Cities Alliance Project Output

Taj Ganj Slum Housing Upgrading Project Phase II: DPR for funding under RAY

Citywide Slum Upgrading Plan (CSUP) for the Heritage City of Agra (India)

P120112

This project output was created with Cities Alliance grant funding.

Taj Ganj Slum Housing Upgrading Project, Phase-II

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CHECK-LIST FOR PREPARATION / APPRAISAL OF DPR FOR AGRA CITY UNDER RAY

S. No.	Item	Reply	
1.	Name of the State	Uttar Pradesh	
2.	Category of State – whether special category* or general? [*Special category State are J&K, Uttaranchal, Himachal Pradesh & North Eastern States including Sikkim]	General	
3.	Name of the City	Agra	
		Status (Yes/No)	***Remarks***
4.	a) Whether MOA for reforms has been signed with the Ministry of Urban Development? b) Whether a copy of the signed MOA has been received in the Ministry of Urban Employment & poverty Alleviation of not? c) Whether signed MOA mentions with asterisk that two reforms, viz., i) Repeal of Urban Land Ceiling and Regulation Act; and ii) Amendment of Rent Control Laws balancing the interest of landlords and tenants are optional with regard to schemes under BSUP?	Yes Yes YES	
5.	Whether the State Level Nodal Agency has been designated?	Yes	SUDA, Lucknow
6.	Whether the DPR has been forwarded by the designated Nodal Agency?	Yes	
7.	Whether State Level Co-ordination Committee (SLCC) has been constituted?	Yes	
8.	Whether DPR has been recommended by the SLCC?	Yes	
9.	Whether elected Local Body is in place?	Yes	
10.	Total urban population of the city	16,86,976	Estimated figure under census 11
11.	Total slum population of the city	8.3 Lakh	Slum Free city Plan, Agra
12.	Is DPR an integrated housing & infrastructure project?	Yes	

	[If not, proper justification]		
13.	Has the contribution from the beneficiaries been collected?	NA	
14.	Has the State share been deposited in a separate account?	NA	
15.	Is the DPR for in situ development?	Yes	
16.	Is the DPR for relocation?	No	
17.	In case of relocation, whether all basic amenities have been provided for in the new site in the DPR?	NA	
18.	Is the new site in proximity to the original site / work-place?	NA	
19.	In case of in situ, whether provision for basic services has been provided for in the DPR?	Yes	
20.	**Housing** (i) Whether density of population norms has been observed in the DPR with reference to city as per the bylaws? (ii) Whether plotted area, setbacks and coverage of plot are as per bylaws? (iii) Whether maximum FAR utilization has been considered in the DPR to ensure efficient use of land? (iv) Whether the dwelling unit cost is within the ceiling limit? (v) In case the cost is higher, whether the source of funds has been tied up/indicated? (vi) Whether security of tenure / patta has been provided to the beneficiaries, as per guidelines, preferably women? (vii) Whether the floor area of dwelling unit is equal or more than 25 sq mtrs? (viii) Whether each dwelling unit comprises two rooms, kitchen and a toilet?	Yes NA NA Yes NA Yes Yes yes	
21.	**Infrastructure facilities** Whether provisioning for the following has been made in the DPR		
	Water supply	Yes	
	Sewerage	Yes	

	Solid water disposal	Yes	
	Development of roads/paths/footpaths/ pavements Storm water drains	No	
	Street lighting	No	
22.	Whether environmental impact considerations have been taken into account while preparing the DPR?	Yes	
23.	**Community facilities** Whether provisioning for the following has been made in the DPR: (i) community centre (ii) community Primary Health Care Centre (iii) primary Education Centre (iv) parks and open spaces	 No No No No	
24.	Whether there is provisioning for convergence of the Central and State Government schemes in the following sectors in the DPR:- (i) Health (ii) Education (iii) Social security including accidental and medical insurance, old age pension, old age homes, etc.	 No No Yes	
25.	Whether cost of land has been included in the project cost where private land has been acquired? [Applicable only to special category States, viz., J&K, Uttaranchal, Himachal Pradesh and North Eastern States including Sikkim]	NA	
26.	Whether a separate provisioning for upkeep and maintenance of public assets to be created through this project has been made by the State Government/ULB/Parastatal? [This provisioning will not be funded under the Scheme]	Yes	
27.	Whether the area / beneficiaries covered under DPR had previously benefited in any Central / State Government Scheme? [If so, details thereof]	No	Water supply and sewer lines are being laid in these slums though Jal Nigam. Basic infrastructure facilities like

			roads, drains, civic centres etc has been proposed in the DPR which has been submitted through DUDA.
28.	Whether DPR is a PPP Project?	No	
29.	Is the DPR in accordance with the BSUP guidelines? If not, indicate deviations and provide justifications.	Yes	Insitu upgrading
30.	Any other information relevant to the DPR	None	

_____

Signatures of the Competent Authority in DUDA/ ULB / Parastatal
Name:
Designation:
Office Address:
Tel No/ Fax No:
E-mail ID:

_____

Verified & Countersigned by the State Level Nodal Officer
Name:
Designation:
Office Address:
Tel No/ Fax No:
E-mail ID:

Summary of Cost of DPR

1.	Name of the State	Uttar Pradesh
2.	Name of the City	Agra
3.	Name of the Area/ward for which DPR is developed	Tajganj
4.	(i) Nodal Agency	SUDA
5.	(ii) Implementing agency	DUDA
6.	Total Project Cost without centage	35,11,70,400
7.	State Share (Rs. in lakhs) without centage	
8.	Beneficiary contribution(Rs. in lakhs) without centage	
9.	Central share (Rs. in lakhs) without centage	175585200

Slum wise summary (requirements and cost estimates)

	Characteristics/Items	Taj Khema Basti	Asad gali	gudhai	Dalhai	Sekh Bulakhi	Teli Pada	Diwan ji Ka Mohalla	Navada	Hazzupura	Patiram ki Bagichii	Teela Sayeed Nagar	Billochpura	Kolhai	Paak Tola	Nattha Nagar	**Total**
	REQUIREMENTS																
A	**Total no. Of Existing Pucca Houses in the Slum**	40	220	161	144	59	350	160	114	337	96	202	307	266	217	52	**2725**
1	New Pucca House To be Constructed in place of Kuchha and Semi Pucca Houses	1	31	5	4	1	8	5	0	6	0	7	6	16	9	2	101
2	New Houses to be constructed for plots less than 25 sq mt	3	8	12	4	3	7	4	6	11	12	3	25	4	22	0	124
3	Affordable Houses for Renters	7	10	6	23	1	31	7	6	46	6	41	33	16	19	2	254
B	**Infrastructures**																
4	Sewerage (In rmt)	85	712	965	194	469	0	0	746	1353	92	478	42	124	583	54	5897
5	Water Supply (rmt)	0	263	0	162	113	390	0	0	0	0	459	115	235	0	87	1824
	COST ESTIMATES																
C	**Construction cost - in-situ Dwelling Units**																
	Cost of New Pucca House To be Constructed in place of Kuchha and Semi Pucca Houses	300000	9300000	1500000	1200000	300000	2400000	1500000	0	1800000	0	2100000	1800000	4800000	2700000	600000	**30300000**
	Cost of Houses to be constructed for plots less than 25 sq mt	900000	2400000	3600000	1200000	900000	2100000	1200000	1800000	3300000	3600000	900000	7500000	1200000	6600000	0	**37200000**
	Cost of affordable Houses for Renters	3500000	5000000	3000000	11500000	500000	15500000	3500000	3000000	23000000	3000000	20500000	16500000	8000000	9500000	1000000	**127000000**
	Subtotal Of Housing Cost	**4700000**	**16700000**	**8100000**	**13900000**	**1700000**	**20000000**	**6200000**	**4800000**	**28100000**	**6600000**	**23500000**	**25800000**	**14000000**	**18800000**	**1600000**	**194500000**

D	**Infrastructure Costs**															
1	Sewerage	170000	1424000	1930000	388000	938000	0	0	1492000	2706000	184000	956000	84000	248000	1166000	108000	**11794000**
2	Water	0	394500	0	243000	169500	585000	0	0	0	0	688500	172500	352500	0	130500	**2736000**
	Subtotal Infrastructure cost	**170000**	**1818500**	**1930000**	**631000**	**1107500**	**585000**	**0**	**1492000**	**2706000**	**184000**	**1644500**	**256500**	**600500**	**1166000**	**238500**	**14530000**
	Cost for Community Mobilisation and Capacity Building (Lumpsum)																1000000
E	**Total Capital Cost**	**48,70,000**	**185,18,500**	**100,30,000**	**145,31,000**	**28,07,500**	**205,85,000**	**62,00,000**	**62,92,000**	**308,06,000**	**67,84,000**	**251,44,500**	**260,56,500**	**146,00,500**	**199,66,000**	**1838500**	**210030000**
	Infrastructure Cost in % to Total Cost	3.49	9.82	19.24	4.34	39.45	2.84	0.00	23.71	8.78	2.71	6.54	0.98	4.11	5.84	12.97	6.92

Cost Contribution

Sl No	Characteristics/Item	Total	Central Govt.(50%)	State/ULB Share (50%-Beneficiary share for housing)	Beneficiary's Contribution
1	**New Houses to be Constructed**	479			
	Unit Dwelling Cost (in Rs.)				
	Total cost of New Pucca Houses (101)	30300000			
	Total cost of Houses less than 25 sq Mt (124)	37200000			
	Total cost of Affordable Houses (254)	127000000			
2	**Costs (in Rs.)**				
	• **Construction cost in-situ Dwelling Units (Rs.)**	**194500000**	97250000		
	• **Infrastructure Costs**				
	Water supply	2736000			
	Sewerage	11794000			
	Total Infrastructure Cost	**14530000**	7265000		
	Cost for Community Mobilisation and Capacity Building (Lump sum)	**1000000**			
3	**Capital Costs**	**210030000**	105015000		
4	*Contingency For escalation (60%) due to SOR 2010-2011. Narration*	126018000	63009000		
5	*IEC, Capacity Building & DPR preparation (4% of Capital Costs)*	8401200	4200600		
6	*Administrative & other expenses (4% of Capital Costs)*	8401200	4200600		
7	*Centage (12.5%)*	26253750	0		
8	**Total Project Costs and Contributions in Rs. Lakhs (Without centage)**	35,28,50,400	17,64,25,200		
9	**Total Project Costs and Contributions in Rs. Lakhs (With centage)**	37,91,04,150	18,95,52,075		

1. Background

1.1. Introduction

Agra is a historic city; its heritage embraces several architectural wonders as well as the intangible culture of folklore and traditions inherited from past generations of the Mughal and Lodhi dynasties.

Agra has been growing very rapidly. In 2011, its provisional population was 1686976 (Census). This suggests a 24.3% decadal growth in the city's population (1275134 – Census 2001).

Agra has several industries besides tourism, where poor migrants from neighbouring districts come to work. Many live in the 460[1] slum and underserved settlements in the city without access to adequate basic services.

Data generated for the preparation of the Slum Free City Plan for Agra by CURE estimates that over 50% or about 830174 people in Agra live in its slum like settlements. Many of these slums are in the core city area called the Taj Trapezium Zone (TTZ). Development of TTZ, while critical for the growth of the city due to its tourism value, is also very challenging because of the several conservation regulations and physical densities.

Rajiv Awas Yojana (RAY), mission for affordable housing for the poor, of the Ministry of Housing and Urban Poverty Alleviation (MoHUPA) is designed to improve/create sustainable housing for poor-slum households, including in Agra. The city is also implementing the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and its sub mission II on affordable housing for the poor.

The Centre for Urban and Regional Excellence (CURE) a development NGO has been working in Agra since 2005. In partnership with the Agra Nagar Nigam (ANN) and with the financial and technical assistance of Cities Alliance, WSP, USAID and NIUA, CURE has been supporting ANN and the District Urban Development Agency (DUDA) to prepare an inclusive Citywide Slum Upgrading Plan for Agra (CSUP) and to implement slum upgrading activities in selected slums.

This Detailed Project Report (DPR) is being prepared by CURE for development of slums in TTZ under RAY. The DPR shall complement an earlier DPR prepared by DUDA for upgrading of all services to slums in the zones.

1.2. Taj Trapezium Zone

The Taj Trapezium Zone (TTZ) is an area of about 10400 sq km surrounding the Tajmahal. The area is considered integral to the city and is therefore accorded the highest priority for development purposes and has dedicated resources for the area's development. In view of its significance, DUDA has proposed the upgrading of infrastructure of all slums that fall within the boundaries of TTZ, specifically Wards 73 and 80. With the support of CURE, DUDA prepared a Detailed Project Report (DPR) for upgrading the environmental infrastructure in these two Wards; specifically build roads, construct underground sewerage and drainage, improve the water supply and provide access to better quality community sanitation services. The DPR has been submitted to the Taj Trapezium Zone Authority for funding.

[1] Numbers of slums have increased from 252 listed by the District Urban Development Agency (DUDA) in 2001 to 378 in 2006 mapped by CURE. The 2011 mapping of slums under Rajiv Awas Yojana (RAY) undertaken by CURE has identified 417 slums in the City. This figure has been verified and updated to 424 through community processes and was considered bench mark figure for baseline survey in December 2011. More recently with baseline survey process and detail survey of slums through community participation led to the identification of more slums marking the slum figure to 460. Facts and Figures/analysis in this report is based on 424 slums.

In order to complement and complete the interventions proposed under the TTZ DPR, CURE has decided to prepare an analogue - an adjunct DPR - that will fill the gaps in slum development proposed under the Rajiv Awas Yojana by the Ministry of Housing and Urban Poverty Alleviation to achieve slum free cities. The analogue DPR shall focus on the provisioning of housing and household level services with last mile connections, social services and sustainable livelihoods. Specifically, the analogue DPR will cover:

- **Housing, a key component under RAY but not under TTZ.** The DPR shall be aimed at reinforcing the kuchha and semi pucca houses to make these pucca, improve the old and crumbly structures by retrofitting and building up the small house spaces to create decent living areas as recommended under RAY.
- **Access to In-House Services.** Under TTZ, the service improvements proposed are shared and at the community level. The analogue DPR shall focus on extending connections to homes with private connections and last-mile solutions and innovative options.
- **Equality of Services:** The analogue DPR will focus on qualitative improvement of infrastructure and services to bring them at par with that in the rest of the city to enable mainstreaming and de-notification.
- **Access to Social Infrastructure.** The focus in the analogue DPR shall be on improving access of slum communities to social infrastructure, not presently covered under the TTZ DPR.
- **Sustainable Livelihoods Development.** The analogue DPR shall also complement the TTZ DPR by creating a plan for livelihoods promotion for slum dwellers, embedding these within the city's economy.
- **Preservation of the Cultural Heritage.** The analogue DPR shall focus on the preservation of the rich cultural heritage of the zone by facilitating genuine participation of people in this process.

2. Project Definition, Concept and Scope

2.1. Project Definition

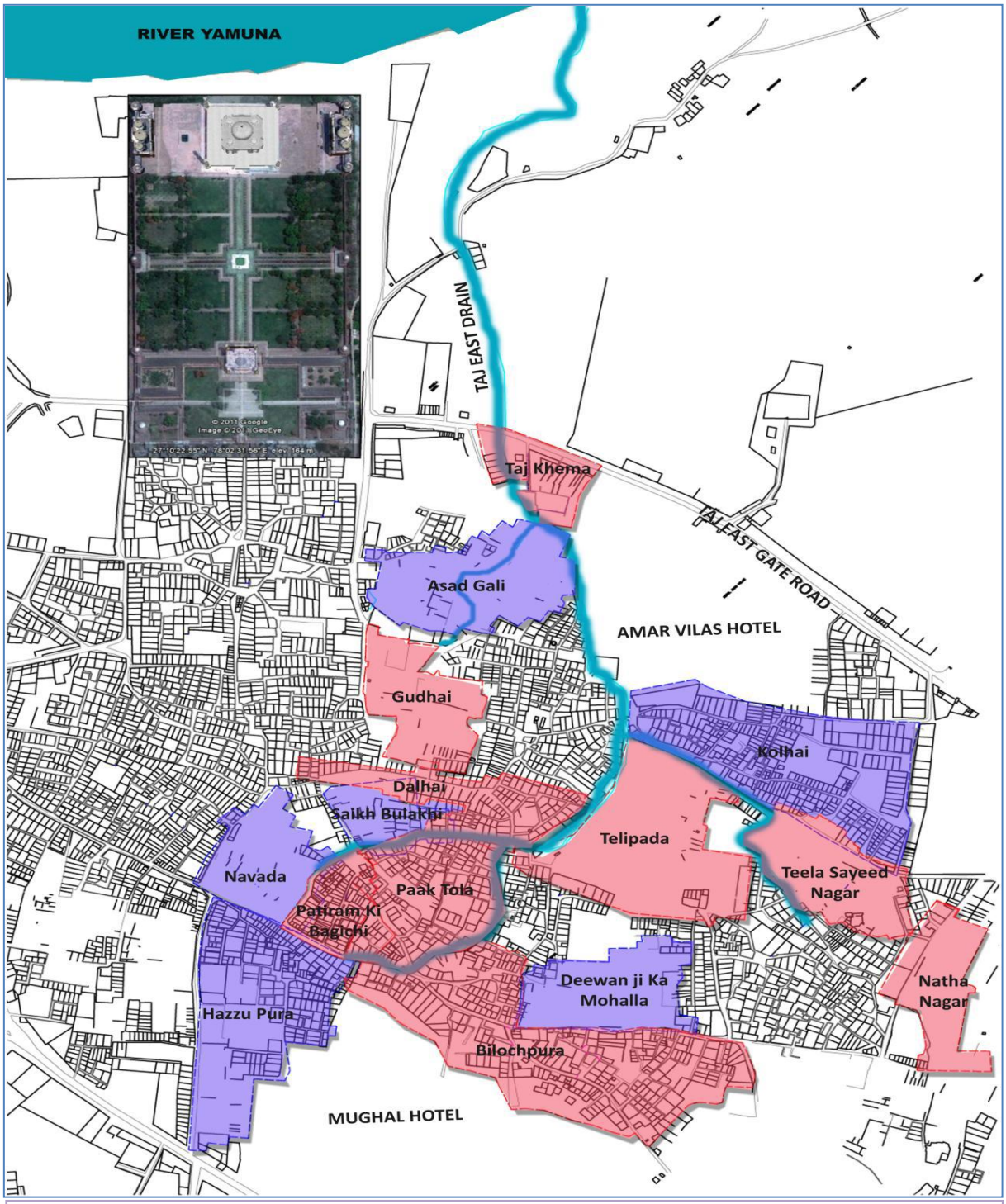
The Tajganj Slum Housing and Upgrading Project is aimed at mobilizing and engaging communities to participate in the planning and implementation of slum upgrading works in their areas. It aims to sustainably upgrade and mainstream 15 slum settlements in the Taj Trapezium Zone by connecting them to the city's main trunk and social infrastructure, improving housing structures of poor quality, creating equity in service delivery, enabling slum dwellers to build sustainable livelihoods and preserve their cultural heritage. Once fully upgraded, the settlements shall also be de-notified and regularised.

The DPR shall develop 15 slums in the Taj Ganj area and all poor households in these slums using an area-based and comprehensive development approach. All slums shall be upgraded in-situ with incremental housing, as most families here have land ownership/property titles, and with access to housing finance. Networking to city systems shall use innovative technologies customized to small spaces and dense habitations, and with bye-laws modified to the specific development context of Taj Ganj. Social infrastructure shall be accessed by convergence and engagement with concerned service providers. Livelihoods shall be embedded within the city's economy, especially tourism to lesser-known monuments, and shall replicate the successful Mughal Heritage Walk and Trail developed by CURE in the Trans Yamuna area (Annexure 1) for sustainable poverty reduction. It shall also be designed to conserve the cultural and physical heritage of the area, both as an economic growth opportunity and to ensure preservation of the old heritage.

