3645.29 | 52 |
| 18 | 086 | 14 | BOSE PARA | 11326.72 | 117 |

## Proposed Project:

***Background***

It is a path breaking approach being taken up by Central Govt., State Govt. and Municipality, as there are some need to embark on this project with the aim of evolving, demonstrating and establishing models that can thereafter be scaled with a key objective to incentives innovation and encourage new approaches and solutions that can demonstrably improve the quality and quantity of shelter and services for the poor.

## Project Justification

For the following reasons Khardah Municipality selected the slums namely mentioned below as first project for preparation of DPR under HFAPoA (PMAY):

| Sl.No | Name of the Slums | Status | Land | Age in years | National High Way | Status of Housings | Road Status | Habitation pattern |
|---|---|---|---|---|---|---|---|---|
| 1 | GAJIPIR BUSTEE | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 2 | CHAI MAHALLA BUSTEE | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 3 | LOKENATH NAGAR | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |

| Sl.No | Name of the Slums | Status | Land | Age in years | National High Way | Status of Housings | Road Status | Habitation pattern |
|---|---|---|---|---|---|---|---|---|
| | | | | | | on roof | | |
| 4 | RAMKRISHNA PALLY PURBA | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 5 | SOUTH BANDIPUR GOVT COLONY | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 6 | MATHPARA DOSTIDAR COLONY | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 7 | ARABINDA NAGAR | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 8 | DAKSHIN MISSION | The condition | Land belongs | 15 | The National | Major population is | Majority portion | Habitation pattern in |

| Sl.No | Name of the Slums | Status | Land | Age in years | National High Way | Status of Housings | Road Status | Habitation pattern |
|---|---|---|---|---|---|---|---|---|
| | PALLY | of living in the slum is unhygienic | to the ULB | | Highway - 2 is 5.0 kms away | living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | of roads are brick paved or damaged roads. | the slums is congested with insufficient open space |
| 9 | SARAT BOSE COLONY | The condition of living in the slum is unhygienic | Land belongs to the ULB | 15 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 10 | GHOSH PARA | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 11 | NARKEL BAGAN | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 12 | TILAR BAGAN | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |

| Sl.No | Name of the Slums | Status | Land | Age in years | National High Way | Status of Housings | Road Status | Habitation pattern |
|---|---|---|---|---|---|---|---|---|
| 13 | DAS PARA | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 14 | SIDHESWARI | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 15 | DAKSHIN KULIN PARA | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 16 | SHYAM SUNDAR NAGAR | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |
| 17 | R.N.GHOSH GARDEN RD. BY LANE | The condition of living in the slum is unhygienic | Land belongs to the ULB | 30 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |

| Sl.No | Name of the Slums | Status | Land | Age in years | National High Way | Status of Housings | Road Status | Habitation pattern |
|---|---|---|---|---|---|---|---|---|
| 18 | BOSE PARA | The condition of living in the slum is unhygienic | Land belongs to the ULB | 40 | The National Highway - 2 is 5.0 kms away | Major population is living in huts, made of darma / bricks with tin sheets and asbestos/tiles on roof | Majority portion of roads are brick paved or damaged roads. | Habitation pattern in the slums is congested with insufficient open space |

The proposed PMAY project would address the existing problems in the slum which includes lack of basic physical infrastructure and environmental betterment.

## Site Location

The project slum is situated at crore area in Municipal area. project slum location: Selected slums are demarked with coloured circle. Map of Slums boundaries within Khardah Municipality boundary is given below:

**Site Appraisal**

1. Land of the project was belongs to WBSIDC and a part of it (3.21 Acre) has been handed over to this municipality by them for rehabilitation of the slum dwellers.

2. As the land of WBSIDC has been encroached by the slum dwellers and WBSIDC was unable to handover the land to entrepreneurs for the establishment of their Industries.

3. Condition of the slum was also not very good and the area will be slum free area if it is approved.

4. After implementation this project , this corporation, Our Municipality , WBSIDC , Slum Dwellers and Industrial Entrepreneurs all will be benefited.

5. More over C.I.C. & B.O.C. has also decided to take this slum as 1st PMAY Cluster project in the city.

Maps of Slums and Non-Slums which are taken 3RD DPR tenure for the year 2017-18 are given below :-

## Existing Slums Details

The environmental condition in the slums is poor. The slums lack basic civic amenities mainly drainage, thereby leading to water logging, mainly during rainy season. This has led to an unhygienic living condition in the slums. Most of the roads within slums are brick paved or kutcha road. Though there are sufficient streetlights available. Most of the population adopts unhygienic method for disposing their waste; thereby causing huge damage to health that ultimately leads to significant loss of man-days of work amongst others. Overall physical and social infrastructure is poor.

***Project Land Particulars***

| SL No. | Ward Number | Slum Code | Slum Name | AREA in Sq Mt | Age of the Slum (in Years) | Whether located in core City/Town or Fringe area | Type of Area surrounding Slum | Is the slum Notified/ Declared | Ownership of Land where Slum is located |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 002 | GAJIPIR BUSTEE | 11303.29 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 2 | 1 | 005 | CHAI MAHALLA BUSTEE | 4780.42 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 3 | 2 | 019 | LOKENATH NAGAR | 9880.77 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 4 | 4 | 031 | RAMKRISHNA PALLY PURBA | 10552.88 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 5 | 5 | 037 | SOUTH BANDIPUR GOVT COLONY | 10880.49 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 6 | 6 | 043 | MATHPARA DOSTIDAR COLONY | 15013.78 | 30 | core City | Residential | Notified | Land belongs to the ULB |