Taj Ganj is highly attractive to the private sector because of its immense business potential and high real estate value. The DPR shall explore options of working with the private sector in the development of the area's infrastructure, housing upgrading and revival of old traditions.
The DPR shall also promote environmentally sustainable development of Taj Ganj, in accordance with the Supreme Court guidelines laid down for development in the area. In particular, it shall aim at the revival of traditional water bodies and aquifers in the area, to ensure greater community resilience.

2.2. Project Scope

The project area spans three wards of Tajganj; 2 full wards and 1 partially included; Telipada, Katra Fulel and Nagla Mewati. Between the three, there are 15 slums; 8 in Telipada or Ward 80, 6 in Katra Fulel or Ward 74 and 1 in Nagla Mewati or Ward 7.



Map 1: Location of 15 slum settlements in Taj Ganj

The DPR shall fully upgrade the 15 slums with housing improvements, in-house services with last mile connections to trunk lines and improved access to social infrastructure. It shall promote livelihood opportunities linked to the area's cultural and architectural heritage that shall also contribute to its preservation. The DPR shall overlay on the TTZ DPR developed for DUDA for creating the trunk infrastructure of roads, drains, sewerage, water supply etc. A total of 2725 households shall be reached under the DPR.

2.3. Why Taj Ganj - Rationale for Area Selection

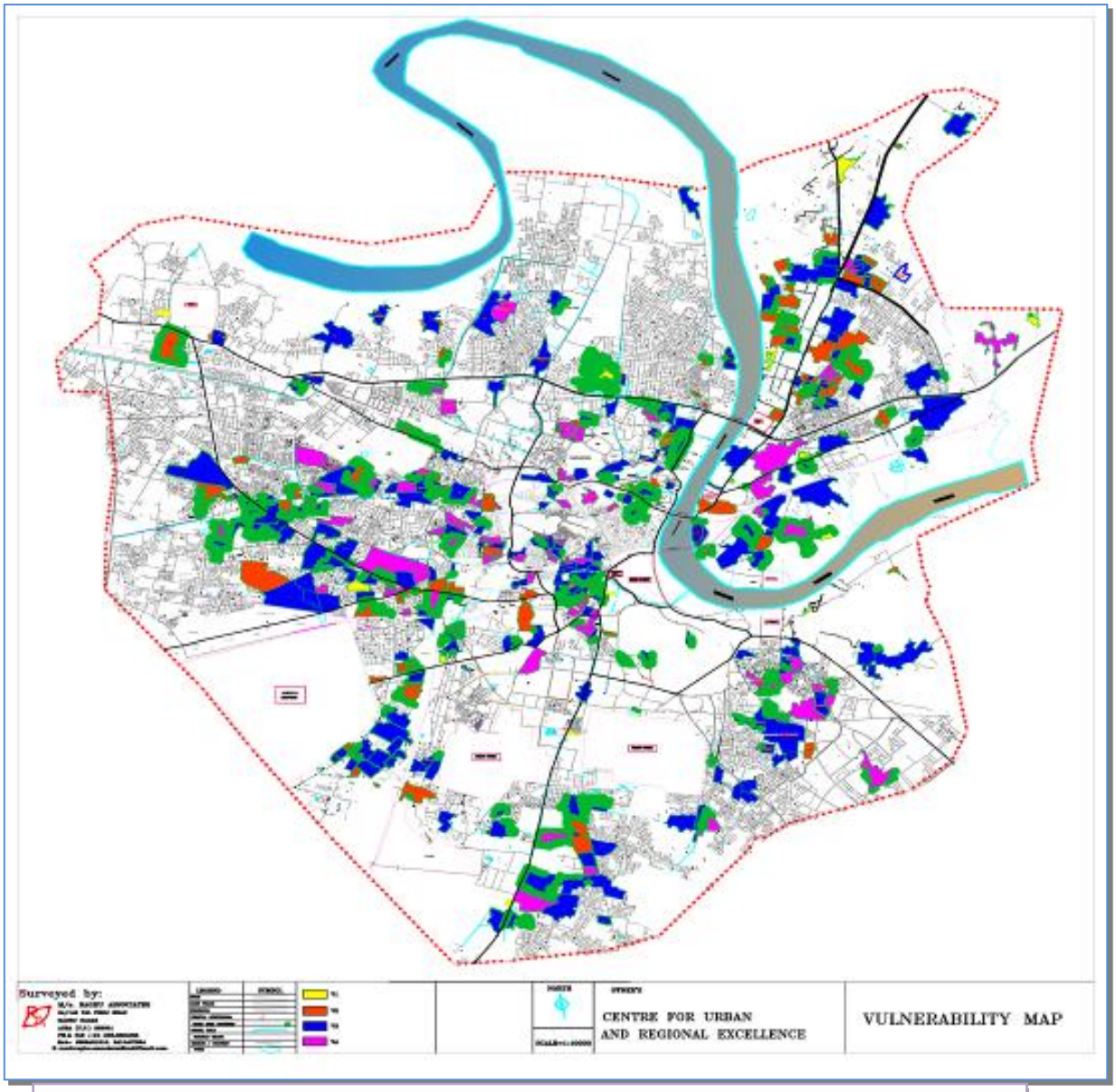
Agra is the city of the Taj Mahal, one of the Seven Wonders of the World. Taj Mahal is also a World Heritage Site. In order to protect the Taj Mahal, a buffer zone has been created around the monument with strict restrictions and regulations on development in the area.

Map 2: 1856 Historical Map of Agra with Taj Mahal and Taj Ganj

The area adjacent to the Tajmahal is called Taj Ganj. It roughly extends from the southern boundary of the present complex, to Fatehabad road. Part of the original Taj complex (bazaars and caravanserais) fall in this area (Map 2).

Taj Ganj is the most visited area of Agra. All tourists, international and domestic, flock to Taj Ganj to view the Taj. The area is thus high on the city's development agenda. Despite the protective cover and restrictions on certain forms of development, Taj Ganj has had unrestrained growth. It has been attractive to both migrants and businesses (small and big) making the area highly dense, adding to the difficulties in providing services here. Despite the preferred status, Taj Ganj thus, lacks access to basic municipal services.

Of the three wards, Telipada (Ward-80) has the maximum number of vulnerable slums. This is based on a Vulnerability Assessment of slums undertaken by CURE (Annexure 2). Indicators developed by UNHABITAT were used for making the vulnerability assessment and included; tenability, land tenure status, access to services, type of housing, poverty and gender vulnerability, and 3 of 19 most vulnerable slums were found in Telipada. (Map. 3)



Map 3: Vulnerability Map of Slums in the City

Taj Ganj has also been selected by DUDA for infrastructure development on an urgent basis under the TTZ development plan. This will help create the required trunk infrastructure in the area to which shall ensure easy connectivity for service networking and in-situ upgrading.

2.4. Inclusive and Participatory Planning

The approach to development of the Taj Ganj DPR has been participatory. It has followed a process of community engagement and mobilization, starting at the slum level and moving up to the ward and area level. Communities in each slum have been engaged through street level meetings and use of participatory tools. Slum plans have been developed by people during these community meetings. Slum planning has been followed by consultations at the ward level to discuss and find solutions for crosscutting issues. Ward level consultations have included other area stakeholders, elected representatives and service providers. Communities have also participated in developing the designs for houses in their areas and a typology of housing has emerged as part of this activity. Some quick win activities have been initiated in those slum communities where people have demonstrated

willingness to come together and take collective action. This has helped mobilise and organise communities for inclusive planning and development. Self-help groups are also being mobilised to help people save up for contributing their share of resources for home improvements. Details of the community participation process are given in section 4 below.

2.5. Innovations in Taj Ganj Slum Development

Several innovative concepts are included in the DPR in order to reach the vision and mission of the Rajiv Awas Yojana.

2.5.1. Convergence of Planning, State Resources and Non-traditional Partnerships

The Taj Ganj Slum Upgrading DPR is designed to infill gaps in the TTZ DPR that was developed solely with the objective of providing main trunk infrastructure in the area. The Taj Ganj Slum Upgrading DPR shall access funds from the Rajiv Avas Yojna and shall be implemented simultaneously with the TTZ DPR by DUDA. The purpose is to create complementarities and bring about greater synergy in slum development activities and enable mainstreaming of slum settlements with trunk services immediately rather than through intermediate measures and options. More importantly, this will help create new partnerships (between TTZ and DUDA) and ensure efficient and effective spend of government money.

2.5.2. Incremental Housing with Customisation and Building Technology Innovations

The Slum Upgrading DPR is about customized housing built incrementally and with technical innovations in these historic settlements to help create decent living spaces in resonance with their needs, livelihoods, living styles and incomes. The housing shall also retrofit homes making these structurally safe. Since Taj Ganj is both dense and subject to strong and closely monitored environmental regulations, new and innovative technologies have been designed to enable houses to connect to main trunk infrastructure. House designs have added space and helped bring in basic services such as toilets, water supply, kitchens, etc. These design solutions have taken into consideration plot areas, layouts, locations, etc. The DPR has thus moved away from a 'cookie cutter' approach to introducing real flexibility and choice based on need and affordability. This has been possible as most houses have land ownership in the area.

2.5.3. Conservation of Heritage

Tajganj being a historic area is dotted with heritage structures which must be conserved. Traditionally houses here have been designed to suit the climatic conditions and were environmentally sustainable. Addition/alternations to such houses has been planned to harmonize with the existing heritage in terms of material, design and construction techniques.

2.5.4. Use of Low Cost Construction Material and Sound Structural Techniques

Houses shall be constructed with low-cost, locally available and environmentally sustainable building material. The objective of using such material is to reduce cost of construction for people who shall build by themselves and enable them to build simply and incrementally. Project architects have introduced special structural safety elements into the housing designs that make these structures disaster resistant.

2.5.5. Environmentally Sustainable and Self-Cleansing Systems for Cleaning up Water Bodies and River Yamuna

Most slum settlements have bad drainage systems. Waste water from homes and toilets usually flows through streets and surface drains into larger drains that discharge directly into the River Yamuna. These grey water run offs from slum settlements are proposed to be treated through self-cleansing systems and bio-techniques before disposal into River Yamuna and/or linked to the Sewage Treatment Plant under development in the area. Such green technologies shall result in significant

improvement in the environment, quality of living spaces and health of the poor. These shall also be designed to create community spaces.

2.5.6. Rain Water Harvesting, Ground Water Recharging and Revival of Traditional wells

Taj Ganj area has several traditional wells that are now either dried or covered and have been boarded up. Under the project it is planned to initiate community led rain water harvesting to recharge ground water which can help in the revival of these wells.

2.5.7. Community Tourism and Sustainable Livelihoods Development

The project shall replicate the community tourism model developed under the Crosscutting Agra Programme (CAP) by CURE to provide sustainable livelihoods to the poor. The community tourism plan shall link the lesser-known monuments and old architecture buildings in the Taj Ganj area into a walking trail. This shall be promoted in partnership with the Department of UP Tourism and private sector.

2.5.8. Community-led Project Management

The DPR (part I and part II) has been prepared through a process of community engagement and slum and ward level consultations. Some quick win solutions are also underway in the project area, led by the community. The project implementation mechanism shall also be community-led; the community shall be responsible for the planning, implementing, monitoring, contracting of civil works, operations and maintenance, etc. of all civil works. The DPR provides the detailed strategy for community-led project implementation. The community will also be responsible for looking after community assets developed as part of the area upgrading so that there is ownership and pride in the development and conservation of the area.

3. City Slum Profile

A city baseline survey has been conducted by CURE. Relevant data from the baseline survey are presented below.

3.1. Numbers and Slum Locations in Agra

Agra has 432 slum settlements distributed across 7 Master Plan Zones of the City (CURE, 2012, Annexure 3). Slums have been identified in 77 of 90 wards in the city; the largest being in Bodla Zone followed by the Old City and Trans Yamuna areas. Sikandra /Dayalbagh, Kheria and Tajganj have nearly 40 slums each. Rajpur (zone 5) has the least number of slums at 29.

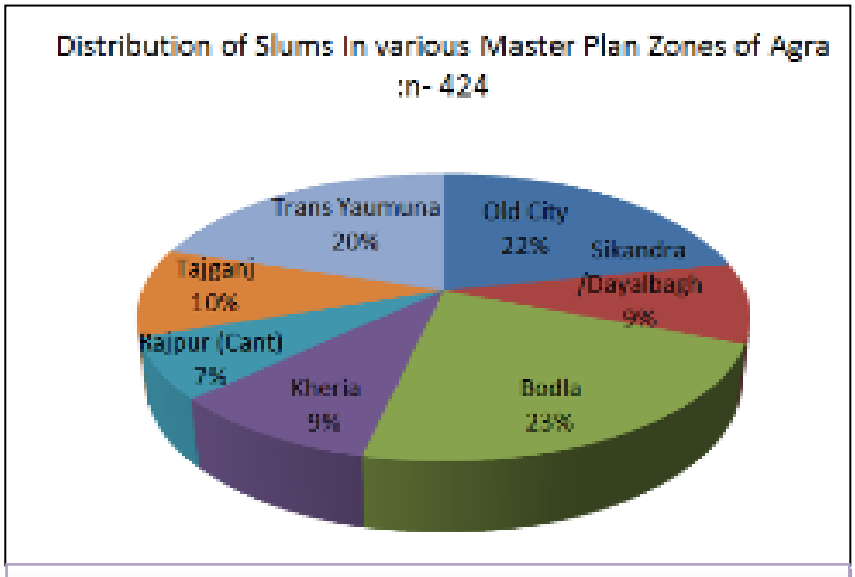
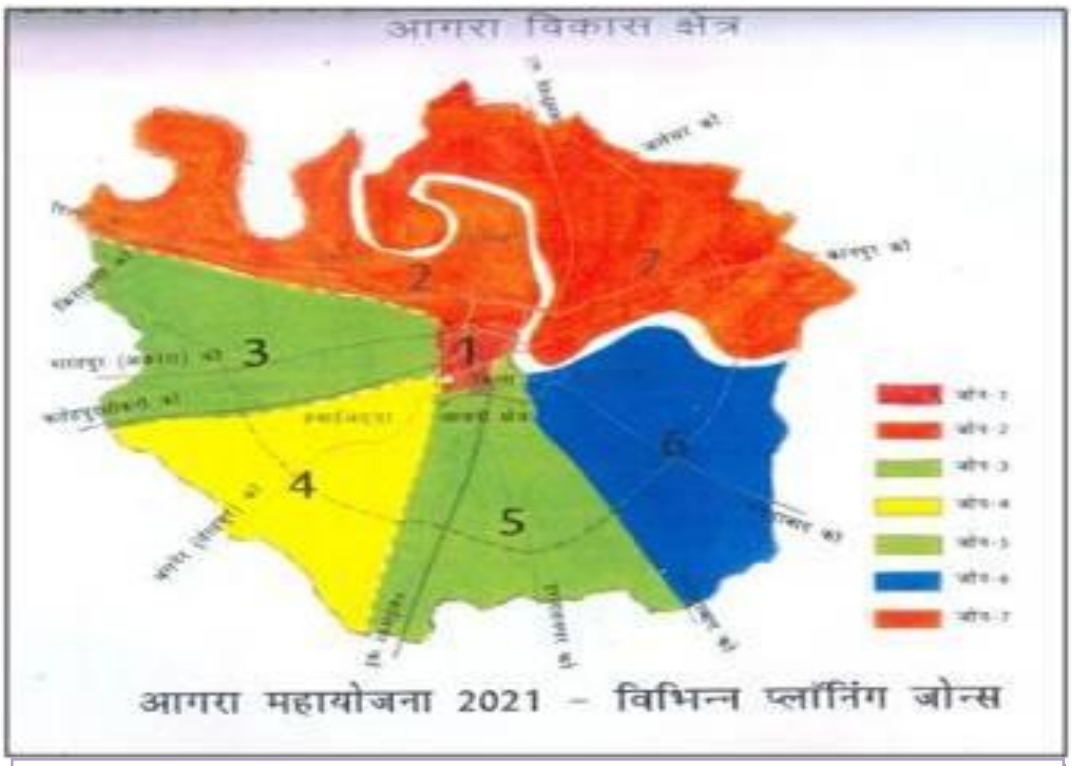


Fig 1: Slum distribution in 7 Zone in Agra



Map 4: Zonal Map of Agra

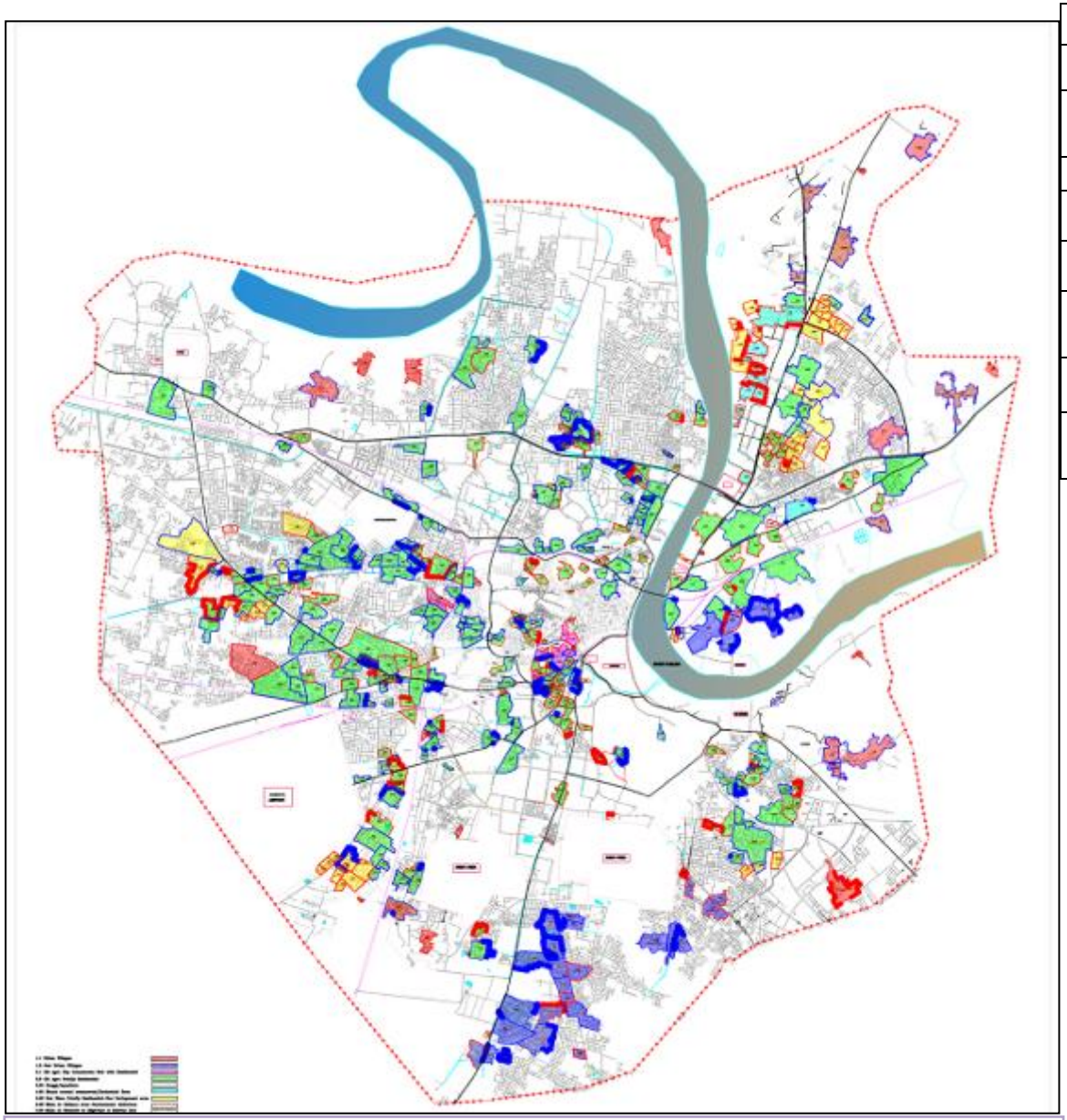
Slums in Bodla and Trans Yamuna are dispersed, as these are fringe areas and have vast tracts of lands. Slums in the old city are dense due to space limitations and therefore difficult to service. Besides technical difficulties in servicing these very old and organic settlements, the old city area is also overly regulated in order to conserve old historical monuments.