| Sl No. | Ward Number | Slum Code | Slum Name | AREA in Sq Mt | Age of the Slum (in Years) | Whether located in core City/Town or Fringe area | Type of Area surrounding Slum | Is the slum Notified/ Declared | Ownership of Land where Slum is located |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 6 | 046 | ARABINDA NAGAR | 19437.28 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 8 | 10 | 061 | DAKSHIN MISSION PALLY | 7555.92 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 9 | 11 | 066 | SARAT BOSE COLONY | 7924.62 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 10 | 12 | 069 | GHOSH PARA | 15608.76 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 11 | 16 | 090 | NARKEL BAGAN | 6746.31 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 12 | 16 | 121 | TILAR BAGAN | 4856.31 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 13 | 17 | 093 | DAS PARA | 10302.53 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 14 | 20 | 123 | SIDHESWARI | 9501.00 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 15 | 21 | 100 | DAKSHIN KULIN PARA | 4452.93 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 16 | 21 | 101 | SHYAM SUNDAR NAGAR | 3363.40 | 30 | core City | Residential | Notified | Land belongs to the ULB |

| Sl No. | Ward Number | Slum Code | Slum Name | AREA in Sq Mt | Age of the Slum (in Years) | Whether located in core City/Town or Fringe area | Type of Area surrounding Slum | Is the slum Notified/ Declared | Ownership of Land where Slum is located |
|---|---|---|---|---|---|---|---|---|---|
| 17 | 22 | 107 | R.N.GHOSH GARDEN RD. BY LANE | 3645.29 | 30 | core City | Residential | Notified | Land belongs to the ULB |
| 18 | 14 | 086 | BOSE PARA | 11326.72 | 30 | core City | Residential | Notified | Land belongs to the ULB |

***Migration***

Maximum dwellers have migrated from rural areas due to lack of employment in agriculture sector. All household had migrated from rural to urban area. Majority of the population of this slum is living for more than 30 years in this slum. Hence, dwellers are now permanently depending on slums. This justifies as a parameter on the importance of Slum for In situ development.

***Housing Status***

Housing is the constituent of the social infrastructure of the economy. Like the other constituents, such as the system of education and health, housing also can either reduce or enhance the disparities in the society.

*House Type /Structure*

| SL.NO. | Ward Number | Slum Code | Slum Name | AREA in Sq km. | Semi-Pucca | Katcha | pucca | Total |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 002 | GAJIPIR BUSTEE | 11303.286 | 1 | 30 | 0 | 31 |
| 2 | 1 | 005 | CHAI MAHALLA BUSTEE | 4780.4227 | 19 | 20 | 0 | 39 |
| 3 | 2 | 019 | LOKENATH NAGAR | 9880.7719 | 16 | 2 | 0 | 18 |
| 4 | 4 | 031 | RAMKRISHNA PALLY PURBA | 10552.8849 | 13 | 1 | 0 | 14 |
| 5 | 5 | 037 | SOUTH BANDIPUR GOVT COLONY | 10880.4906 | 12 | 0 | 0 | 12 |
| 6 | 6 | 043 | MATHPARA DOSTIDAR COLONY | 15013.7835 | 0 | 11 | 1 | 12 |
| 7 | 6 | 046 | ARABINDA NAGAR | 19437.2768 | 13 | 6 | 0 | 19 |
| 8 | 10 | 061 | DAKSHIN MISSION PALLY | 7555.92 | 20 | 0 | 1 | 21 |
| 9 | 11 | 066 | SARAT BOSE COLONY | 7924.624 | 39 | 4 | 2 | 45 |
| 10 | 12 | 069 | GHOSH PARA | 15608.7641 | 12 | 0 | 2 | 14 |
| 11 | 16 | 090 | NARKEL BAGAN | 6746.3128 | 14 | 0 | 0 | 14 |
| 12 | 16 | 121 | TILAR BAGAN | 4856.3088 | 15 | 0 | 0 | 15 |
| 13 | 17 | 093 | DAS PARA | 10302.5347 | 11 | 1 | 1 | 13 |
| 14 | 20 | 123 | SIDHESWARI | 9501 | 66 | 0 | 1 | 67 |
| 15 | 21 | 100 | DAKSHIN KULIN PARA | 4452.9263 | 16 | 2 | 0 | 18 |
| 16 | 21 | 101 | SHYAM SUNDAR NAGAR | 3363.3992 | 8 | 2 | 2 | 12 |
| 17 | 22 | 107 | R.N.GHOSH GARDEN RD. BY LANE | 3645.2908 | 20 | 0 | 0 | 20 |
| 18 | 14 | 086 | BOSE PARA | 11326.7194 | 88 | 9 | 1 | 98 |

Most of the dwelling units have mud flooring closely followed by cement flooring. Firewood is the major source of cooking fuel in majority of the slum household.

*Land Tenure status*

All of the existing households are encroachment on Municipal land.

*Physical Infrastructure*

Infrastructure is the basic requirement of urban life and its adequacy and accessibility are two important ingredients and key contributors in the up gradation and enrichment of quality of urban life which is the primary objective of any planned development effort. These infrastructure facilities are broadly classified into two aspects:
**Physical infrastructure**: Water supply, Drainage, Solid waste, Roads, Electricity.