3.2. Slum Typologies

Slums in Agra can be grouped by their physical characteristics, location, local economic activities, land use and quality of housing structures. Broadly these can be grouped:

i. Hutment or Jhuggi clusters
ii. Peri urban villages
iii. Urban villages
iv. Old city settlements - commercial cum residential or fully residential
v. Settlements in industrial areas
vi. Settlements near newly developed areas
vii. Settlements inside the cantonment or defence area
viii. Settlements along transport/Sanitation corridors

Please see Annexure 4 for more details.



Map 5: Slum Typology Distribution in the City

Urban villages	
Peri urban villages	
Old Agra city commercial+ residential	
Old Agra city all residential	
Jhuggi /squatters	
Slum around industrial	
Slum near new developed area	
Slums in defence/cant area	
Slum son highway/railway lines	

Figure 2: Pictures of slums by their typologies

3.3. Land Status of Slums

3.3.1. Land Tenure

There are two characteristic features of land tenure in Agra; land ownership and authorization of slum by DUDA. Land in Agra belongs to the State Government (*Nazool* land) but is leased for 99 years to people/ residents or departments of the national, state or city governments. Occasionally it is also sold to people by the government and is considered privately owned. Land belonging to the government but not sold legally to people or where leases have expired but continues to be occupied is considered illegal or encroached land (Fig. 3)

In Agra, most slums or low-income settlements are on their own lands or lands leased to them by the State. In many core city area settlements lands are privately owned or where families have been living on very old and low rentals for generations. Some settlements are on lands donated to the poor by rich land owners under the Land Ceiling Act. In these people have ownership rights.

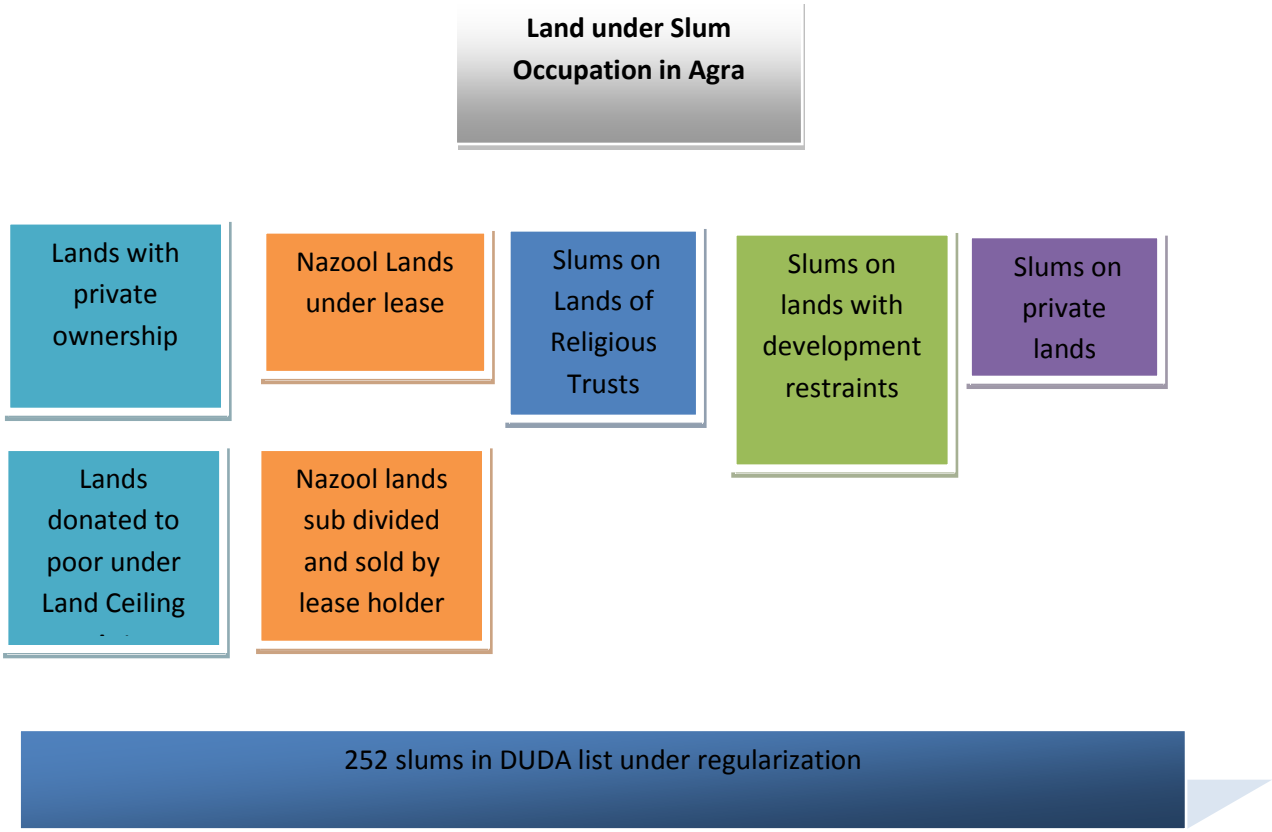


Figure 3: Land Status in Slums of Agra

DUDA has also a list of "authorised" slums. These authorized slums have de-facto land rights. A proposal to regularize land ownership of the old list of 252 slums is under consideration of the State Government. DUDA has recently recognised an additional 165 settlements, although these are not included in the proposal for regularization.

Nearly 90% of houses in both types of settlements are privately owned; a few are encroachments on state or nazool, defence, railway or religious trust lands. Just 8 slums in the city are typical 'jhuggi-jhopri' clusters housing the poorest families, mostly new migrants in the city. Many slums especially in the TTZ area have development restrictions imposed by the Archaeological Survey of India (ASI).

Table 1: Land ownership status of Authorised and Unauthorised Slums in the City

S. No	Slum Land Owners	Unauthorized Slums	Percentage	Authorized Slums	Percentage
1	State Government or *Nazool*	11	5.2	15	7.0
2	Railways	3	1.4	2	0.9
3	Defence	6	2.8	2	0.9
4	Private with property rights	188	89.1	189	88.7
5	Trust/Waqf Board	3	1.4	5	2.3
	Total	**211**		**213**	

3.3.2. Tenability

392 city slums are considered tenable with people having secure land rights/legal house ownership deeds and land use in conformity with the Master Plan. 31 slums are semi tenable such as those on non-residential lands. However, some of these can be tenable as the State can recommend land-use changes for in-situ development. Only one slum is untenable as it is located on a hazardous site along with lack of ownership and unsuitable land use which need to be relocated. (Fig. 4)

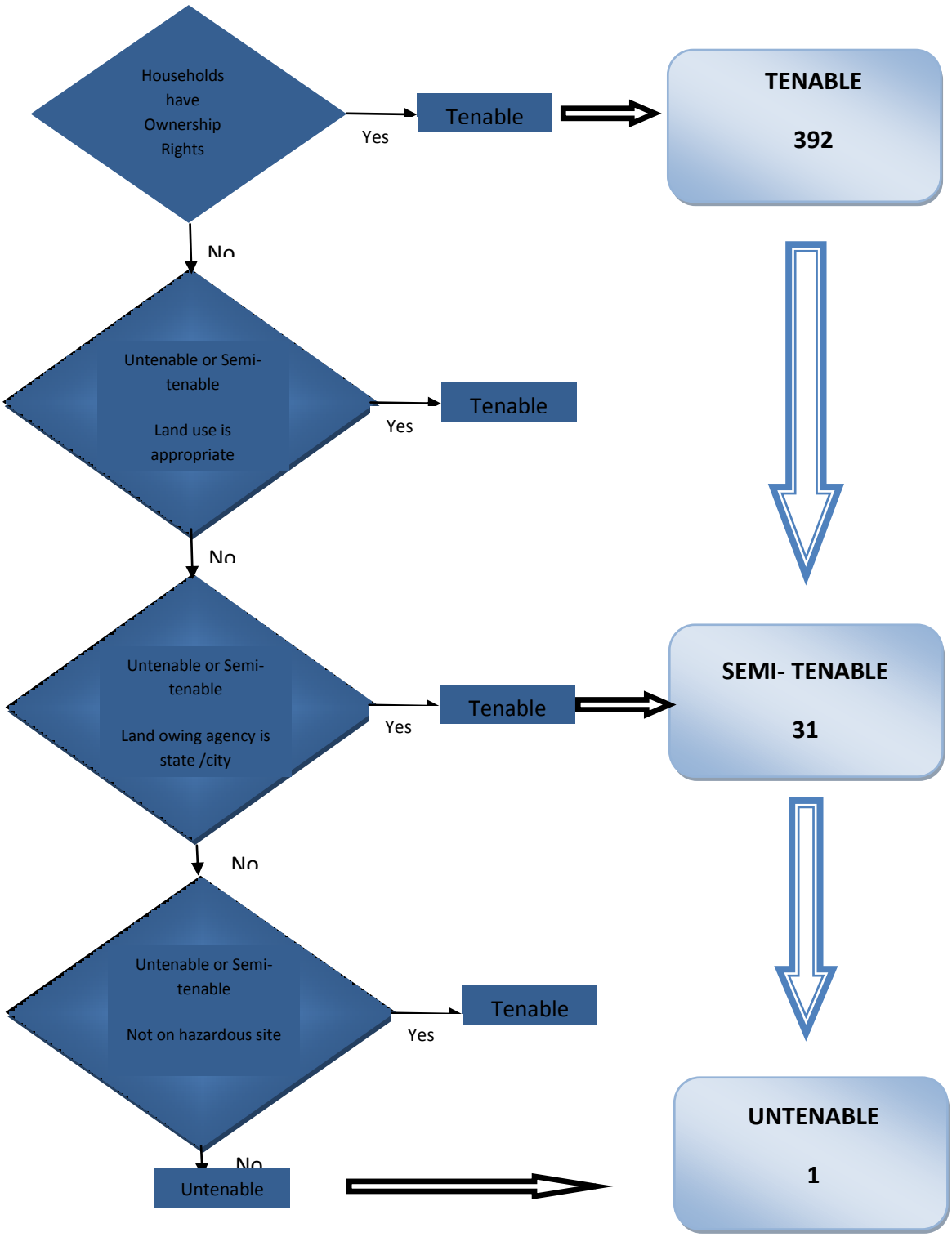
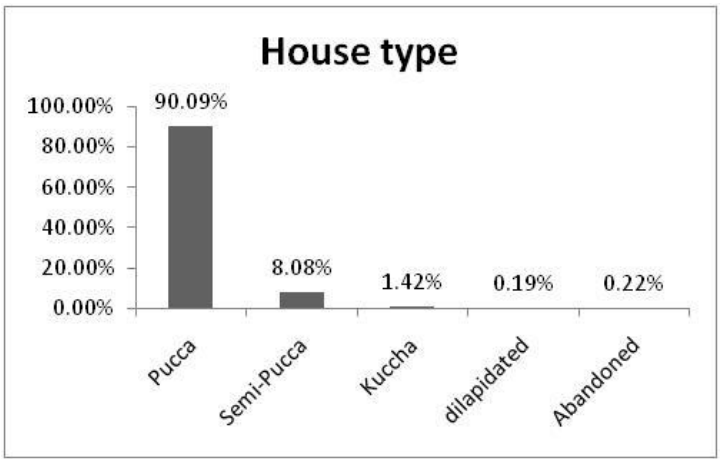


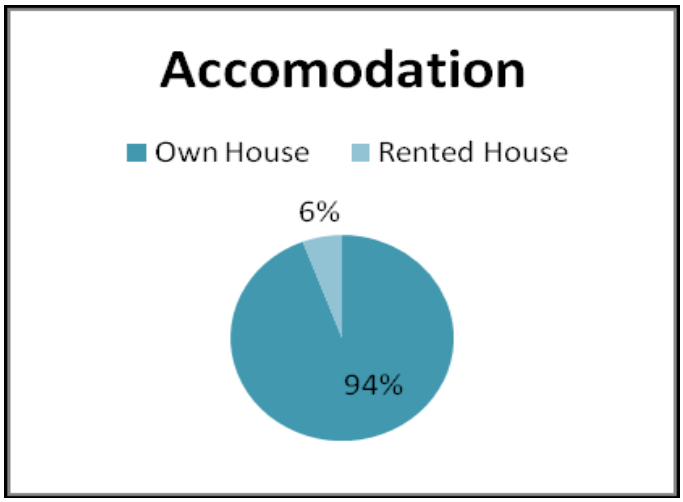
Figure 4: Tenability Tree

3.4. Status of Housing in Slums

The 9 'jhuggi-jhopri' clusters have mostly kuchha and semi pucca housing and house the poorest families in the city. Housing in all other settlements is mostly pucca (90.09%), with plastered/un-plastered brick walls, Plain Cement Concrete (PCC) flooring, and permanent roofing made of sandstone slabs supported by beams/girders or in some cases Reinforced Cement Concrete (RCC). Of the remaining, 8.08% is semi kuchha and 1.42%, kuchha.



In the core city area, even though a significant proportion of houses may be pucca, many are in dilapidated state and structurally unstable due to their age, bad quality material and poor construction technology interventions. These houses need regular maintenance that is expensive and unaffordable. Housing in the historic core, besides being structurally unsafe, also lacks sufficient lighting, ventilation, access to toilets and proper drainage and sanitation services.



94% houses are self occupied by the owners and there are very few renters. Renters are mostly found in slums around areas with better livelihood opportunities with rents varying from Rs. 500-2000. The percentage of renters in the core city area is high.

3.4.1. Housing Typologies

Based on the housing conditions in slums, CURE developed a typology of housing using 6 key parameters; physical condition of the structure based on material used for construction and current condition and age, size and layout, land status, ownership, location of slums and area density, and the occupation of residents. A set of housing designs were developed based on these typologies as a basis for further customisation. The Housing Matrix evolved from the above study is presented at Annexure 5.

3.5. Access to Services

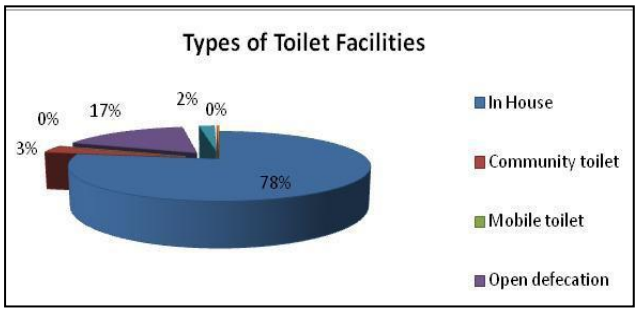
Slums in Agra have poor access to basic urban services due to lack of trunk infrastructure in and near the slum areas, willingness of local governments to extend services to illegal areas or provide connections at household levels, poor quality and inequity in services between slums and other parts of the city, poor maintenance of infrastructure, low accountability of service providers, etc. At the household level, low affordability among families compounds the problems of availability and access.

3.5.1 Water Supply

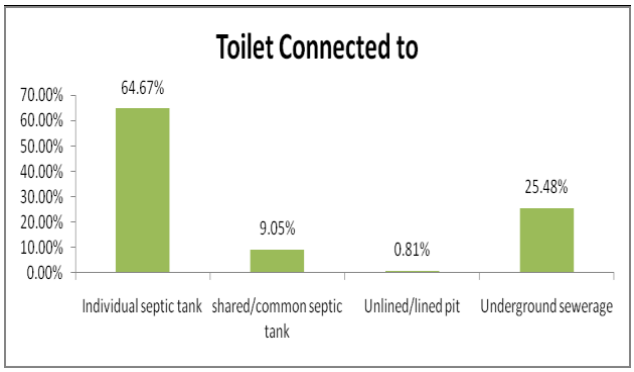
About 60% of slums have access to HH municipal water supply. However, the newly laid water supply pipelines under JNNURM are still to be charged. People therefore depend on ground water or government and private tankers or sources. About half (45.2%) of those with no access fill drinking water from government installed hand pumps in the community or public bore wells with motors. About 5% depend on public taps linked to piped water supplies or water tankers. The quality of municipal water supplied is also poor, having foul smell and yellowish colour.

3.5.2 Sanitation

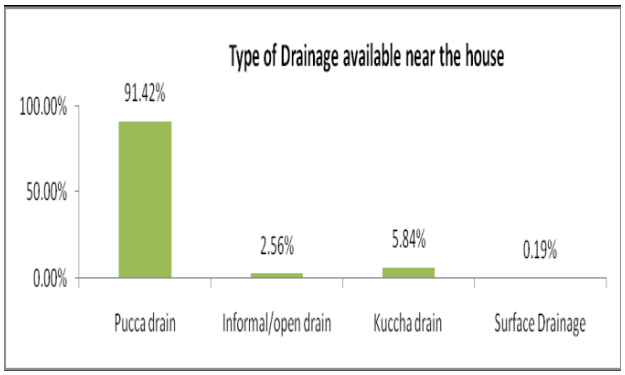
Majority of houses (78%) have household toilets, though children defecate on drains or in open plots. 75 slums have ANN community toilets but only 3% use these due to poor maintenance. 17% people defecate openly.



Most household toilets (65%) are connected to individual septic tanks, 9% to common septic tanks and 26% to underground sewerage which is usually non-functional, chocked or newly laid and hence unconnected to trunk lines. Very few have unlined pits that could leach bacteria into the ground water. Overflow from septic tanks discharges directly into open surface drains.

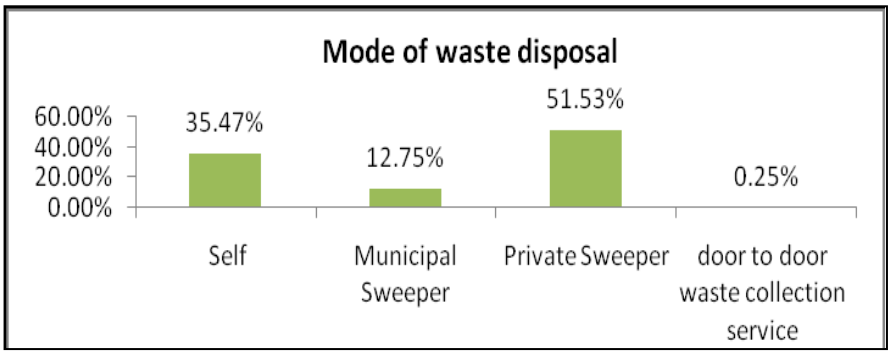


Surface drains generally correspond to road types; pucca roads have pucca drains and kuchha roads have kuchha drains. Not all slum lanes however have formal drains. Here much of the waste water flows into open areas, streets or into pits that people scavenge manually. All surface drains are open and mostly choked due to poor gradients and flow, or solid waste dumping and irregular cleaning. Water logging is a key problem in rains because of such blockages. Under JNNURM sewer lines are being laid but all slum areas are not getting connected.