**Social infrastructure:** Health, School, Community Hall, Lively Hood Centre
**Status of Physical Infrastructure**

| **GAJIPIR BUSTEE (Slum code-002)** | |
|---|---|
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **CHAI MAHALLA BUSTEE (Slum code-005)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |

| | |
|---|---|
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **LOKENATH NAGAR (Slum code-019)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **RAMKRISHNA PALLY PURBA (Slum code-031)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |

| | |
|---|---|
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **SOUTH BANDIPUR GOVT COLONY (Slum code-037)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **MATHPARA DOSTIDAR COLONY (Slum code-043)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **ARABINDA NAGAR (Slum code-046)** | |
| **Physical Infrastructure** | **Status** |

| | |
|---|---|
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **DAKSHIN MISSION PALLY (Slum code-061)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **SARAT BOSE COLONY (Slum code-066)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |

| | |
|---|---|
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **GHOSH PARA (Slum code-069)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **NARKEL BAGAN (Slum code-090)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |

| | |
|---|---|
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **TILAR BAGAN (Slum code-121)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **DAS PARA (Slum code-093)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |

| | |
|---|---|
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **SIDHESWARI (Slum code-123)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |

| | |
|---|---|
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **DAKSHIN KULIN PARA (Slum code-100)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **SHYAM SUNDAR NAGAR (Slum code-101)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |

| | |
|---|---|
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **R.N.GHOSH GARDEN RD. BY LANE (Slum Code-107)** | |
| **Physical Infrastructure** | **Status** |
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |
| **BOSE PAR (Slum Code-086)** | |

| Physical Infrastructure | Status |
|---|---|
| **1. Connectivity to City-wide Water Supply System** | Partially connected |
| **2. Connectivity to City-wide Strom-water Drainage Supply System** | Partially connected |
| **3. Connectivity to City-wide Sewerage System** | Partially connected |
| **4.Whether the slum is prone to flooding due to rains** | No |
| **5. Frequency of garbage Disposal** | Daily |
| **6. Arrangement for Global Disposal** | Municipal staff |
| **7. Frequency of clearance open drains** | Once in 2 days |
| **8. Approach Road/Lane/Constructed Path to Slum** | Motorabble katcha |
| **9.Distance from the nearest Motorable road** | Less than 0.5 km |
| **10.Internal Road** | Non-motorable |
| **11.Whether Street light facility is available in the Slum** | No |

Majority of the household uses public taps for water supply. The situation of water supply in the slum is poor. There are presently two water tap only.

## Sewerage and Storm Water Drains

According to Sectoral Plan for Drainage, Sewerage & Sanitation (2001-2025) prepared by KMPC, there is no integrated sewerage system in the municipal area. At present, each and every household is directly connected to an individual septic tank and two pit privies. According to the building rules published in November'2010 by Khardah Municipality, all building plans sanctioned, must have septic tank with soak pit. But in practice no soak pit is constructed in many buildings and the waste water is directly discharged into the surface drains.

Sanitation through septic tank is a general practice in the city where sewerage network is not available. At present, each and every household is directly connected to an individual septic tank and two pit privies. Overall lack of adequate sanitation facilities in slum areas at Khardah contributes greatly to the faecal contamination of the environment. Such contamination and the associated diseases can be spread through a variety of routes through water, soil & food. In Khardah, presently there are 2 nos. of Pay and Use Community Toilet Complex in the city. In Khardah Municipality, there is just one Crematorium.

There is no integrated sewerage system in the municipal area. There is only 76 k.m. renovated open surface drain flowing with combined sewer.

Types of sanitary in the municipal area (approximate percentage)

- Septic tank with soak pit : 20%
- Septic tank without soak pit : 60%
- Two pit pour flush latrine : 7%
- Kutcha latrine : 13%

***Solid waste***

As an inevitable consequence of growing population and urban lifestyle, use of disposable items, a large portion of which is non-biodegradable, is increasing. Thus management of solid waste to keep out city clean and at the same time to make ourselves able to live a healthy life has become a serious problem and Khardah municipal area is not an exception to that. As per standard, generation of solid waste in urban areas is 0.5 kg/capita/day and thus considering a total population strength of 1,16,252 persons (2001 census), the total quantity of solid waste should be 58126 kgs i.e., 58.126 ton. But according to municipal records, solid waste generated in Khardah municipal area is 80 metric ton/day which indicates a per capita generation rate of 0.68kg/day. **Basic Information:-** Some basic data and information regarding solid waste management in this municipal area are given in the next page.

**Solid Waste Generation & Collection**

- **Quantity of Solid Waste generated per capita / day (gm.):-** 615 gm.
- **Quantity of solid Waste generated per day (MT):-** 71.49 approx.
- **Quantity of Solid Waste collected per day (MT):-** 61.50 approx.
- **Frequency of collection:** Daily/Alternate day
- **Frequency of waste collection in slums:** Daily/Alternate day
- **Total No. of Tractors:-**11; where 7 no.s of Tractors are used for Solid Waste disposal purpose, 2 are used in Cesspool and other 2 are used for water transportation purpose.
- **No. of Trailers available: -** 10 no.s
- **Capacity of Per Trailer: -** 1.8 Metric Ton / trailer
- **No. of trips of Tractor Trailer:**

3 trips / trailer / shift; Total Shifts = 2.

- **Trip route for Trailers: -** No fixed route is followed. Route is fixed daily as per report of supervisors or Sardars who visit the wards to see waste dumping scenario in vats or other collection points.

There are total 7 no. of Sardars in 22 wards

- **No. of Hand Carts:-** 17 no.s
- **Capacity of hand carts:** 6 cu.ft. (3x2x1)
- **No. of shifts for Handcarts: -** Only one shift of handcarts from 6 a.m to 1 p.m.
- **No. of Drivers** = Total no. of Drivers are 25 where 9 no.s holds Permanent post, 6 are working as seasonal and 10 no.s are casual staffs.
- **Total no. of Vats:-**Total 57 numbers of vats were used for waste disposal purpose in Khardah municipal area, including total 51 no.s of Concrete vats and 6 no.s of Container vats located in all 22 wards.
- **Method of disposal of waste:-** Crude open dumping
- **Total no. of Labors:-**102; among them 87 no.s are permanent and 15 no.s are casual labors.

- **No. of Burning Ghats** = 1 no., wooden based. Nathupal Ghat located in Ward No.-18 , maintained by Municipality.

**No. of Burial ground** = 1 no. , Ground of Hari Ghosh located in Ward No.-5, maintained by Private Agency

***Roads***

Approach roads to the slums are motor able but roads within slum are in dilapidated condition.

| Roads in front of premises | | | |
|---|---|---|---|
| **Motorable Pucca** | **Motorable Katcha** | **Non Motorable Pucca** | **Non Motorable Katcha** |
| **0%** | **25%** | **18%** | **29.5%** |

**Electricity**

Majority of the household (100%) have electricity connections, The street lights are maintained by the Municipality

**Literacy level**

It is observed that 112 of the population are illiterate. Literacy of the female population is less than that of the male.

## Details of Social Infrastructure at a glance:

**GAJIPIR BUSTEE (Slum Code-002)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**CHAI MAHALLA BUSTEE (Slum Code-005)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |

| | |
|---|---|
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**LOKENATH NAGAR (Slum code-019)**

| **Education & Social Infrastructure** | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |

| Education & Social Infrastructure | |
|---|---|
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**RAMKRISHNA PALLY PURBA (Slum code-031)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**SOUTH BANDIPUR GOVT COLONY (Slum code-037)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |

| | |
|---|---|
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**MATHPARA DOSTIDAR COLONY (Slum code-043)**

| **Education & Social Infrastructure** | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**ARABINDA NAGAR (Slum Code-046)**

| Education & Social Infrastructure |
|---|
| **Pre-primary School** |

| Education & Social Infrastructure | |
|---|---|
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**DAKSHIN MISSION PALLY (Slum Code-061)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**SARAT BOSE COLONY (Slum Code-066)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |

| | |
|---|---|
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**GHOSH PARA (Slum code-069)**

| **Education & Social Infrastructure** |
|---|
| **Pre-primary School** |

| Education & Social Infrastructure | |
|---|---|
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**NARKEL BAGAN (Slum code-090)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**TILAR BAGAN (Slum code-121)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |

| Education & Social Infrastructure | |
|---|---|
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**DAS PARA (Slum code-093)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**SIDHESWARI (Slum code-123)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |

| Education & Social Infrastructure | |
|---|---|
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**DAKSHIN KULIN PARA (Slum code-100)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |

| Education & Social Infrastructure | |
|---|---|
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |

| Education & Social Infrastructure | |
|---|---|
| **Women's Association/Mahila Samithis** | NA |

**SHYAM SUNDAR NAGAR (Slum code-101)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**R.N.GHOSH GARDEN RD. BY LANE (Slum code-107)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |

| Education & Social Infrastructure | |
|---|---|
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

**BOSE PARA (Slum Code-086)**

| Education & Social Infrastructure | |
|---|---|
| **Pre-primary School** | |
| **Anganwadi under ICDS** | Within distance less than 1 km |
| **Municipal Pre-school** | NA |
| **Private Pre-school** | NA |
| **Primary School** | |
| **Municipal** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Private** | NA |
| **High School** | |
| **Municipal** | NA |
| **Private** | NA |
| **State Government** | Within distance less than 0.5 km |
| **Adult Education Centre** | NA |
| **Health Facilities** | NA |
| **Urban Health Post** | NA |
| **Primary Health Centre** | NA |
| **Government Hospital** | Within distance less than 10 km |
| **Maternity Centre** | NA |
| **Private Clinic** | NA |
| **Registered Medical Practitioner (RMP)** | NA |
| **Ayurvedic Doctor/Vaidya** | NA |
| **Social Development/Welfare** | NA |

| Education & Social Infrastructure | |
|---|---|
| **Community Hall** | NA |
| **Livelihood/Production Centre** | NA |
| **Vocational Training/Training cum Production Centre** | NA |
| **Street Children Rehabilitation Centre** | NA |
| **Night Shelter** | NA |
| **Old Age Home** | NA |
| **Self Help Groups/DWCUA Groups in Slum** | NA |
| **No. of Neighbourhood Groups (NHGs) in slum** | NA |
| **Slum-dwellers Association** | NA |
| **Youth Association** | 1 |
| **Women's Association/Mahila Samithis** | NA |

## The Supply Demand Gap and Requirements

| Particulars | Requirements |
|---|---|

*Housing: Dwelling Unit provision for Households with standard provisions:*

- 1 Multipurpose Room
- 1 Bed Room
- 1 Kitchen
- 1 Toilet
- 1 W.C

*Physical Infrastructure Requirement:* *Standard Infrastructure Provision for*

- Water Supply
- Drainage
- Roads
- Electricity

## Project Development Option

In-situ redevelopment and whole of the project will be addressed in the project

**Proposed Development**

Based on preliminary understanding, the following components are being proposed

- Housing Units [Single storied in situ].

- Standard Physical Infrastructure to be provided in the form of Circulation of Water Supply Drainage, Roads and Electricity

## Innovations proposed in Project Planning

**Background**

Housing activities are known to have the capacity to play a significant role in social-economic development, because they help not only in creation of shelter for the people by also in generating employment opportunities for a large variety skilled and unskilled work force which is a prerequisite for growth and development of settlement. A considerable section of the people without land are in a still worse position as housing schemes for the poor have hither to been targeted on paper but not applied in practice. Both the serviced land and shelter have become beyond the reach for half of the population-hence formation of slums, encroachments, informal colonies and unauthorized constructions. No land is earmarked for Economically Weaker Sections and Low Income Groups in Master Plan. The population density norms are required to re-look to enable better utilization of valuable land, as certain areas in the city. This growing slum population and the lack of basic facilities like water and sanitation will badly impact on overall development and prosperity of urban centres like Municipality.