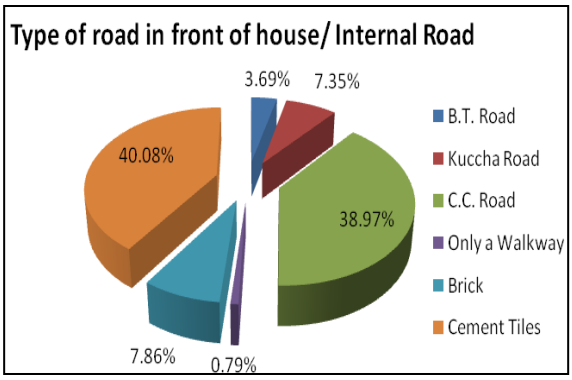
3.5.3 Solid Waste Management

Solid waste collection and management across the city is poor. Most households hire private sweepers to dispose waste. Over one-third dispose the waste themselves. About 13% report municipal sweeper collecting waste. Door-to-door waste collection recently initiated by ANN covers just 0.25% slums. Removal of waste from disposal sites or dhallaos is mostly irregular. Mounds of uncollected waste are seen scattered in open areas and parks inside slums creating highly unsanitary conditions.



3.5.4 Roads and Transport

Most (93%) slums have a motor-able approach road. In-slum roads are also mostly pucca (92%) made of brick kharanja, concrete paver blocks or cement concrete; just half of which are motor-able. Just 8% roads are kuchha.



Agra did not have a city bus service till very recently. It therefore does not have a formal transport network. Transport services in the city include private buses, shared auto rickshaws, cycle rickshaws, etc. For majority of settlements (98%), bus stops are at significant walking distance. ¾ of the residents use buses to commute to their work places. Others use alternative modes of transport; shared auto, private bus services, horse driven carts (*tongas*) or cycle rickshaws (9.3%).

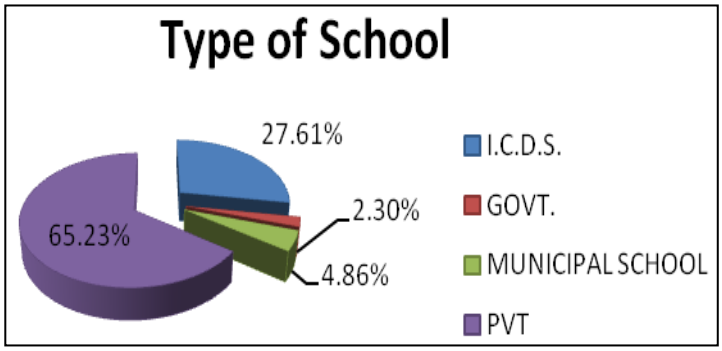
3.5.5 Power Supply and Street Light

Power supply is privatised and legal power connections are being extended to all households including in slums. Almost all slums now have access to legal power supply. 98% slums also have street lights, although not all work. Numbers of street poles per street are also insufficient.

3.6. Social Infrastructure

3.6.1. Education

Schools are present within or near all settlements. However, in most cases (65%), these are private schools whereas just 8% schools are municipal or government. Dependence on private schools for primary (65%) and high school (91%) is high as compared with the Government due to lack of infrastructure and staff.



3.6.2. Health

Only 8 slums reportedly have a government health facility within the slum area. Most others travel at least 5kms to get to a public or private health facility (333 slums have access to government hospitals and 369 have access to private clinics within 5 km range). Distance to the facilities results in high opportunity costs with most people needing to forgo their daily wage for medical care. Majority of slum residents therefore, prefer local private doctors, largely untrained.

3.7 Livelihood

About half the working population in slums (44%) comprises skilled/ unskilled workers earning a daily wage mostly in the leather industry. About one-fourth (26.22%) are also self-employed, having either micro enterprises or work as vendors. Less than 5% work as casual labour. About 27% were reportedly, salaried people, some of who are in formal government jobs.

Slum women mostly work as daily wage workers or in traditional family occupations such as washerwomen or shoe making. Many are domestic workers. Many also work out of homes doing piece rate work such as making chains, *bindis*, brushes, shoe boxes, incense sticks, shelling peanuts, etc. They earn very little from these activities and are usually exploited by the contractors.

3.8 Issues and Challenges for Slum Development

Key development issues emerging from the above data with implications for slum upgrading according to the baseline study[2] were:

- **Poor Quality Housing**: Housing in slums is mostly pucca. However there are houses that are kuchha, semi-pucca, pocket sized, structurally unsafe, lacking in toilets and water services, and which require upgrading. Since land is mostly owned by the residents, the challenge is to customize the housing to people's requirements, affordability, plot dimensions, etc. enabling them to build incrementally. Since home-based economic activity is common practice in the city, the challenge is to designs houses that will enable people to pursue their livelihoods.

- **Unequal Access to Quality Services:** Despite the expansion of main trunk infrastructure, there continue to be issues with respect to equity, access in peri-urban settlements, last-mile connectivity to homes, operationalising of services due to lack of supplies, poor maintenance, infrastructure damage, etc. Besides issues related to physical infrastructure and connectivity, there is a lack of community involvement in the planning and maintenance of these services. These concerns cut across all basic services of roads and pathways, water supply, sanitation, solid waste management, etc. The key challenges to integrating slums within the city will therefore be to ensure inclusive service delivery with equity with accountability.

- **Accessing Services Informally/Privately:** An emerging area of concern is the informal access by a large numbers of residents to services especially water supply. This may be both the result of poor quality service delivery and unwillingness of governments to supply in illegal settlements. Inadequate service delivery has also resulted in the mushrooming of private vendors and contractors that make available services to the poor at prices higher than the municipal rates, and add to their cost of living. The challenge is therefore to ensure that the city government are able to provide essential services adequately, legally and efficiently to the poor.

- **High Incidence of Open Defecation**: Incidence of open defecation in Agra slums is high, especially in houses without access to toilets. This is both undignified and leads to environmental and health hazards. Under RAY, by upgrading slums and improving the

[2] Citywide baseline survey of slums was conducted by CURE in January 2012 to set bench mark for the city.

houses and adding private toilets to them, the city can move towards the City Sanitation Goal of becoming an Open Defecation Free City. This shall be a major challenge for the city of Agra.

- **Poor Sanitation and Solid Waste Management (SWM) Systems:** Poor SWM also adds to the deteriorating environment of the city and is a major challenge for Agra. The reasons for poor SWM and other sanitation services are institutional (poor planning, low management capacity, low accountability, inefficiency, etc.), infrastructure related (lack of tools and implements for efficient collection and disposal), systemic (irregularity of collection and poor disposal) and community-based (lack of involvement and contribution for SWM). These challenges will need to be addressed to bring about significant improvement in city sanitation.

- **Restricted Opportunities for Decent Livelihoods:** Over the years, production and manufacturing sectors including traditional handmade industries in the city have been under rapid decline. Some of the reasons for this are the oppressive environmental regulations, low investment in the region, etc. This has resulted in a severe crunch in livelihood options both formal and informal, for the poor. More imagination is needed to create new opportunities for the income generation for the people.

- **Social Justice Issues:** Agra city has several marginal groups and communities such as the Muslims the scheduled castes (*dalit* communities) that need special attention to alleviate their poverty and to mainstream them. Besides these, there are many vulnerable groups inside the settlements that need support to access housing, services, livelihoods, social infrastructure etc. Slum upgrading will need to adopt a socio-spatial approach to address challenges of access among the marginal communities.

4. Methodology for DPR preparation

This DPR has been developed using a participatory and inclusive planning process. Besides engaging and organising the community and involving them in the process of planning, the DPR has also relied on several data bases generated at the household, slum and city levels that have helped gather together the facts and deepen the understanding of the Taj Ganj area.

4.1. Community Participation Process in Planning the DPR

4.1.1. Community Mobilisation and Organisation

Communities in all 15 slums of Tajganj have been included in the process of participatory planning. The communities have been mobilised by CURE facilitators. Street Meetings, Focus Group Discussions and other Participatory Learning and Action (PLA) tools have been used to identify various issues of concern and discuss causes and find solutions. Based on identified priorities, communities have been organized into issue-based micro groups to discuss long-term action plans and solutions. Some quick win actions have been initiated in some of the settlements where communities have demonstrated keen interest and willingness to contribute resources, time etc. to improve service levels.

Groups have also been organised for livelihood development and are being linked to the SJSRY programme through DUDA. This area is historically very important having several important monuments and heritage structures and communities having traditional occupations like embroidery, garland making, shoe making etc. A group of youth has been mobilized for the organization of heritage walk along lesser know monument and intangible heritage.

4.1.2. Preparation of Slum Development Plans

In a series of community interactions, each community was helped to prioritise its needs and come up with a slum development plan. The Slum Development Plan emerged from a clear understanding of each problem, its causes and effects on various people and parts of the slum. The Slum Plans also listed possible solutions to these issues which people felt were feasible. The slum plans are at Annexure 6.

4.1.3. Ward Level Consultation

A review of the various plans suggested that across the settlements, there were several common areas of concern. These include certain environmental features that intersect across settlements or missing services in the area, etc. that require common /area level solutions. In Taj Ganj a large uncovered city drain cuts through many of the slums. Its poor maintenance has reduced its capacity and flow causing it to flood during the rains and causing highly unhygienic conditions. There is also a canal that passes through the area that has over the years of neglect been reduced to a drain. Most slum areas also lack access to household water supplies, solid waste management services, sewer systems, senior school for children, public health centre, etc.

Ward level consultations (one in each ward, Telipada and Asad Gali) were organised to discuss these common concerns. The ward level consultations were broad based and included several stakeholders besides the community representatives; ward councillors, local agency staff, JNNURM Project Implementation Unit, ANN sanitary staff, Departments such as the Archaeological Survey of India and the Agra Development Authority. Ward Plan developed in these ward consultations is at Annexure 7.

4.1.4. Small Group Meetings to Detail Solutions

Following the ward level meetings, small inter-slum groups were formed to discuss the specific solutions that were proposed at the consultations. Solutions to crosscutting issues are at Annexure 8.

4.1.5. Community Based Organizations

The process of interactions has led to the formation of committees in the each slum, who will continue to work with CURE and DUDA on implementation strategies.

Six Community Based Organisation (CBOs) have been formed which includes about 60 members representing all segment of society. Three Self-help Groups (SHGs) have also been organised in these settlements that have started monthly saving and inter loaning within its members.

Various community-based initiatives have been taken up by people which include setting up of door-to door waste collection system, saving groups of women, youth skill improvement training groups linked to DUDA, Safai Samiti, Water Samiti etc. (Details in Annexure 9). In Teli Pada (Ward 80), a Community Ward Committee has also been formed which participates actively in the Ward Development process.

4.2. Data generation

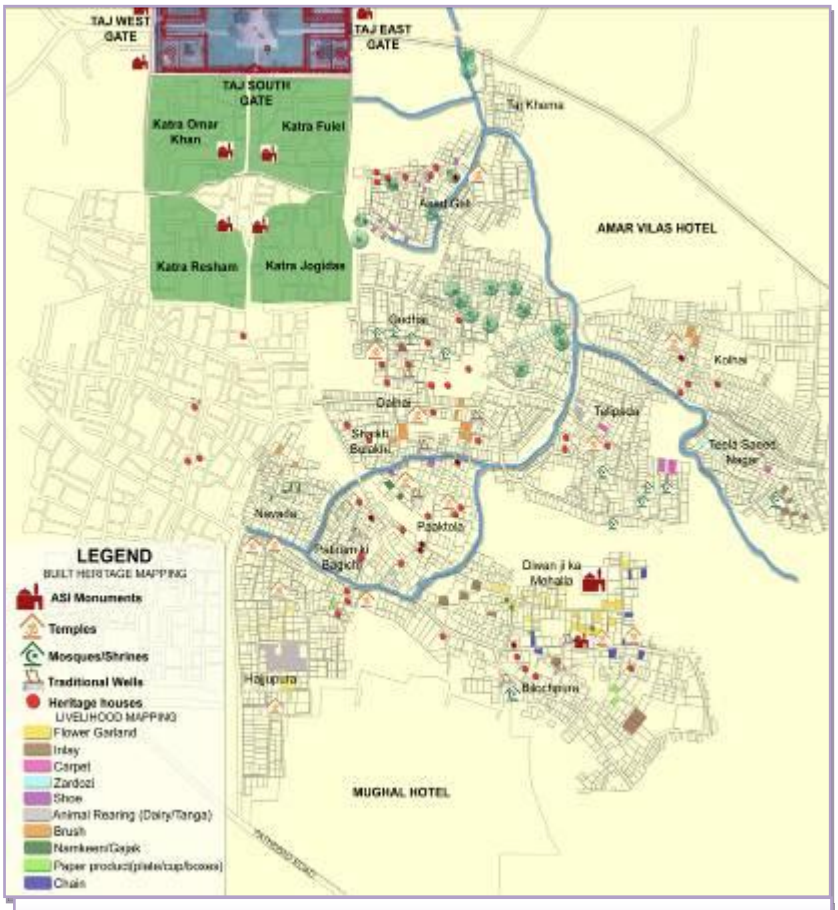
Quantitative information has been generated at the slum and household level using surveys and mapping processes. This has helped to quantify the qualitative information developed above.

4.2.1. Household Survey

A household survey has been undertaken in all 15 slums and for all 2788 houses using the MoHUPA survey format with adaptations to the Agra context. Specific information generated from the survey such as demographic profiles, occupational patterns, levels of income and access to civic amenities, etc. has contributed to the DPR design. The survey format is at Annexure 10. The household survey was done with support of young people from the slums. These youth have also been involved in data entry and analysis of information. Household survey analysis is presented in section 5.

4.2.2. Livelihood Profile

Local livelihoods in slums were profiled. Taj Ganj residents are mostly engaged in traditional livelihoods. A detail mapping of livelihood patterns in these slums were conducted which is shown in the map below.



Map 6: Livelihood Mapping of (15) Slums in Tajganj

Men make shoes or do marble inlay work. They also pull rickshaws. Some traditional livelihoods require high level of skills that have been handed down generationally. People were keen to enhance these skills and acquire modern business practices. Women work out of homes doing zari zardiozi embroideries, making garlands, doing inlay work etc. (Refer Map. 6)

4.2.3. Mapping

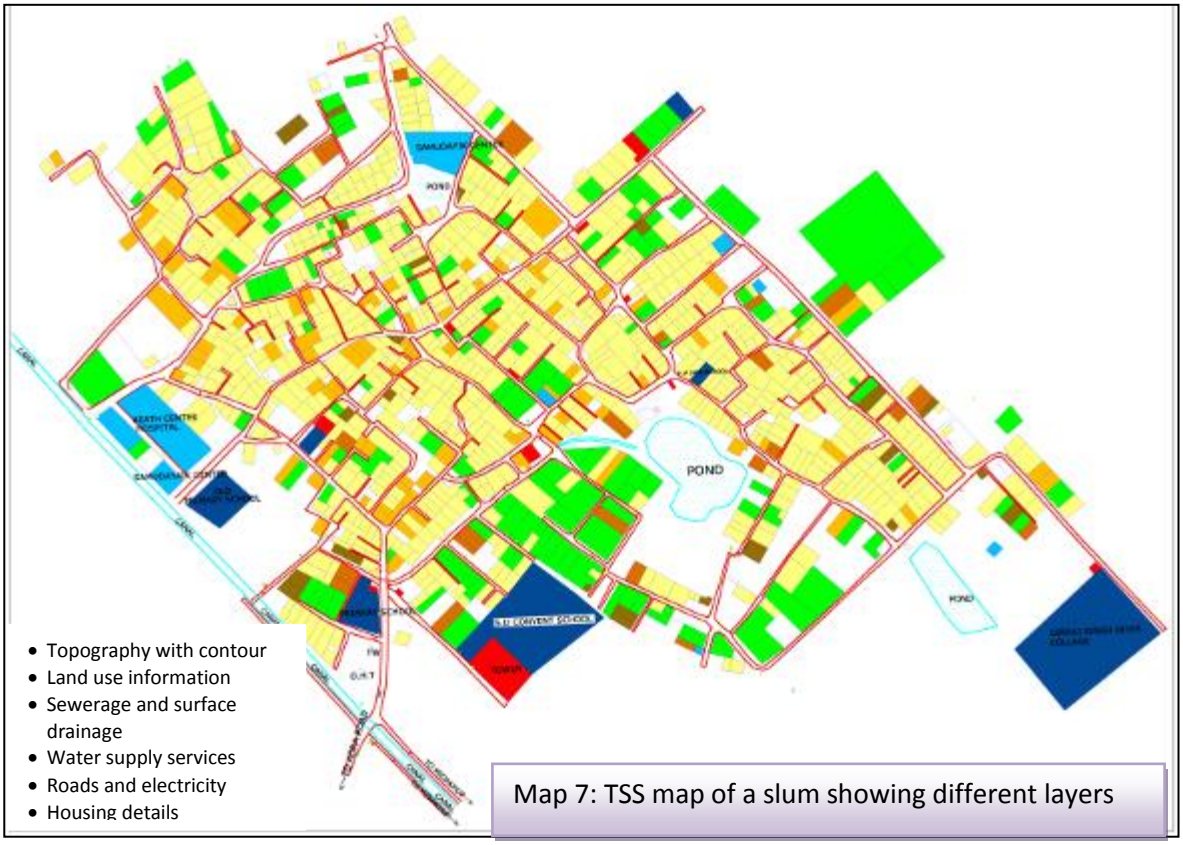
Several maps have been developed for a spatial analysis of slum issues.

4.2.3.1. Slum Boundary and GIS Maps

Physical boundaries of slums were plotted using GPS instruments and with local community participation. The boundary maps have been integrated with Google city maps on a GIS platform. Household survey data has also been attached to enable a geo spatial socioeconomic analysis.