To overcome the existing situation and to promote planned development the following innovative strategies can be adopted for the improvement of the city.

- To ensure that housing, along with the supporting services is treated as a priority and at par with the infrastructure sector.

- Forging strong partnerships between private, public, and cooperative sectors to enhance the capacity of the construction industry.

- Organizing public consultations to meet the special needs of slum dwellers.

- Promotion of livelihood for the slum dwellers.

## Financial Implementation:

***Beneficiary led Participation:*** implies development of housing by involvement of Beneficiary

**Tasks:**

- Composition of beneficiaries and organizing the area meetings.

- Involvement of community and sustainable livelihood framework (SLF) in decision making and prioritization of needs of the slum.
- Understating of Social-economic profile

**Post Project Monitoring**

A Monitoring & Evaluation team has to be formed to know the post project impact on the slums and to document the best practices.

## Physical Infrastructure

***Background***

The National Sample Survey Organization (NSSO) in the Ministry of Statistics and Programme Implementation, Government of India has released the report of a nation-wide survey carried out by it during July 2008 to June 2009 (65$^{th}$ round) on the condition of urban slums.

The aim of the survey was to collect information on the present condition of the slums and on recent changes, if any, in the condition of facilities available therein. Both 'notified slums' – areas notified as slums by the municipalities, corporations, local bodies or development authorities – and non-notified slums were surveyed – a non-notified slum being any compact urban area with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. The present report gives the condition of urban slums, covering ownership, area type, structure, road within and approaching the slum, living facilities like electricity, drinking water, latrine, sewerage, drainage, garbage disposal, and distance of slums from the nearest primary school and government hospital/health centre. It also estimates the proportion of slums where certain specific facilities have improved/ deteriorated over the five years preceding the date of survey.

Comprehensive data on this subject was last collected by NSSO in its 58th round (July - December
2002). The present report provides key indicators from the 58th round as well, for comparison. Some important findings of the survey are given below.

- About 49 thousand slums were estimated to be in existence in urban India in 2008-09, 24% of them were located along *nallahs* and drains and 12% along railway lines.
- About 57% of slums were built on public land, owned mostly by local bodies, state government, etc.
- In 64% of notified slums, a majority of the dwellings were pucca, the corresponding percentage for the non-notified ones being 50%.
- For 95% slums, the major source of drinking water was either tap or tube wells.
- Only 1% notified and 7% non-notified slums did not have electricity connection.
- About 78% of notified slums and 57% of the non-notified slums had a pucca road inside the slum.
- About 73% notified and 58% non-notified slums had a motorable approach road.
- About 48% of the slums were usually affected by water logging during monsoon – 32% with inside of slum waterlogged as well as approach road to the slum, 7% where the slum was waterlogged but not the approach road, and 9% where only the approach road was waterlogged in the monsoon.
- The sanitary conditions in the slums in terms of latrine facility during 2008-09 showed considerable improvement since 2002. Latrines with septic tanks (or similar facility) were available in 68% notified and 47% non-notified slums (up from 66% and 35% respectively in 2002). At the other extreme, 10% notified and 20% non-notified slums (down from 17% and 51% in 2002) did not have any latrine facility at all.
- About 10% notified and 23% non-notified slums did not have any drainage facility. The corresponding proportions in 2002 had been 15% for notified and 44% for non-notified slums. Underground drainage systems or drainage systems constructed of pucca materials existed in about 39% notified slums (25% in 2002) and 24% non-notified slums (13% in 2002).
- Underground sewerage existed in about 33% notified slums (30% in 2002) and 19% non- notified slums (15% in 2002).
- Government agencies were collecting garbage from 75% notified and 55% non-notified slums.

  Among these slums, garbage was collected at least once in 7 days in 93% notified and 92% non-notified slums. About 10% notified and 23% non-notified slums did not have any regular mechanism for garbage disposal.
- Over the last five years, facilities had improved in about 50% of notified slums in terms of roads (both within-slum road and approach road) and water supply. The incidence of deterioration of any of the existing facilities in notified slums during the last five years was quite low (about 6% or below).
- In case of most slum facilities – sewerage and medical facilities being exceptions – the facility

  was reported to have improved during the last five years in more than 20% of non-notified slums. Deterioration of any of the existing facilities in non-notified slums, like notified slums, was rare (about 9% or below).

- Facilities such as street light, latrine, drainage, sewerage and medical facilities were each reported by more than 10% of notified slums to be non-existent both at the time of survey and five years earlier. In case of non-notified slums, facilities like street light, latrine, drainage, sewerage and garbage disposal were each reported by more than 20% of the slums to be non- existent, both during the survey and five years earlier.
- Where improvement had been brought about during the last 5 years, it was due to the

  Government's efforts in about 80-90% of slums, both notified as well as non-notified and for all the facilities. Improvement in educational facilities at primary level was attributed to NGOs in 13% of the notified slums where such improvement was reported. NGOs were also found to have played a role in the improvement of latrine and sewerage system in non- notified slums.

## Topographical survey and GIS mapping

The preparation of base map of Wood Industries slum has been prepared with Global Positioning Stations (GPS) and temporary Benchmarks (TBM) for Georeferencing and accurately locating the slum. These points have been selected and located at well defined locations on the ground after discussion with the ULB officials. The existing topographical features have been represented to the actual terrestrial position.

Based on the Total Station survey and Socio-economic survey GIS based thematic maps were generated. This helped in accurate representation of the ground scenario with that of the socio-economic conditions of the people. The following GIS maps were generated for inclusive planning:

- Map showing existing Land use Map
- Map showing Household Size
- Map showing House Type/Structure, Flooring, Cooking
- Map showing Minority Status
- Map showing existing toilet facility
- Map showing existing road type in front of house
- Map showing existing source of drinking water
- Map showing existing source of house lighting

**Water Supply**
**Proposal Rationale**

Water and poverty are inextricably linked. Poor access to water and insufficient sanitation

affect the health of the poor, their food security, and their prospects for making a living especially for vulnerable groups, such as children, the elderly, and women in general. Safe and adequate quantities of water and food security are recognized as preconditions for an acceptable development standard.

In almost whole of Asia and the Pacific region - home to nearly 900 million of the world's poorest people - one in three people does not have safe drinking water and one in two lacks adequate sanitation. Water is a critical resource for the poor and plays a key role in many aspects of their livelihoods.

Poor people depend on or are affected by water resources in four key ways:

- **As direct inputs into production**
- **For health, welfare, and food security**
- **For ecosystems viability**
- **For combating water-related hazards**

Keeping the above in mind, a water scheme for the urban poor needs to be drawn up which shall **Improved Access to Quality Water Services and also** build up institutions accessible to the poor that can efficiently manage water resources. These institutions need to be responsive to the poor and should have an adequate opportunity for the poor to raise their views.

The management of water resources must take place within the wider ecosystems context, and all actions should be based on an understanding of the flows of water resources within river basins and how they affect the poor.

In view of this, the water scheme needs to take into account the following broad objectives:

- **To provide adequate Treated Water**
- **To ensure access for the Urban poor**
- **To develop institutional framework taking into account the requirements of the Urban Poor**

## Outcome

Water is a basic requirement of life. Absence of adequate water is a major issue for health as well as comfort for the poor. With the implementation of the project, the slum dwellers will have access to safe drinking water, which will greatly help their personal health, and hygiene. Quality of life would improve significantly and the multiplier effect due to this investment would reap significant benefit to the economy of this region within a considerable short

period of time.

Water supply includes sources of supply, features of collection and distribution system, water demand and availability, quality of surface and groundwater source, reuse and recycling of water including conservation of water at the household level. The endeavour for all the proposals is to optimize the total cost of the system.

## Assessment of Overall State of Infrastructure

In line with the City Development Plan for Kolkata Metropolitan Area (Pg 11-28), it has been resolved that the entire KMA are will be switched over to surface water.

The following norms have been fixed for the region:

- **Kolkata Municipal Corporation Area** **200 lpcd**
- **Howrah Municipal Corporation Area** **150 lpcd**
- **Municipal & Non-Municipal Area** **135 lpcd**

Previously the area was largely dependent on ground water. The status of ground water availability is as follows:

Keeping in mind the reduced rate of aquifer, traces of Arsenic Contamination and presence of Iron on the water, it has been decided to switch over to surface water from River Damodar.

Accordingly, the plant design is adequate to cater to the future requirement of the entire region and no augmentation of supply is required for the present project

## Situation Appraisal & Key Intervention for Identified Slum

Presently accessibility to water supply facilities in the slum pocket is inadequate. The major source of water is from the common tap water available in the slums. The slum is partially connected to the municipal water supply main.
It is now proposed that water pipeline shall be provided in each household with requisite number of

taps, as computed during the survey as felt needs shall be provided under this Project. However, considering that the houses are being provided with water, the provisions of multiple taps have not been encouraged and kept to the minimal level.

Design of distribution system was carried out on the following
basis:

- Population projection
- Project horizon years
- Design period for various project components
- Per capita water supply
- Factors affecting consumption
- Existing water supplies
- Pipeline pressure requirement
- Supply of water on 24 x 7 basis
- Economical size of conveying main
- Choice of pipe materials
- Peak factor
- Residual pressure
- Hydraulic zoning

**Design Period for various Project Components**

Water supply projects are designed normally to meet the requirements over a period of 30 years after their completion. The time lag between design and completion of the project should also be taken into account which should not exceed two to five years depending on the size of the project. CPHEEO guidelines have been followed has suggested the design period for various water supply components.

**Service Plan**

The pipelines needs to be regularly and kept in full working conditions. It is proposed that operation and maintenance of these pipelines and other assets be done in conjunction with the maintenance
programme of the Municipal Corporation. The Bustee Working Committee shall be the first level of responsibility for ensuring that the pipelines etc are kept in good order. The overall operation and maintenance shall be carried out by the project cell of the Municipal Corporation.

**Proposed Interventions**

According to the above, the water supply design requirement for Municipality has been fixed at 135 lpcd (Domestic Requirement) + 15% (head loss) + 100*(p^0.5) = 163.25 lpcd (approx).
There is existing water supply scheme which has the capacity for meeting the requirement. Thus there is no additional requirement of any reservoir. There are street stand posts for the slum proposed. But to achieve house connection at slum 100 mm dia. DI pipes are proposed.

The details of water supply lines provide are as follow:
**Transmission of Water**

Khardah Municipalityhas water supply through ESR having (24x7) water supply. For the proposed multi-storied buildings sump and pump with OHR is provided for each building. The water supply network for this slum will be connected to the citywide water supply network.

Water supply system broadly involves transmission of water from the water supply main to the area of consumption normally through pipelines. Pipelines normally follow the profile of the ground surface quite closely, normally at 1 metre below ground.