4.2.3.2. Total Station Surveys

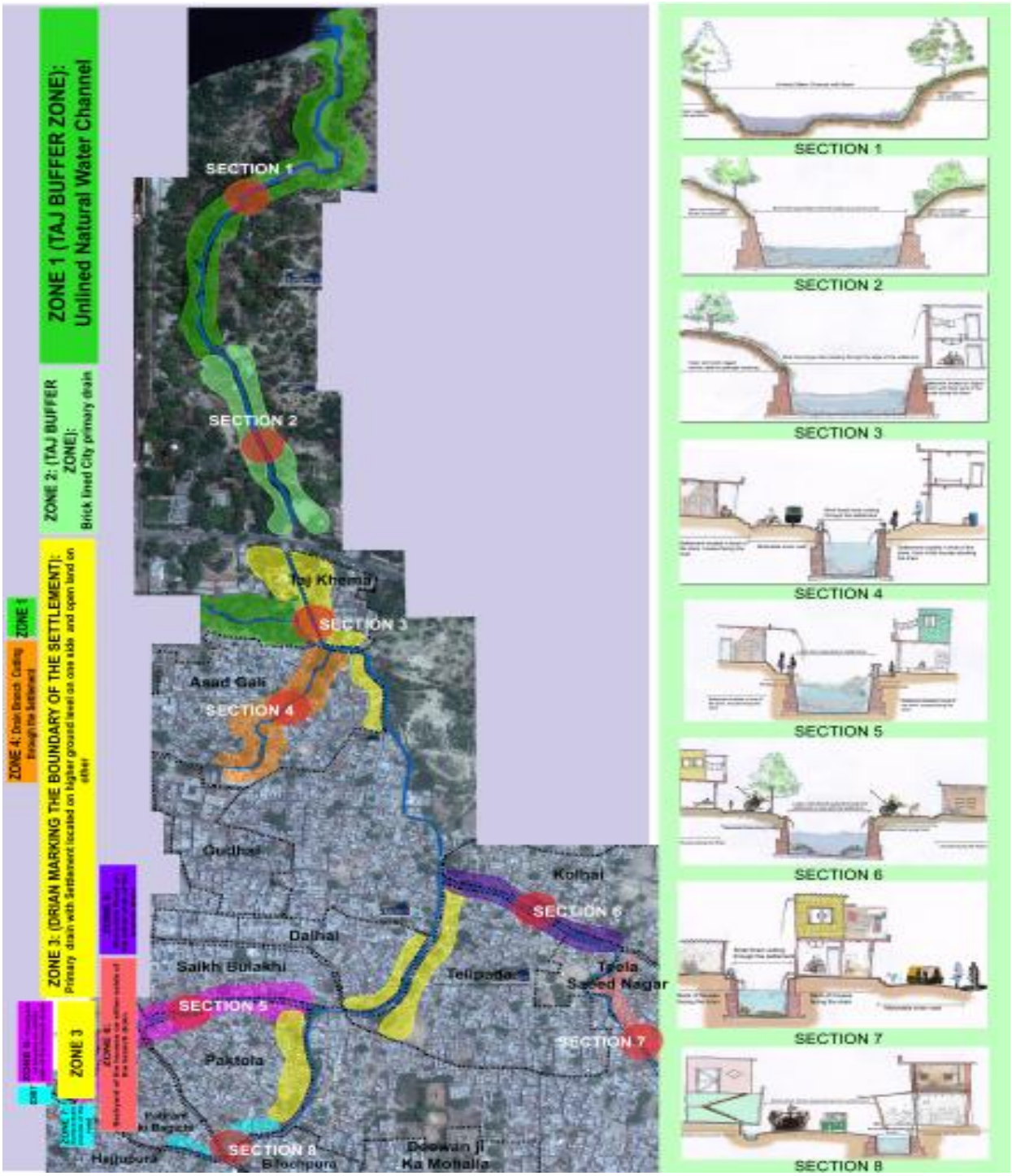
Total Station Surveys (TSS) were undertaken and have generated information on spatial contours, topography, land uses, housing typologies, road and service networks, location of social infrastructure etc. TSS maps have provided critical information to design infrastructure networks such as current service levels, gradients, land topography, etc. (Annexure 11)



Map 7: TSS map of a slum showing different layers

4.2.3.3. Mapping of Taj East Drain

A big drain (naala) with an approximate catchment area of 815.05 hectares passes through 6 slums in Tajganj. It is known as the Taj East Drain. Since the drain forms a major contour of the slums in the area, it was decided to map the entire length of the drain including its edge conditions, size, house location alongside, key issues etc. The mapping was supported by the community. The Taj East Drain stretch is divided into 8 zones depending on the edge characteristics.



Map 8: Taj east Drain Mapping

4.2.3.4. Heritage Structure Mapping:

Taj Ganj area has rich built and living heritage. A mapping of the heritage structures in the area has been done. This includes the lesser-known monuments (protected and unprotected), which includes tombs, shrines, mosques and temples, traditional houses and old wells. Mapping of the heritage structure includes the ASI protected monuments such as the Shahi Mosque, Makbara of Diwanji Ki Begum and four Katra gateways; unprotected monuments such as the Dargah of Lal Bukhari (one of four brothers whose Dargah is also at the four co-ordinates of the Taj Mahal and said to protect the monument from negative vibes), old mosques and temples. 49 traditional houses and 8 old wells have also been mapped. The Heritage mapping has also been integrated with the INTACH listing[3].

1. Diwan Ji Beghum Ka Makbara
2. Temple
3. DIWAN JI BEGUM'S MOSQUE
4. Shahi Mosque with Traditional Value
5. Dargah of Lalbukhari
6. Teli Pada Mosque

Figure 5: Heritage and Livelihood mapping with respect to the location of 15 slums

4.3. Engineering Analysis

Data was also generated on infrastructure. Water supply and sewerage plans in the city were overlaid with slum location maps and TSSs to make a infrastructure gap analysis. NBO formats were used for this purpose. Distances were measured between the slum and the nearest trunk infrastructure to estimate demand, prepare engineering plans and drawings and the financial estimates for the DPR.

4.4. Housing design development

Sample housing study in six zones of the city was conducted to create a typology which was based on plot dimensions, house sizes, quality of structure, material used in construction, current condition, and age of building. Based on the study, housing designs options have been prepared for medium and high density areas with minor customisations giving user flexibility in using the spaces and incrementally upgrade it also. Consultations were organized with the local communities in Tajganj to

[3] Lucy Peck: Agra, The architectural heritage: An INTACH Roli Guide

finalise the housing upgrading designs which will eventually be served as a model for preparation of EWS houses in this area. Specific meetings were conducted to a group of all kuchha houses, all semi pucca houses, sunken houses etc. These meetings were conducted to understand the requirement of community spaces for urban poor especially women to use as a livelihood spaces.



Figure 6: Housing meetings in Tajganj communities

5. Situational Analysis of Slums

Based on the household survey of all households in the 15 slums, an assessment of the slums has been made by CURE and is presented here.

5.1. Number and Location

Of the 15 slum settlements in Tajganj only 6 are listed under DUDA and considered authorised settlements. There are 2725 households in these slums with a population of 18137. The average household size of 6.7 is higher than the city average of 6.08. In 2008, the CDP estimated the Tajganj slum population to be 20% of the total ward population. CURE's survey suggests that the population may be much higher at 35%. The list of slums with the number of households and population is given below.

Table 2: Demographic status of Tajganj Slums

Sl.No	Name of Slum	Ward No.	Total No of HHs	Total Population
1	Hazzupura	80	337	2202
2	Diwan Ji Ka Mohalla	80	160	1058
3	Teli Pada	80	350	2329
4	Kolhai, Tajganj	80	266	1748
5	Patiram Ki Bagichi	80	96	644
6	Teela Sayeed Nagar	80	202	1306
7	Bilochpura	80	307	1999
8	Paak Tola	80	217	1471
9	Navada	74	114	819
10	Asad Gali	74	220	1495
11	Taj Khema Basti	74	40	258
12	Dalhai	74	144	871
13	Gudhai, Tajganj	74	161	1166
14	Shekh Bulaki	74	59	389
15	Nathha Nagar	7	52	382
	Total		**2725**	**18137**

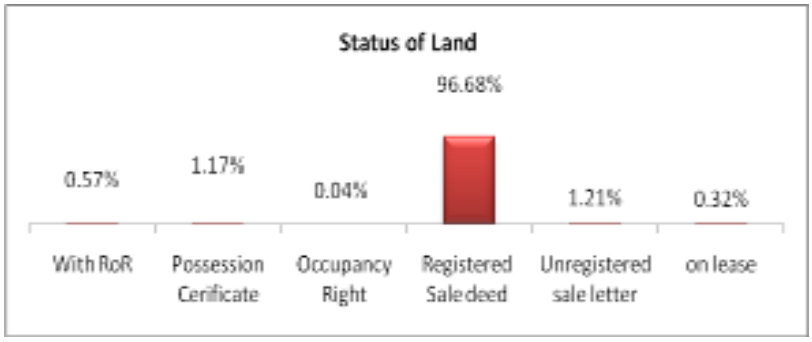
5.2. Slum Typology

Slums in Tajganj area are old historic settlements with mixed land use. Here families are engaged in traditional stone inlay works, zardozi, carpet making etc. in their homes. Over the years however,

many such traditional activities have been replaced by more modern and commercial work that has led to a degradation of the living environment.

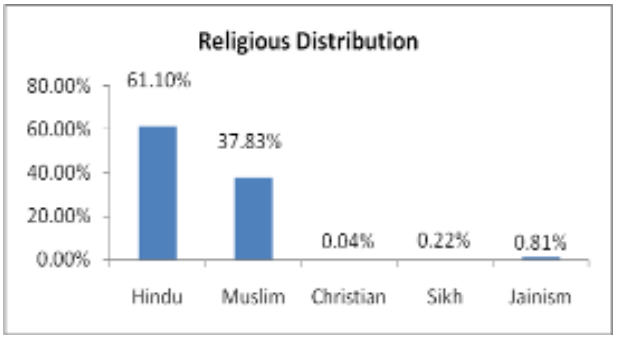
5.3. Land Status

Tajganj falls in Master Plan Zone 6, a mostly low-rise, medium density residential area with Bazaar Streets along main roads catering to tourists. In Tajganj more than 95 % residents have legal land rights.



5.4. Social Composition

61% people in Tajganj are Hindus, 37.8% Muslims, 0.04% Christians, 0.22% Sikhs and 0.81% Jains. Nearly 68.1% also belong to the backward castes, 16.7% to the general castes and 15.3% to the scheduled castes. A high Muslim population here is attributed to the Taj Mahal; with many families tracing their association with the construction workers of the monument.



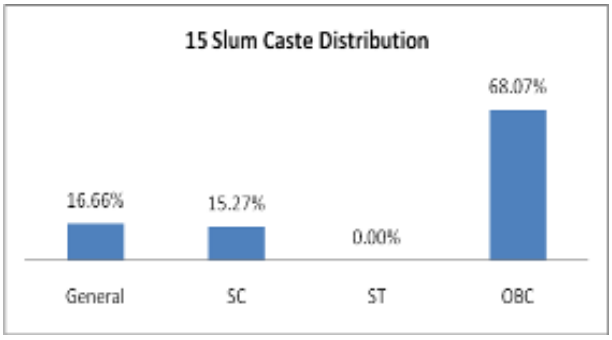
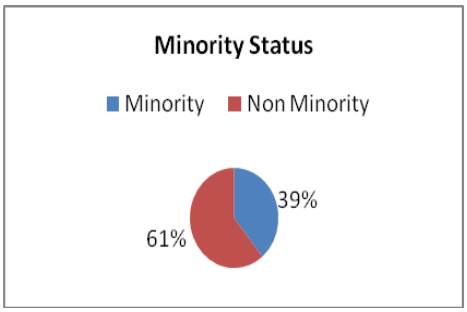
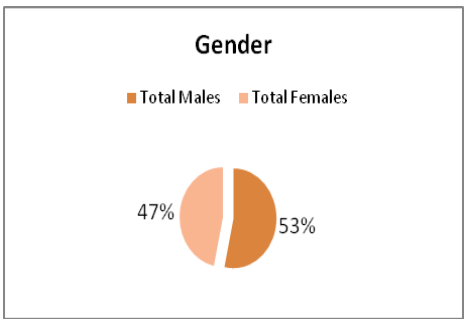
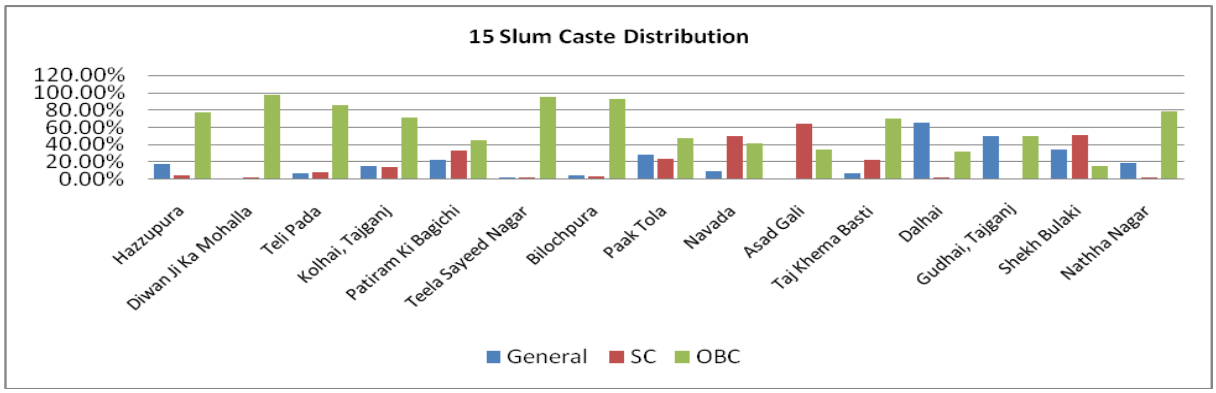


Table 3: Caste and Category

Name of Slum	General	SC	OBC
Hazzupura	17.51%	4.75%	77.74%
Diwan Ji Ka Mohalla	1.25%	1.25%	97.50%
Teli Pada	7.14%	7.71%	85.14%
Kolhai, Tajganj	15.79%	13.16%	71.05%
Patiram Ki Bagichi	22.92%	32.29%	44.79%
Teela Sayeed Nagar	2.97%	1.98%	95.05%
Bilochpura	4.56%	3.26%	92.18%
Paak Tola	29.03%	23.50%	47.47%
Navada	9.65%	49.12%	41.23%
Asad Gali	1.36%	63.64%	35.00%
Taj Khema Basti	7.50%	22.50%	70.00%
Dalhai	65.28%	2.08%	32.64%
Gudhai, Tajganj	49.69%	0.62%	49.69%
Shekh Bulaki	33.90%	50.85%	15.25%
Nathha Nagar	19.23%	1.92%	78.85%



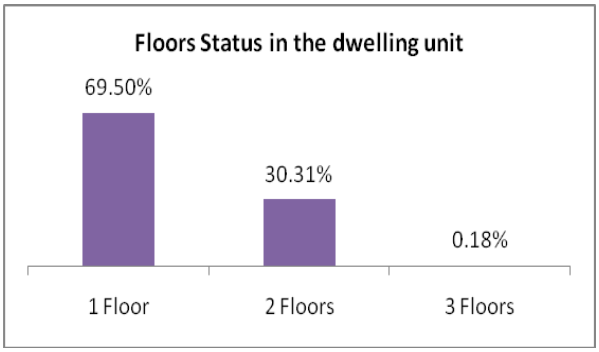


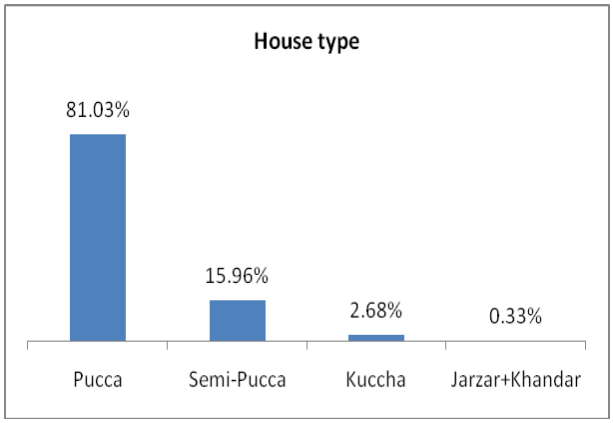


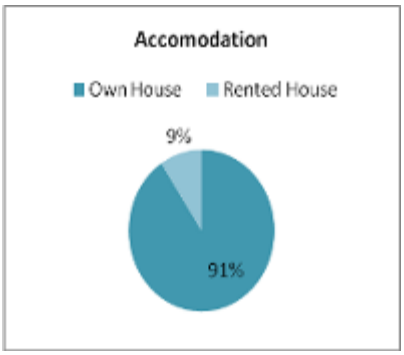
5.5. Housing

Most families 91% are permanent residents and own their houses and but there is a significant number of renters 9% in the Area mostly migrated from nearby villages due to the livelihood opportunities catering to tourism.

Nearly 81% houses are pucca, built from brick, cement and lime mortar, with permanent roof of sandstone slabs supported by iron/ wooden/ RCC girders or beams. 16% houses are semi pucca with temporary roofing and 2.7% are kuchha. 0.3% houses are old, dilapidated (jarjar/khandar), structurally unsafe and with poor lighting and ventilation. Houses here are mostly single storied (69%).

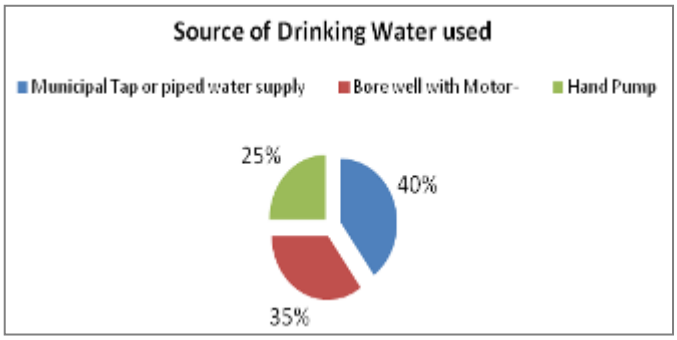






Most houses facing the main road have shops. Houses with large courtyards especially in Telipada Ward also have small scale units.

5.6. Water Supply



Tajganj falls in water zone 3 and is fed from Water Works 1. There are several small and medium overhead water reservoirs in the area which supply water to houses through gravity. An overhead water reservoir with capacity of 1000000 litres has been built in Kolhai but is yet to be operationalized. When functional, this would have sufficient water for the entire Taj Ganj area.

All 15 slums are mostly connected to municipal piped supply, with few inner streets being missed out; water is charged for an average of 3-4 hrs. There are 5 slums which have water pressure issues being located at higher terrain. Water pipelines in some settlements have been broken in the laying of new sewer lines. Due to inadequate municipal water supply the dependence on ground water

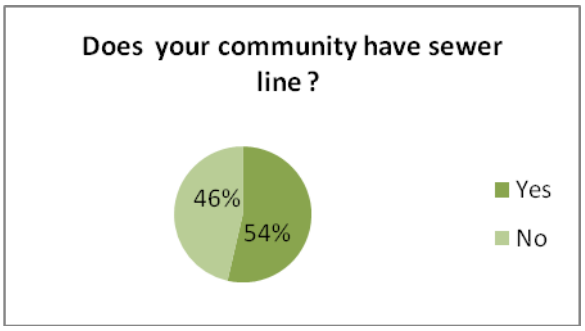
through hand pumps and submersibles, government and private, is high even though the underground water varies between potable to brackish. There are about 43 government hand pumps in the area of these 31 are non-functional. In kolhai and Teela Sayeed Nagar people buy water from private submersibles holders spending Rs. 600 per month to buy water for drinking and cooking. During summer, water is supplemented through government and private water tankers.

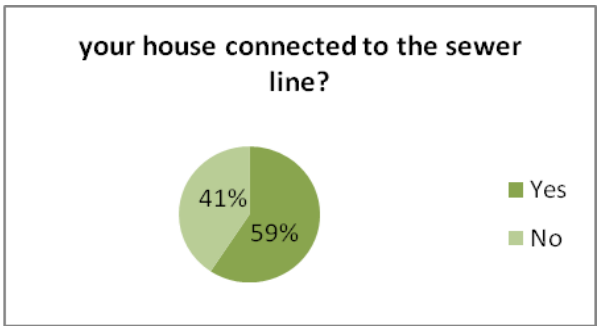
5.7. Sanitation

For purposes of sanitation, these slums come under the Tajganj sanitary ward and Tajganj sewerage zone. New sewer lines have been laid under JNNURM. These are connected to an intermediate sewerage pumping station and an STP.