Following design criteria are adopted for this
project:

- Gravity pipelines have to be laid below the hydraulic gradient.
- Pipes are of Ductile Iron, Mild steel, GRP, HDPE, uPVC, Plastic etc.
- The design of water supply conduits is dependent on pipe friction, available head, velocity allowable, etc.
- Minimum sizes of 100mm for towns having population up to 50,000 and 150mm for those above 50,000 are recommended.
- There are a number of formulae available for use in calculating the velocity of flow. However,
- Hazen William's formula for pressure conduits and Manning's formula for free flow conduits are popularly used.

## Drainage and Solid waste management

**Proposal Rationale**

The status of adequate Drainage has a close and direct link with environment, water supply and its cleanliness, health and hygiene. The problem of adequate drainage associated with steep influx of population in urban areas, therefore needs to be addressed forth with, debated and deliberated at length, by the policy planners for the development of urban/city areas. Inadequate Drainage results in accumulation of stagnant water and is a major health hazard for the people living in the region.

In the slums there is no proper drainage system and hence stagnation of water is a common occurrence for the slums. In order to improve the situation, there is a need for constructing pucca drains, which will dispose of the stagnant water to the main drains.

**Outcome**

The proposed drainage system by means of construction of new drains and improvement of existing will help to provide relief to the slum dwellers by means of efficient and effective disposal of storm water through the outfall channels. The outcome of this scheme will by and large enhance the quality of civic life by way of promotion and safeguarding the public health and environmental pollution.

**Assessment Overall State of Infrastructure**

One of the priority area identified for Wood Industries slum has been absence of adequate drainage. Most of the drainage is kutcha and inadequate for covering the slums which had led to water logging which in turn affected the environment and health of the people on an overall basis.

As mentioned above poor drainage system and consequently chronic water logging are the major issues of concern. There is hardly any pucca drain. The state of drain also affects the condition of the road.

Though there are storm water drains on the main road around the slums, but there is no systematic connection with the internal areas of the slum, thereby leading to acute water logging within the slum. It is worth mentioning that apart from lack of drainage network in several slum pockets, major challenge lies with its maintenance. In numerous cases drains in slums gets choked due to improper disposing of solid waste and other hazardous materials into the existing drains.

Situation gets beyond control particularly during monsoon season like July and August. Accumulated water causes to generate public health problems. Haphazard growth and settlement in the slum area
has blocked the natural drainage courses, which in turn causes water logging and stagnation in different parts of the slum.

**Proposed Interventions**

It is thus proposed to have an integrated drainage programme covering the slum pocket. The programme shall envisage construction of pucca drain throughout the road length and installing a maintenance programme to ensure that the drains are kept free from clogging from plastics and other materials. Depending on the availability of space and requirement, a

sections have been designed, Designs of which have been provided in the relevant sections.

## Road Infrastructure

### Proposal Rationale

A key component of the Proposal is a focused initiative to provide strong connectivity and provision of movement in the slums. This will enable the poor people to benefit from greater mobility and would increase their employment opportunities, open up trading and marketing of products, and important improve access to health, education, and other social services.

Roads in the slum are highly undeveloped and ill maintained. Poor roads are strong barrier to the development of the slums. Poor road condition and absence of road facility in several slums makes life difficult for all slum dwellers, especially, women and children. It also hampers prompt movement of sick; particularly those who require urgent medical attention. Lack of maintenance, coupled with poor drainage makes life even worse during monsoon season. Road are rarely re-built or re-paired periodically due to several reason. Provision of basic quality road is thus an important element of slum development. The existing road network system of the slum has become inadequate to cope up with the present and ever increasing needs. In order to bear the additional pressure due to enhanced civic, economic and commercial activities of the slum, existing road network system in several places are required either to be up-graded or winded and new roads are also be constructed in a number of places where the network is inadequate.

### Proposed status and strategy

The existing condition of the road is poor and cause great hardship to the slum dwellers particularly women and children. The existing roads in the slum areas are predominantly made of brick pavement. These roads are substantially worn out. The lane roads are Kutcha roads. These roads are highly vulnerable and are in a poor condition particularly in rainy season

One of the major issues is absence of proper maintenance. In view of this it is proposed that the entire road network is to be converted to concrete pavement as concrete pavements are durable and easy to maintain.

The Road needs to be maintained. It is proposed that operation and maintenance and servicing of these roads be done by the Municipality. The Bustee Working Committee shall be the first level of responsibility for ensuring that the pipelines etc. are kept in good order. The project cell of the Municipal Corporation shall carry out the overall operation and maintenance.

### Proposed Intervention

All the proposed roads are rigid pavement-cement concrete roads. Rigid pavements are those which posses note worthy flexural strength. The concrete pavement slab can very well serve as a wearing surface as well as effective base course. Therefore usually rigid pavement structure consists of a cement concrete slab, below which a granular base or sub base course may be provided. Rigid pavements are generally designed and the stresses are analyzed using elastic theory, assuming pavement as an elastic plate resting over elastic or a viscous foundation.

Construction of granular sub-base (GSB) 200 mm thick. Construction of 150 mm thick cement concrete pavement, as per Clause 1501.2.2 M30 (Grade), as per drawing and Technical Specification Clause 1501.

**Outcome**

After successful implementation of the scheme the slum dwellers will have facilities like pre-school education, adult education, non-formal education and social, recreational activities in the slum area. The community centres would provide the people to gather in, to meet and discuss their problems. It is not just a physical location but a space; where poor people could own, develop their thoughts and also could contribute their own skill and labour to make their dream come true. It will also provide the Municipal Corporation in networking with the urban poor communities in order to exchange information and views.

**Proposed Intervention**

In view of the above, it is proposed that a Community Centre is established to cater the slum population. For community development a community centre is proposed. The one storied community centre has total plinth area of 223.4 sq m.