5.8. Sewerage

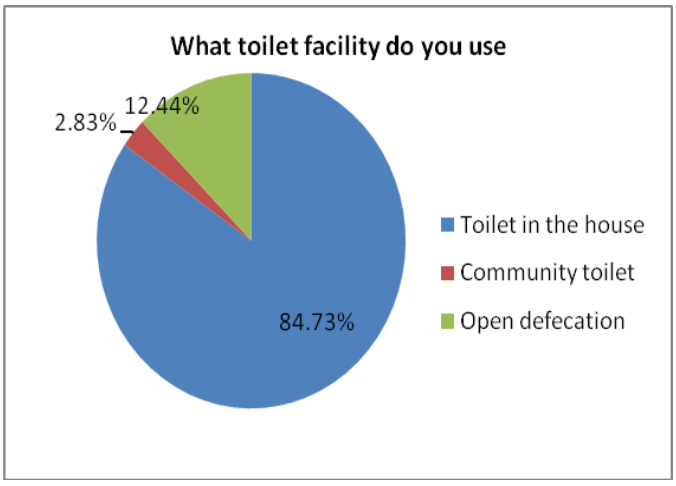
Sewer lines have been laid in under half the slum settlements. However, just 59% households are connected to these as these lines have not been provided in the inner streets. Sewer lines are also not fully operational.

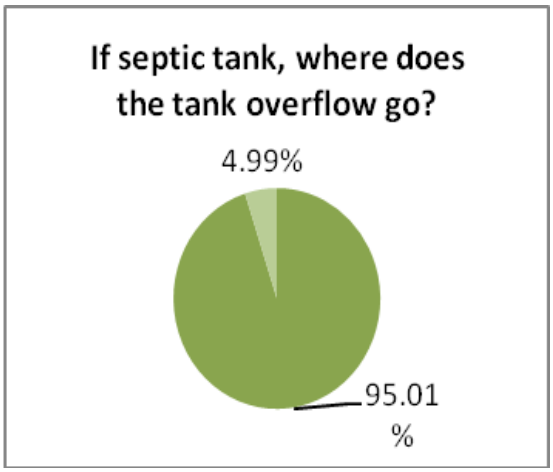


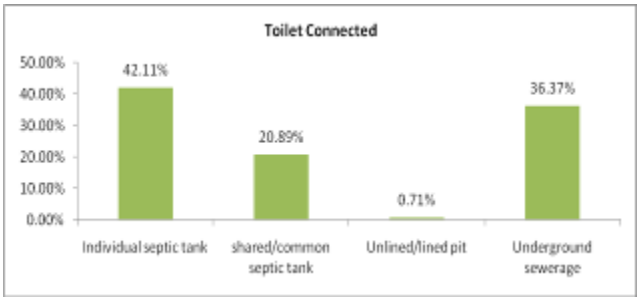


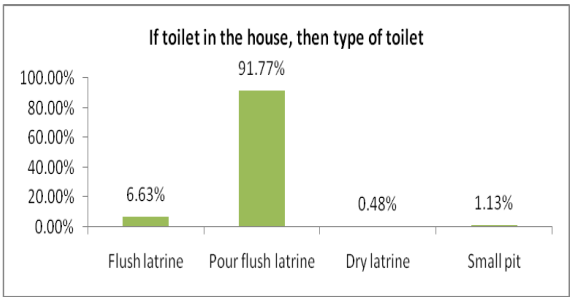
5.9. Toilets

Nearly 85% houses have individual toilets, 2.8% use community toilets and the rest 12.4% defecate in the open plots or at the drains. 36.4% toilets are connected to underground sewerage, 42% to individual septic tanks, 21% to shared/common septic tanks and 0.6% to unlined/lined pits. 95% of septic tank overflow is in the open drains; the rest flows on the streets. There are 5 community toilets in the area; however these are in very poor conditions.



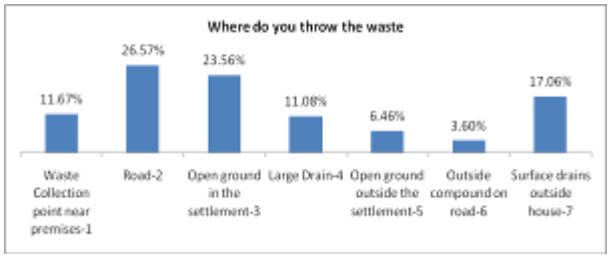


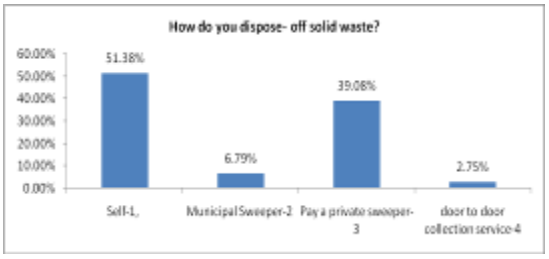




5.10. Solid Waste Management

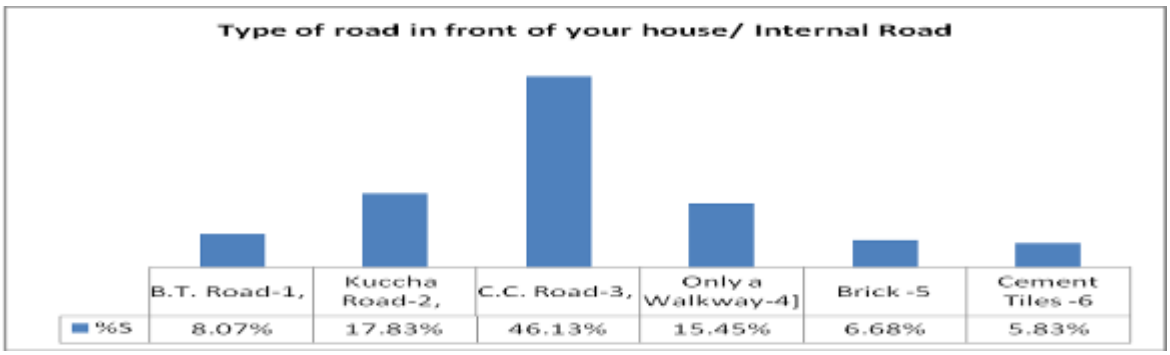
15 contractual sweepers have been appointed by ANN for solid waste collection. Among the slum dwellers, most (51.4%) clean/dispose waste by themselves (mostly in open plots/areas or drains) and about 40% have private sweepers remove waste from homes. The rest are served by the municipal sweepers. There is no waste station or dhalaoghar in Telipada ward while Katra Fulel 74 has one. A large container is also kept at Kolhai which is cleared once in four months. Garbage from houses is dumped.





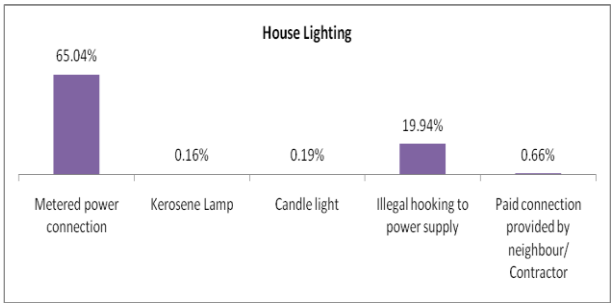
5.11. Roads and Drains

Approach roads and internal roads in Tajganj are mostly pucca (82.7%) made of cement concrete, brick, cement tiles or bitumen. Their drains are also pucca but open. The rest of the roads are kuccha and also have kuchha drains. The condition of the roads is however bad in some settlements, especially where the sewers are being laid.



5.12. Power Supply

Over 65% households have legal electricity connections. 20% are illegally hooked to the supply. Less than 1% takes connection from their neighbours or contractors. Houses also use kerosene lamps and candles in case of black outs.



5.13. Social Infrastructure

Most of the social infrastructures are available in Tajganj area but basic problem lies with the maintenance of the same.

Schools are present within or near to mostly all settlements. However, in most cases these are ICDS schools and about 34% private schools, Municipal school accounts for 17% whereas in only 4% schools are government run. Among those who use high schools, most (98%) have access to privately run High Schools. A small percentage has access to Government High schools and a mere 1% go to Municipal schools. Majority slums (95.4%) have access to preschools or Anganwadis.

Majority of the slum household (79.5%) in Tajganj go to a Registered Medical Practitioners (RMPs) for small and regular health problems. These are not fully qualified doctors but are available close to or inside slum settlements. Most households in Agra slums reported an average monthly medical expenditure in the range of Rs 200 to Rs 500.

Less than 50 households reported getting welfare benefits whereas 26% reported getting widow pension. A very small percentage (3%) reported old age pension. A lot of household often get excluded from such benefits owing to lack of awareness and non-responsiveness on part of the Government.

Majority of the household members, (65.7%) reported the absence of livelihood spaces within the community. Only 34% reported existence of livelihood spaces like community centre, rickshaw stands, employment centers etc. Majority of the slum dwellers (55.1%) who work within the settlement are primarily mobile vendors. 10.4% have set up their own stores which are mostly grocery stores and some (31%) have their own carts and cycle rickshaws.

6. Proposal: The Tajganj Slum Housing and Upgrading Project

This adjunct DPR aims to sustainably upgrade and mainstream 15 slum settlements in the Taj Trapezium Zone focussing specifically on insitu incremental housing upgradation for improving poor housing structures, last mile connectivity of services to city's main trunk and creating equity in service delivery, enabling slum dwellers to build sustainable livelihoods and preserve their cultural heritage through community mobilization and participation.

6.1. Upgrading options and Solutions:

6.1.1. In-situ housing upgrading

100% houses in the slums with eligible beneficiaries (225) will be developed in-situ and incrementally. It will be customised with options for kuchha/semi pucca houses, houses with carpet area less than 25 sq. mt., structurally unstable or heritage houses. Customization would include minor alterations responding to the need and space utilization of the community people, keeping the ground coverage same. Incremental housing shall also include an expansion of spaces and addition of toilets etc. Beneficiaries eligible under RAY will get government subsidy, remaining would be through self finance or assistance through microfinance, housing credit funds etc.

6.1.2. Affordable Housing for Renters and New Migrants

Affordable housing shall also be developed for renter families /new migrants on hire-purchase or rental basis to ensure that no new slums come up in the area. Considering the high in migration housing for 254 (9%) has been identified to be developed as pre emptive measure to avoid further slum growth in the area. Owners of large plots with area above 100 sq yards would be assisted in developing affordable housing for renters. Plots have been identified which can be developed for affordable housing for poor which be developed incrementally through self-investment/development.

6.2. Provision of Land Rights and Housing Upgrading

6.2.1. Renewal of Land Lease

About 15% of the plots are on Nazool land whose lease has expired or needs to be mutated; in this regard the city administration has forwarded a letter to the state government seeking permission to freeholds these lease/pattas. This shall enable all households in the settlements that do not have patta, to upgrade by themselves through housing credit arrangements.

All houses with legal land rights shall get RAY subsidies and the remaining will have architectural and engineering design options of incremental housing development through self finance.

6.2.2. Housing Designs Selection Flowchart

Various housing design options have been prepared considering the housing typology in the city, land density, plot dimension and layout, location, livelihood of the residents and living style. Designs have been shared with the community across the 15 slums in Taj Ganj and in different zones in the city as modified as suggested. Based on the above finalized designs a flowchart has been prepared which will assist the community in selecting the most appropriate housing design solution considering the various parameters. A housing design selection flowchart is shown in figure 7.

This flowchart would be applicable for housing upgrading under RAY as well as for incremental housing development through self finance.

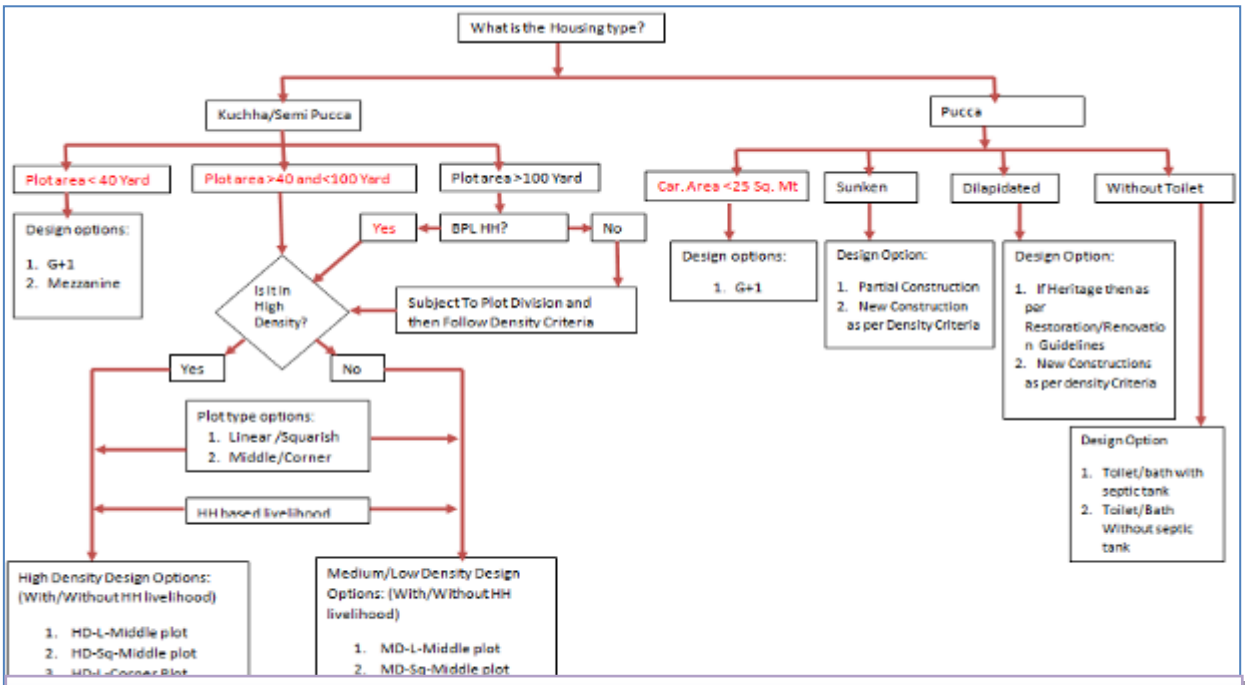


Figure 7: House Design selection Flowchart

6.2.3. Insitu House Upgrading

325 households in Tajganj will be upgraded through in-situ development under RAY as these households have legal land rights. These include all semi-pucca and kuchha (99) structures that will be upgraded to pucca houses. It also includes small houses (126) whose carpet areas have to be built up to 25 sq. mts. as per RAY guidelines. List of beneficiaries is at Annexure 12 which has been prepared through site verification.

6.2.3.1. Upgrading Kuchha/Semi pucca houses

99 kuchha/semi pucca structures will be upgraded to pucca houses as per RAY. Taj Ganj being medium density area as per Master Plan the housing design proposed are ground floor structures in

linear and square layout, having 2 rooms, a kitchen, toilet and bath with carpet area of around 25 sq. meters. Sleeping and Living areas are tugged back with toilet and bathroom with water supply and drainage lines added to the front of the unit which will reduce the service connection costs The front setback/open space is left which provides flexibility in function as per need. Staircase is included in the design as terraces forms an important part of the city life. The housing design options are developed for the worse condition of light and ventilation considering wall sharing on three sides, hence a small internal courtyard/duct is provided in each design option to facilitate proper living condition for the residents.

6.2.3.2. Amplifying spaces in Smaller Units

126 Households have carpet area less than 25 sq. meters which will be subsidized under RAY. Considering that the plot area is less than 25 sq. mt., the housing design has been developed as Ground + 1 floor for square and linear plot. The wet areas like the toilet, bath, and kitchen are kept on the ground floor reducing the plumbing costs. Design for the same is attached

6.2.3.3. Retrofitting/Restoration/Addition of Housing

As the houses here are old and historical and the area densely packed, houses shall be retrofitted/ restored with customised design solutions. Houses which are structural unstable will get technical assistance for retrofitting solutions. These improvements will be self-financed by the owners themselves through various financing options which will include microfinance, housing credit fund, organization of people into a housing savings group etc.

Houses with traditional-heritage architectural features among the pucca houses that may need to be retrofitted with basic services or added space shall be developed such that these additions harmonize with the existing architecture.

All pucca houses that have legal property rights and on whom rights are conferred through the renewal of leases will be supported with housing improvements i.e. addition of toilets with household sewer connections where applicable, household water connections, and increasing the built depending upon affordability and willingness to improve

6.2.4. Promoting Alternate Sustainable Construction Material and Techniques

The community would be mobilised to use alternate construction material like bamboo, sandstone beams could be used as the load bearing material rather than RCC beams. This would be environmentally sustainable and would reduce the cost of construction. Roof slabs can be made as filler slabs made of terracotta pots locally made by the community. This would reduce the quantity of RCC used, help in insulation and would be cost effective.

ANN shall empanel architects to provide design and technical assistance to the residents. ANN shall also empanel contractors with approved rates that may be hired by residents for housing construction. ANN shall also hire an NGO to provide necessary technical guidance for housing development.

6.2.5. Savings, Credit and Housing Credit Fund

DUDA shall set up a Community Credit Fund (CCF) from its housing grant to operate as a revolving fund. The CCF shall be maintained by a nationalised bank that has greater expertise in the sector. The CCF shall be open to all beneficiaries who may want to access credit for housing or livelihoods, especially families that do not have any collateral or formal documentation and hence are unable to access funds from formal institutions. Credit from the CCF shall be made available to the poor on low/affordable interest rates, similar to that from formal banking institutions.

6.3. Infrastructure Upgrading

Infrastructure development and up gradation in terms of roads, drains, culverts on drain, hand pumps etc has been taken into in DPR part-I prepared under TTZ. Laying of water supply and sewer

networks is already in process under JNNURM. This DPR is aimed at covering only the gaps in water supply and sewer networks along with last mile household connectivity. The Taj East Drain that passes through these settlements must be improved for sustainable improvements in the environmental conditions of families living along the drain and in these slums. The improvement of the Taj East drain is planned in partnership with UP Tourism. Another DPR for this work is under preparation.

6.3.1. Water Supply

6.3.1.1. Extension of Water supply lines

1824 meter length of water supply will be extended in the settlements with proper technicality to provide good water pressure. All remaining households will be assisted with technical solutions for legal household water supply connections and access to microfinance.

6.3.1.2. Micro intervention in water problem area

Houses located on higher terrain, having issues of low water pressure, or where piped supply is not readily available shall be technically assisted by the concerned department (AJN, AJS or AJKV) to provide decentralised solutions in partnership with the community. These may include:

- Drawing of underground water that is piped to homes or made available through community stand posts. The choice of the system shall depend on affordability and /or willingness of people to contribute to the solution;
- Creation of storage systems that may be filled through bore wells and water pumps or tanker supplies;
- Repair/making functional existing infrastructure in the slum communities to improve access and availability;
- Water kiosks linked to underground /municipal supplies with vending stations/ kiosks/ home delivery systems developed using business models; etc.

6.3.1.3. Rooftop Rain Water Harvesting and Water Conservation

As the dependence on ground water is high due to the low municipal water supply, ground water recharging and revival of old wells in the Taj Ganj area need to be initiated through community participation and management. With the extension of municipal water supply system to slum settlements, their dependence on ground water shall be regulated. Private borings/submersible shall then be restricted in such settlements. Rooftop rain water harvesting systems shall be made mandatory through community participation. This shall prevent depletion of ground water sources in the City.

6.3.2. Sewerage

6.3.2.1. Extension of Sewer Network and Household connections

5897 meter length of sewer line which has been missed in the sewer network plan under JNNURM has been included in this DPR. Areas where laying sewer lines are not possible due to any technical reasons, separate decentralised sewage system need to be built in which will be linked to the truck line. This would be covered in the integrated plan for the waste water treatment of Taj East Drain.