There will be Multipurpose hall which may be used as skill development centres or livelihood centre, health centres and Crèche are provided.

The Community Centres act mainly as a supporting unit for livelihood and for revenue generation for

O&M

**Materials of construction:**

- PCC (1:3:6) for foundation
- RCC M-20 for substructure & superstructure (Column, Beam, Slab)
- HYSD Steel
- 1st Class Brick Masonry
- 1:6 (Cement: Sand) plaster – 10 mm on soffit of beam & slab, 15 mm on internal walls & 20 mm on external walls
- IPS flooring

## Definition of Slum for Housing

Different definitions of a slum exist in different statutes and in urban poverty literature. For the purpose of HOUSING SCHEME, it is proposed to adopt the definition given in the 2001 Census, which is as follows:

a. All areas notified as 'Slum' by State/Local Government and UT Administration under any Act;

b. All areas recognized as 'Slum' by State/Local Government and UT Administration, which have not been formally notified as slum under any Act;

**'Slum' or 'Slum Area'**– is a compact settlement of at least 20 households ( For NE

& Special Category States it is 10-15 households) with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions.

**Situation Appraisal**

The people living in the slums mostly have kutcha (10) and semi-pucca (186) housing. In certain cases where pucca housing is available, they are usually in dilapidated condition. The kutcha houses are in very poor condition and require extensive repairs. Most of the houses have tiles on roof. While during the survey some of the houses have been noted to be in average condition, the quality of these houses is also speedily deteriorating.

**Proposed Intervention**

In line with the vision to '**housing for all**', an integrated housing programme is proposed to be implemented. The target will be all the slum dwellers in the pocket. In situ single dwelling units are proposed.

| Building type | Number of DU |
|---|---|
| **In situ single Unit** | 450 within 18 slums |

**Building Plan**

The buildings are proposed to cover an area of approximate 32 Sq.mt along with provision of 2 rooms, kitchen and sanitation facility. The layout, size and type design of housing dwelling units depends on the local conditions and the preferences of the beneficiary. The houses, has been designed in accordance with the desire of the beneficiaries, keeping in view the climatic conditions and the need to provide ample space, kitchen, ventilation, sanitary facilities, etc. and the community perceptions, preferences and cultural attitudes.
In line with the scheme, carpet area of the house will be not less than 25 sq. mts and preferably two room accommodation plus kitchen and toilet should be constructed.

**Building material**

- PCC (1:3:6) for foundation
- RCC M-20 for substructure & superstructure (Column, Beam, Slab)
- HYSD Steel
- 1st class Brick Masonry
- 1:6 (Cement: Sand) plaster – 10 mm on soffit of beam & slab, 15 mm on internal walls & 20 mm on external walls
- IPS flooring

**Structural Design**

- Following are the general considerations in the analysis/design.
- For all structural elements, M20 grade concrete and Fe 415 grade of steel is used.
- Plinth beams passing through columns are provided as tie beams.
- Pedestals are proposed up to ground level.
- Beam Centre-line dimensions are followed for analysis and design.
- For all the building, walls of 250 mm and 125mm thick with 20 mm External plaster and 12 mm thick internal plaster are considered.
- Seismic loads are considered acting in the horizontal direction along either of the two principal directions.

**Design data**

- Live load: 2.0 kN/m2 at typical floor
- 1.5 kN/m2 on terrace (With Access) : 0.75 kN/m2 on terrace (without Access)
- Floor finish 50mm (0.05*24) = : 1.2 kN/m2
- Ceiling plaster 12mm (0.012*20.8) : 0.25 kN/m2
- Partition walls (Wherever Necessary) : 1.0 kN/m2
- Terrace finish: 1.5 kN/m2
- Earthquake load: As per IS-1893 (Part 1) - 2002
- Depth of foundation below ground: ,0.7 m
- Walls: 250 mm thick brick masonry walls at external and 125mm walls internal.

**Reference codes:**

- IS 456: 2000 - Code of practice -Plain and Reinforced concrete.
- IS :1893 :2002 - Criteria for Earthquake resistant design of structures(Part-1)
- IS: 13920: 1993 - Ductile detailing of Reinforced concrete structures subjected to seismic forces.
- SP: 34 - Hand Book on Concrete Reinforcement and Detailing.
- S: 875: 1987 - Code of practice for design loads (other than earthquake) for buildings and structures. (Part-2)

**NBO 2005**

## Identification of Beneficiaries

Municipality Municipal Corporation, in consultation with State Urban Development Agency ,

(SUDA), will approve the phasing of the beneficiaries in the region. The beneficiaries so identified and the projects so prepared shall be done in consultation with the committees and community development societies already existing in that particular city. The identification of beneficiaries will be on the basis of the baseline survey already conducted under PMAY Demand Survey.

## Allotment of Houses

Allotment of dwelling units will be in the name of the female member of the household. Alternatively, it can be allotted in the name of husband and wife jointly. Ownership of land required for every Benificiary

## Town Planning Norms

Up-gradation of existing constructions and construction of new houses shall only be taken after approval of the lay out by the urban local body. Respective State Govts. may relax some town planning norms for sanction of such layout Plans, to facilitate HOUSING SCHEME, however, minimum acceptable standards of Town Planning will need to be set and followed. All planning are done as per UDPFI & CPHEOO guidelines and local Municipal Bye-laws.

### Compliance with Municipal Bye laws

All designs & drawings are created keeping in line with the municipal bye laws.

### Tenure

Unlike rural areas, land is scarce in urban areas particularly in large metropolises. Under HOUSING SCHEME, the responsibility for providing land for the project rests with the State Government or its agencies.