All 2725 households will we connected technically supported to connect to the city sewage network being laid in the settlement. Community would need to be mobilised to connect to the city sewerage network specially the houses along the Taj East Drain.

6.3.2.2. Waste Water Treatment of Taj East Drain

All storm water drains and surface drains open into the Taj East drain. This sewage needs to be collected and treated before it is ultimately conveyed to the river Yamuna. Mapping of the drain shows the status of the drain in various stretches which has been categorised into different zones below:

- ***Zone 1****: This part of the drain flows through the Taj Buffer Zone and connects to River Yamuna. It is mostly a natural water channel that meanders through the greens along the drains natural topography. There is no human intervention here. It has natural vegetation and is scenic.*
- ***Zone 2****: It also falls within the Taj Buffer Zone. It is a transition zone where the natural channel in converted into a large brick lined drain. The lining is synergised with the land contours and there is no construction along the edges.*
- ***Zone 3****: The brick lining here serves as the settlement boundary. Although the settlements are located on a higher terrain, house backs either abut the drain or have a small setback. All grey and black water from houses however discharges directly into the drain.*
- ***Zone 4****: In these sections, the drain is significantly less wide as compared to the earlier zones and in level with the front of the houses. Houses are found on both sides of the drain with some setback. Waste water from houses falls into the drain, sometimes passing through smaller surface drains cutting across the drain ramparts.*
- ***Zone 5****: Here the drain flows through the settlements with houses on both sides in level with the drain. The fronts of houses face the drain and the setback is narrow; just 2-3 feet serving as a pedestrian pathway. As the level of the drain is in line with the houses, a parapet along the drain edge is used to protect as also for open defecation by children.*
- ***Zone 6:*** *The drain once more becomes large here and settlements move on a slightly higher terrain. A motor-able road has been made on either side followed by front yards of houses. There is no parapet along the drain and edges are used for garbage dumping, parking etc.*
- ***Zone 7:*** *At this point the drain is a set of tributaries that pass through the settlements collecting grey water from houses and flowing into the drain. Houses have their backyards abutting the rain on either side. The drain is full of garbage.*

An integrated plan for wastewater treatment and management of Taj East Drain using a combination of conventional and non conventional green technology is being developed for improving the living environment of residents as described above.

6.3.3. Solid Waste Management

ANN shall set up through community engagement, paid door to door collection systems in all slum settlements through Ultra Urban Infratech Company. ANN shall also through DUDA and city level NGO create awareness among residents about source segregation. ANN shall partner with waste collectors in the city, who will segregate the waste for recycling purposes. This shall enable waste collectors (often the poorest in the city) to generate livelihoods.

Besides household waste, these settlements also generate waste from home-based livelihoods such as leather waste, foundry waste, petha waste, etc. and from tourism related activities such as pet bottles. The NGO shall work with these communities on disposal plans for such waste so that these do not get dumped into surface or storm water drains and can be recycled for reuse.

6.4. Community Facilities

The Part 1 DPR submitted to TTZ for slum infrastructure improvements has proposed the development of community cum livelihood centres. This DPR will focus on setting up of community group for maintaining the community infrastructure built in Taj ganj slum settlements and creating sustainable livelihoods in the Taj Ganj Area with focus on economic activities mainly centred on tourism being in the proximity of Taj Mahal. The livelihood programme is integrated within the city economy to ensure sustainability.

6.4.1. Livelihood Development Plan

A range of enterprises shall be facilitated based on their market worthiness mostly involving youth and women in the Area. This would include skill enhancement and building market linkages.

Community mostly youth and women would be mobilised and organised to develop a Taj Heritage walk in the area connecting built heritage and living traditions. Development of the Heritage Walk shall include skill training of youth and linkages with tour operators. Besides enhancing the marketability of Taj Heritage Walk Enterprise, new enterprises linked to the heritage walk shall be set up such as making of cloth bags, compost, handicrafts, etc. Home stays in the area shall be developed in traditional houses, which would lead to conservation of the built heritage and also provide for livelihood opportunities to the community. This shall be done in partnership with UP Tourism.

Setting of other business enterprises may include water kiosks, door-to-door waste collection services, products from waste recycling, technical services for construction (toilets, water connections, housing construction) etc.

As almost half of the residents in the area are self-employed as vendors, hawkers, petty shop keepers, etc. Spaces inside slums shall be earmarked /created for vending such as human skills, shops, stalls, pavements, local markets, parking areas (carts, rickshaws), etc. Spaces for vending activities shall also be created in the area such as within local markets, weekly markets, stalls, pavement vending with ramps and parking areas for carts, rickshaws, etc.

Large number of women and children work out of homes in contractual or piece rate work. Housing design options has been developed so that people can work out of homes and shall have spaces for storage of raw material and finished products, parking of carts and rickshaws, etc.

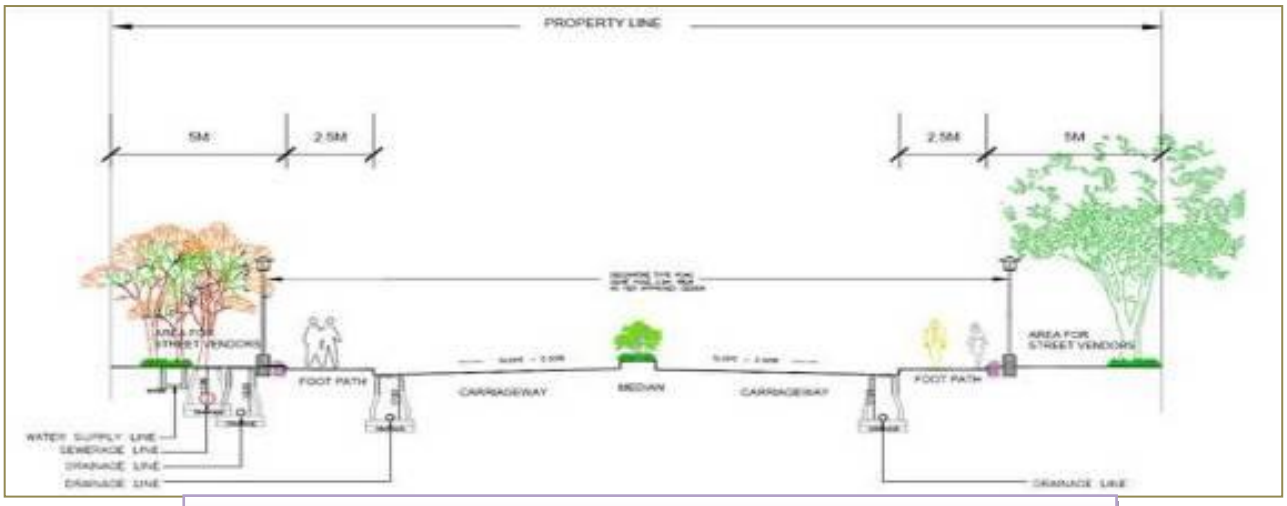


Figure 8: Model design for vending spaces and livelihood spaces in slums

6.4.2. Community Management System

Community participation shall form the core of the implementation of this DPR. The project shall be managed by the local community managed system. A Slum level committee shall also be constituted that shall work on the overall vision of the area and be part of developing the implementation plan.

Community contracting arrangement will be initiated for implementation of physical works. Slum Committees in these cases will be responsible for selection of sub contractors or may do this using personal labour. For all other contracts, DUDA shall hire local contractors in consultation with the community to ensure transparency. It shall be mandatory for the external contractor to hire local labour, in particular women, from the communities and/or sub-contract local contractors for

promoting livelihoods among the slum families. The community shall be responsible for overseeing implementation of civil works in their slums and shall identify lane/area supervisors who shall monitor implementation.

6.5. Environmental Assessment and Management

Taj Ganj area has the vital cultural-heritage site, the Taj Mahal, to the north and abundance of built heritage around. It is also surrounded by many ecologically important zones: River Yamuna, Taj protected forest and Shajahan Park within a radius of 1 to 3 km. Being cultural, ecologically and economically so significant area, any environmental degradation caused to this area may adversely impact the delicate balance of its surroundings and Tourism, which is the main driving force in this area. Also the proposed upgradation will not only benefit the people of the concerned *bastis* but the overall environment at large.

An environmental assessment study has been undertaken of the proposed development activities in the Taj Ganj area under this DPR to assess the possible impacts to ensure minimum environmental degradation. Details attached in the CSUP report Annexure 10.

As per the EIA, the proposals in the plan are likely to have a positive impact on the environment. In-situ up gradation has been proposed as the development model for the area having secure land tenure which will retain the existing character of the area. By bringing in sanitation services, we shall ensure that no further degradation of the environment happens. Development in the area is also in conformity with the various regulations and Master plan byelaws. Sustainable technologies in construction, water supply and management, sewer treatment, drainage etc are being used to mitigate and manage the developmental impact on the Area.

6.6. Disaster Management and Mitigation

These clusters of settlements being located along the Taj East Drain get flooded during rains due to the overflowing of the drain which is partially blocked with garbage dumping. During the rains the water level and pressure in the drain increases due the surface run off and flow. There is back lashing of water from the river too due to the rise in the water level. As a result adjoining areas/houses in the settlements get flooded; children/cattle get washed away in the drain due to the water pressure.

To mitigate these affects of the disaster Infrastructure development works like parapet along the drain, raising the plinths of the adjoin roads/streets, covering the drain etc has been proposed in DPR Part-1. Rainwater harvesting need to be initiated a community level as proposed in this DPR. This will significantly reduce the surface run off. Setting up of door-to-door waste collection system will reduce the amount of garbage dumped in the drain and blockage caused due to it thereby increasing the water capacity of the drain. Self cleansing technology in the form of reed beds/floating islands as proposed will further help in decomposing the garbage in the drain through bacteria.

7. Project Implementation & Management Framework

7.1 Implementation Schedule

The DPR will be implemented in a phased manner. Since large numbers of slums have land ownership, it will be possible to develop these fairly quickly. Description of activities as per timeline is suggested below:

Table 4: Activity wise timeline for project implementation

Sl No	Description of Activity	Year I			
		Ist	IInd	IIIrd	IVth

1.	**Preparation of Tender Documents- General & Commercial Conditions**				
2.	**Tendering**				
3.	**Contractor Selection**				
4.	Finalizing the conditions of contract				
5.	Negotiations of terms				
6.	Awarding of contract				
7.	Transit accommodation for beneficiaries in case of housing				
8.	**Construction**				
9.	Site clearance, Completion of Substructure Works, Completion of Superstructure, Works Finishing Works, Site Development, Monitoring and supervision				
10.	Scrutiny of quantities				
11.	Quality control				
12.	Setting up of Community managed mentoring system				
13.	**Assessment and final billing**				
14.	**Defect Liability**				
15.	**Closure of Accounts**				
16.	**Final Commissioning**				

7.2 Project Management Set-up

7.2.1 Project Implementation Agency

The District Urban Development Agency (DUDA) shall in partnership with the Agra Nagar Nigam (ANN) implement the In-situ upgrading works in the area. DUDA shall work with the various committees that have been constituted in ANN under JNNURM, BSUP and RAY for implementation of the slum upgrading activities. DUDA shall also work closely with a range of city agencies concerned stakeholders in implementation of this DPR. These shall include departments such as electricity, transport, roads, education, health, etc. DUDA shall also work with agencies such as ASI, UP Tourism, AJS, AJN, etc. in preparing policies and plans for effective implementation.

7.2.2 Project Implementation Unit

DUDA will need to set up the PIU to plan and implement the Slum Free Plans in the City. The two PIUs (ANN and DUDA) shall need to work together so that activities on the ground can be converged. They shall meet regularly to ensure coordinated implementation of activities. All PIU staff shall require capacity building for implementing such works. Besides the PIU, DUDA shall set up a Technical Committee to guide the process of planning and implementation. This Committee shall report to the Divisional Magistrate on progress and problems.

7.2.3 Community Based Organizations and Representation

Community mobilization will be at the core of slum development intervention in the Area. DUDA will through due process, contract a lead NGO with experience of working with urban slum communities in Agra, for mobilizing and organizing communities for inclusive development. The lead NGO will work with pre-organised communities facilitated under the process of this DPR preparation and

other city supported initiatives in slums. The Lead NGO shall strengthen the existing groups and build their capacities to work in partnership with DUDA in the implementation of slum upgrading activities. The lead NGO shall mobilize, engage, organize and strengthen similar groups in other settlements for project implementation in a phased manner as proposed above.

CURE has mobilised several Community groups in the area, which include self-help/savings groups, enterprise and livelihood groups of women and youth boys, toilet and sanitation committees, area welfare associations, construction monitoring committees, etc. Further, these groups shall be federated at a ward, area and zone level. They shall meet on a regular basis to review the plans and their implementation and discuss/ trouble shoot problems/issues.

Representatives of these CBOs or their federations shall be members of the various Task Forces and Ward Committees and shall be part of the discussion on plans in their areas and their implementation strategies.

7.2.4 Ward Committees

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

Ward/Area Committees shall be responsible for implementing the plans as proposed in the DPR. The Ward Committees shall also be responsible for the supervision and monitoring of implementation works.

7.3 Quality Control & Quality Assurance

Review and monitoring of the implementation works as per the proposal is a must for quality control and quality assurance. Review and monitoring shall be based on the standard mechanisms and procedures prescribed by the government under RAY for quantitative monitoring. The Plan shall also be assessed for the quality of its achievements using the following approaches.

7.3.1 Joint Monitoring Committee

Project achievements shall be reviewed on a regular basis. ANN and DUDA shall set up a Joint Monitoring Committee (JMC) to monitor project progress. The JMC shall meet on a bi-monthly basis to review the status of planning and implementation. It shall discuss reasons for delays if any, and take necessary action to deal with the bottlenecks. The object of the JMC shall be to create an enabling environment for implementation of the project.

The JMC shall send on a regular basis reports to the Nodal Officer in DUDA/ANN for implementation of this project, the State Urban Development Department and GOI as per need. These shall report progress on quantitative and financial achievements under the project as per government guidelines.

7.3.2 Charter for Project Delivery

The JMC shall set out within the ANN's Citizens Charter, a protocol for delivery of services etc. under the plan. This protocol shall be advocated through the various ward /area committees to the slum dwellers and through specially organised advocacy programmes.

7.3.3 Complaint Redressal System

DUDA/ANN shall also set up a complaints redressal system. Complaint boxes shall be provided in ward/ councillor offices for dropping of complaints. These complaints shall be registered and forwarded to the concerned department for follow up action by the Councillor. JMC through its support staff shall follow up on redressal of the complaints and report progress to the councillors.

7.4 Post-construction Services

7.4.1 Community Managed operation and Maintenance

The community monitoring groups and CBOs will help the community develop O&M plans for common facilities such as for maintenance of all civic facilities provided to them like community toilets and community centres etc. DUDA shall where possible enter into contracts with community groups for the maintenance of various services.

7.4.2 Social Audits

Qualitative assessments shall form an integral part of the post implementation process. These shall include social audits and stakeholder consultations. Social Audits (SA) shall be supported by an NGO identified specifically for this purpose. The NGO shall work with the communities to organise Social Audit Committees that will jointly audit the qualitative aspects of the project. Based on the SA reports, the JMC shall prepare a plan of action on the complaints.

7.4.3 De-Notification

A key part of the implementation plan shall be to de-notify all settlements that have been improved, upgraded and fully integrated into the city. DUDA shall annually, based on a review of project progress, put up a proposal to the House for de-notification of the particular settlements.

8. Financing Arrangement

8.1 Central Government

As per the RAY mandate 50% of the financial requirement estimated which includes cost of provision of basic civic and social infrastructure and amenities and of housing, including rental housing and transit housing for in-situ redevelopment in slums including O&M of assets created under this scheme would be borne by the Central Government.

8.2 State Contribution

That state share will be a minimum of 20% of the cost of provision of infrastructure and civic amenities, to ensure their financial and monitoring stake in the works and the flowing caveats/advice in regard to housing. DUDA shall receive funds from the State Government to implement this Project, especially the housing component which is the most expensive. However, it is expected that this fund shall not be adequate for implementing the Plan. While many agencies, as part of their annual budgets shall be able to contribute resources for development of services DUDA shall need to work with the private sector to raise part of the required capital for implementation, especially for housing slum upgrading in the city.

8.3 ULB Contribution

Funds for Slum Upgrading in Agra shall come from several sources including ANN. At present, ANN contribution under RAY comes from the following sources:

- Internal Earmarking of Funds for RAY in the municipal budget; 27% of municipal fund is annually earmarked for slum development.
- Funding from the State Finance Commissions; the 13th Finance Commission funding shall flow to the city now.
- Contribution from a State Revolving Fund; a Revolving Fund has been created at the State level which allows municipalities to borrow from the State. This loan is interest free, unlimited based on a proposal and does not have any time restrictions for spending or refunding.

The main sources of ULB finances are the revenue receipts. These receipts come from taxes, non-tax revenues and transfers including grants. Major portion of revenue receipts (minus SFC funds) are received from Agra Development Authority, Water Works and the Housing Board. House tax constitutes 20% of total revenue receipts, which is much less than the population or geographical spread of taxable properties in the city. ANN also generates funds from stamp duty surcharge. However, this fund is collected by the Collector on behalf of the District Magistrate to be later released to the ULBs. These receipts have an unstable trend.

8.4 Private Sector Contribution

The scope for private sector engagement in Agra and especially in Taj Ganj area is considerable because of its tourism and other business potential. Big hotel chains are operating out of Agra. So are big shoe manufacturing businesses. Agra is also becoming the new hub for professional education and health care/tourism. Agra has recently been able to contract private companies for the distribution of power, solid waste collection, management of public facilities, etc. This has led to considerable improvement in the city's infrastructure and services.

8.5 Community Contribution

Housing shall not be provided completely free to beneficiaries and part of the funding shall therefore be generated through people's contributions. Community shall contribute shall be both in cash and kind for housing to create ownership of the people. People shall contribute a minimum of 12% (10% in case of SC/ST/OBC) as their share for housing. New migrants or non-eligible but poor beneficiaries shall pay the full cost of housing, albeit over a period to time. This will require upfront capital investments by the city, recovered over 20 years with interests.

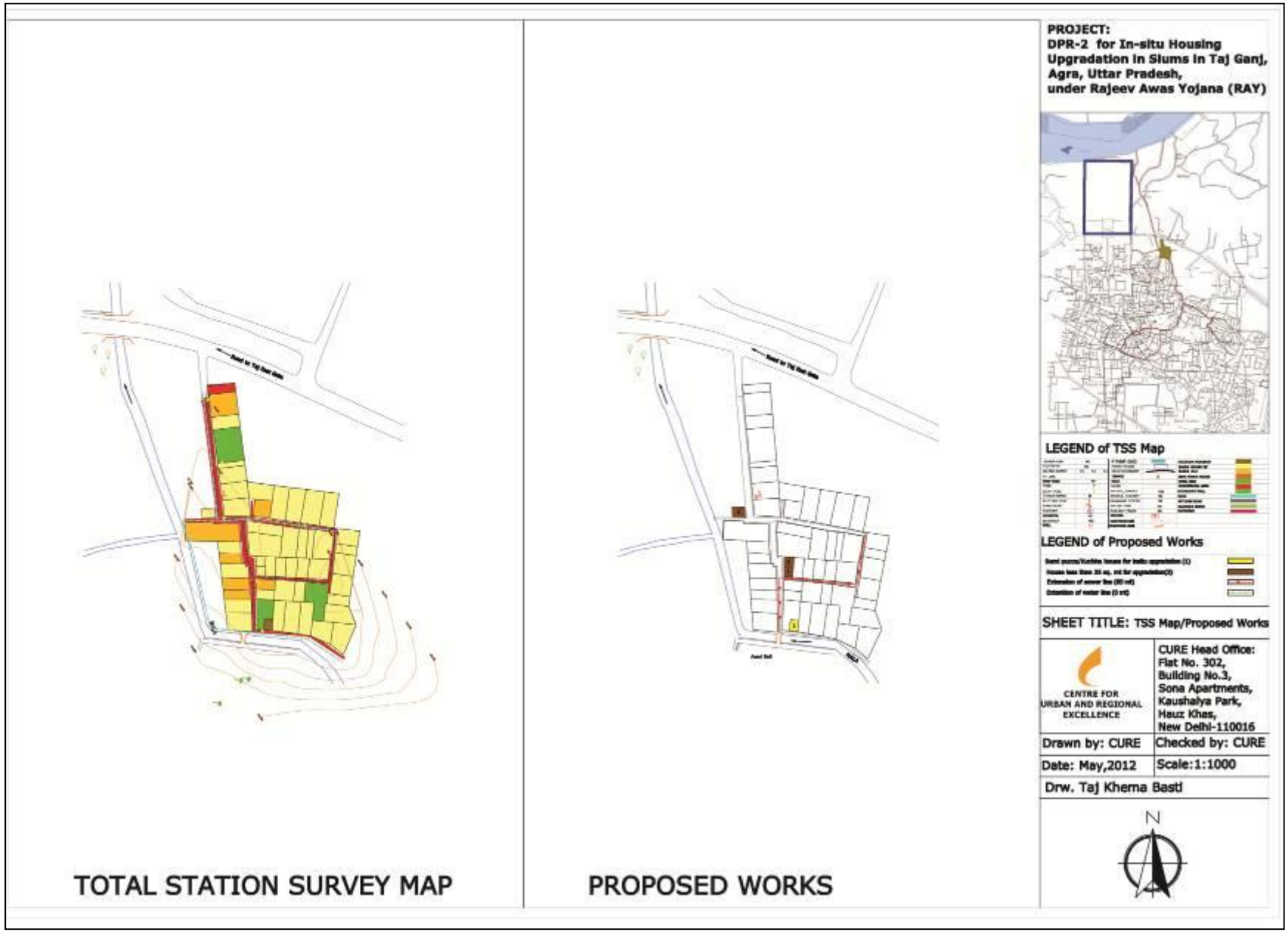
Poor shall also pay for legal water and sewerage connections and user charges. In addition people could contribute in kind for construction activities such as digging foundations, purchasing water, transporting construction material to home sites, recycling housing material if usable, etc. Many slum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

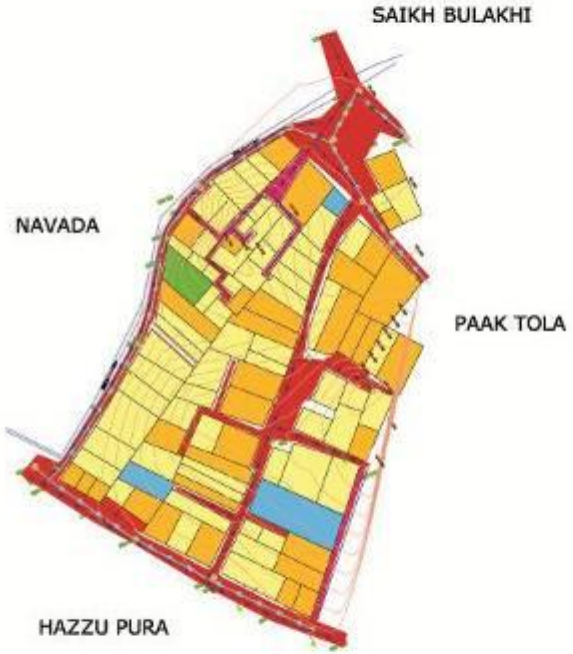
9. **Drawings and Costing –** Location Plan(s), Slum/Area Layout Plan, Infrastructure (water supply, sewerage, drainage etc.), Architectural and Structural Drawings of Buildings.

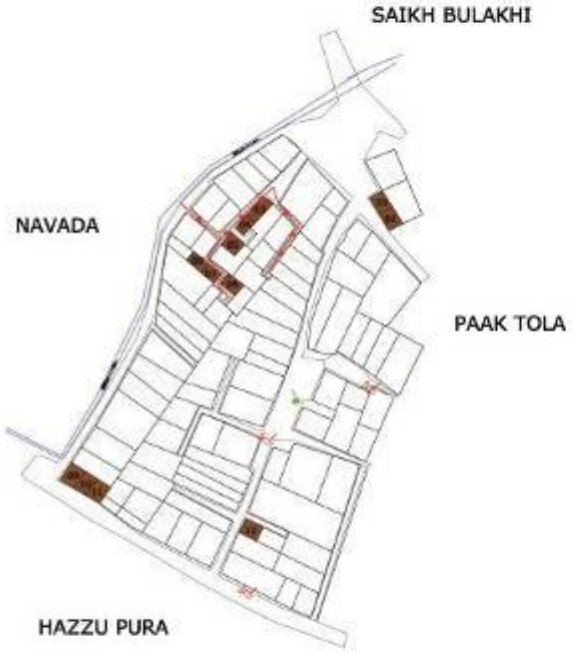
A. Designs of the following are attached below:

1. **Location plan for 15 slums (water and sewer gaps, houses for up gradation, Heritage houses)**
2. **Four Housing designs (For Small plots less than 25 sq mt (Linear/square), For Kuchha/Semi Pucca houses (Linear/Square)**
3. **Proposed Heritage Trail Map**

1. **Location Plans With Proposed Works In Each Slum**







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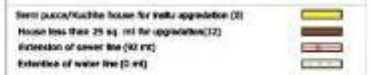

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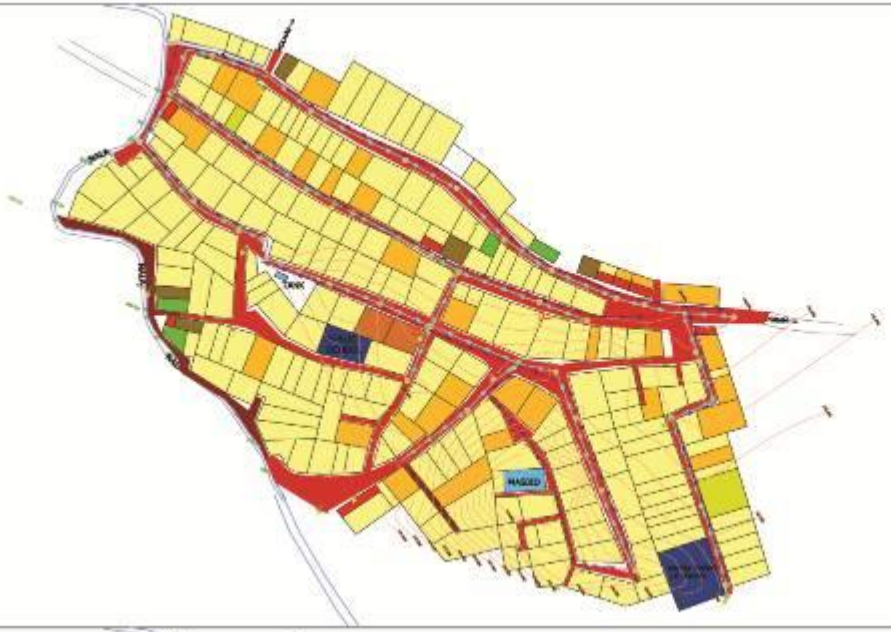

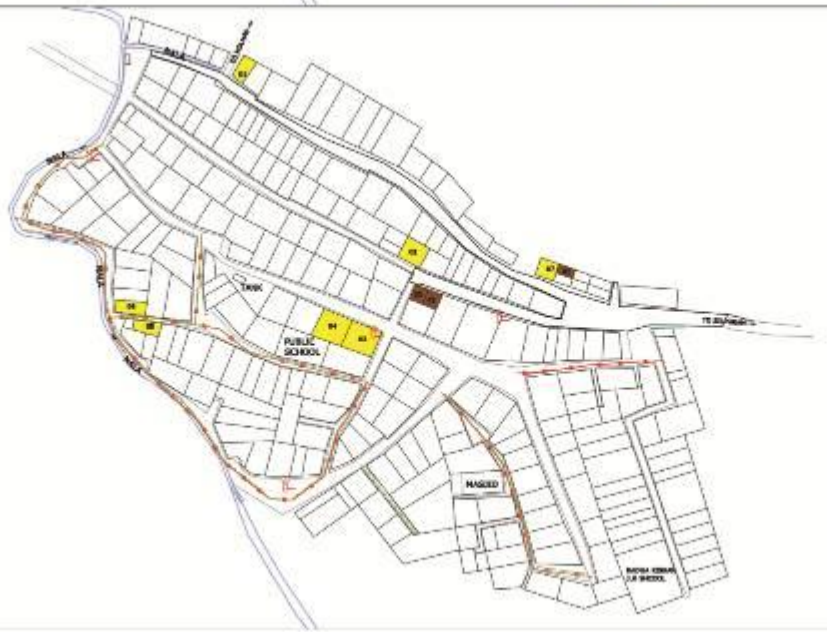

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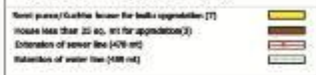

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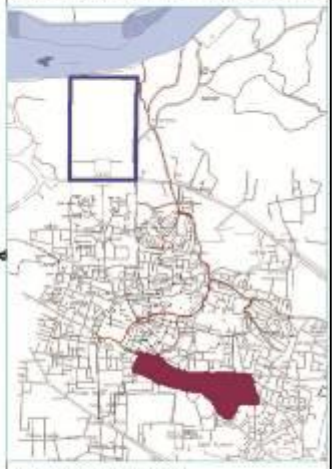

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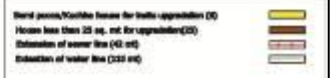

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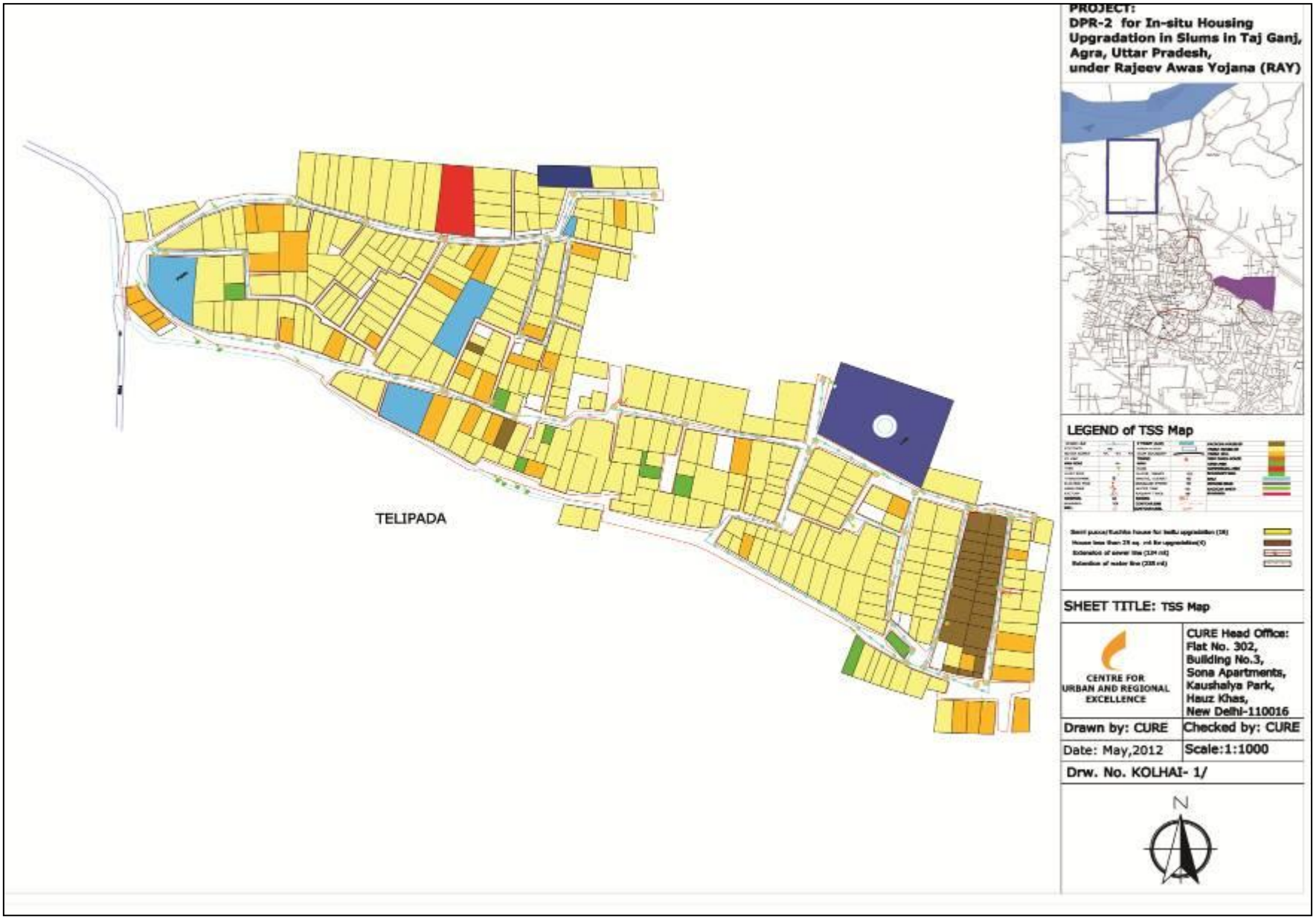
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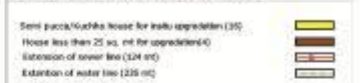

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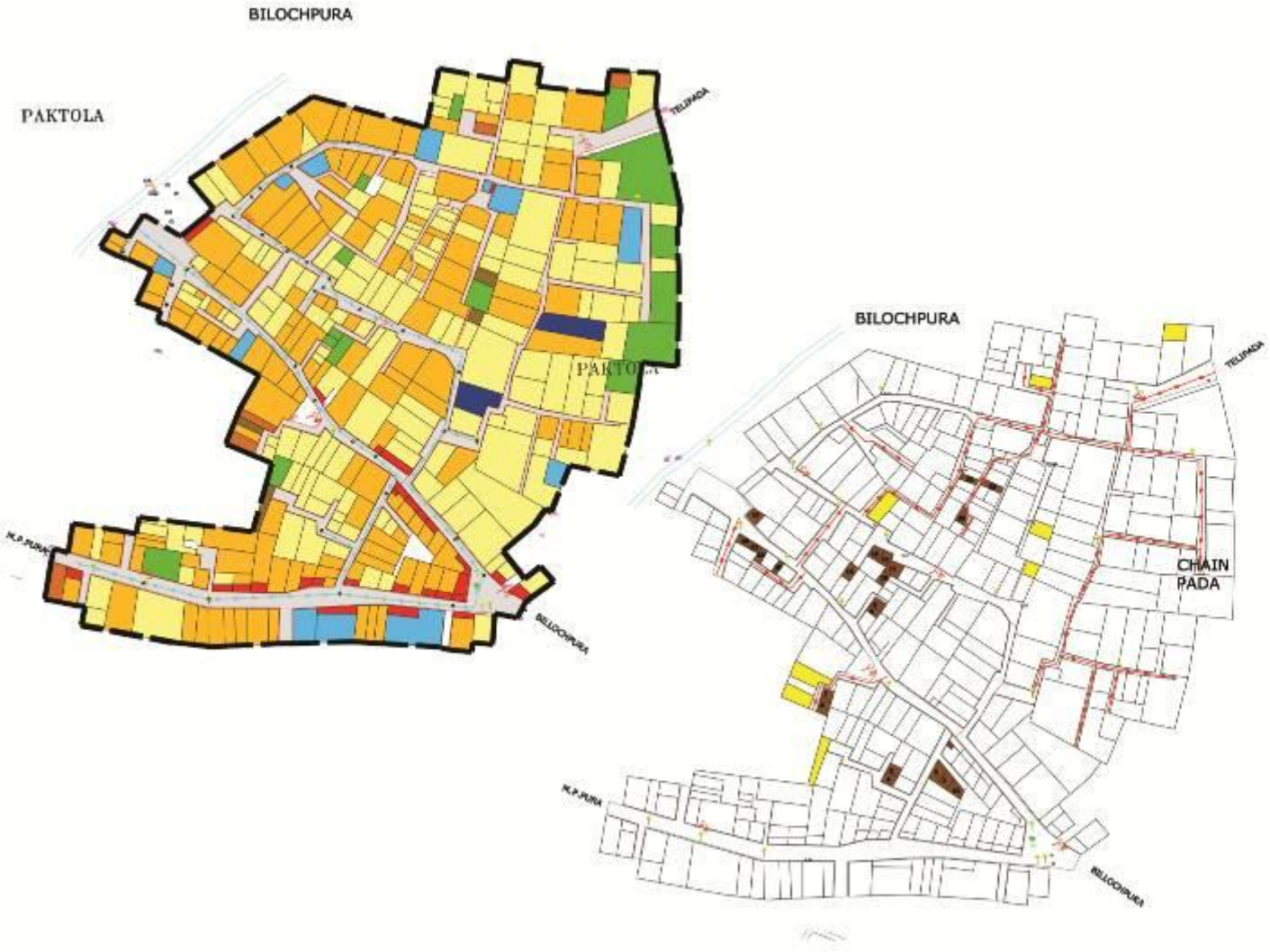

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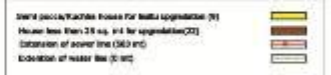

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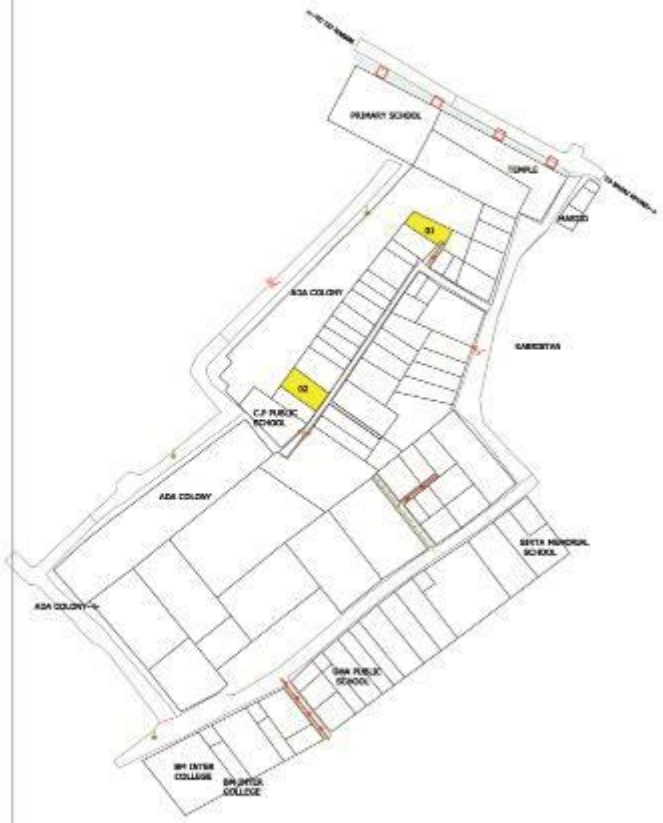

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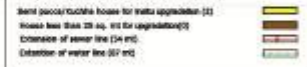

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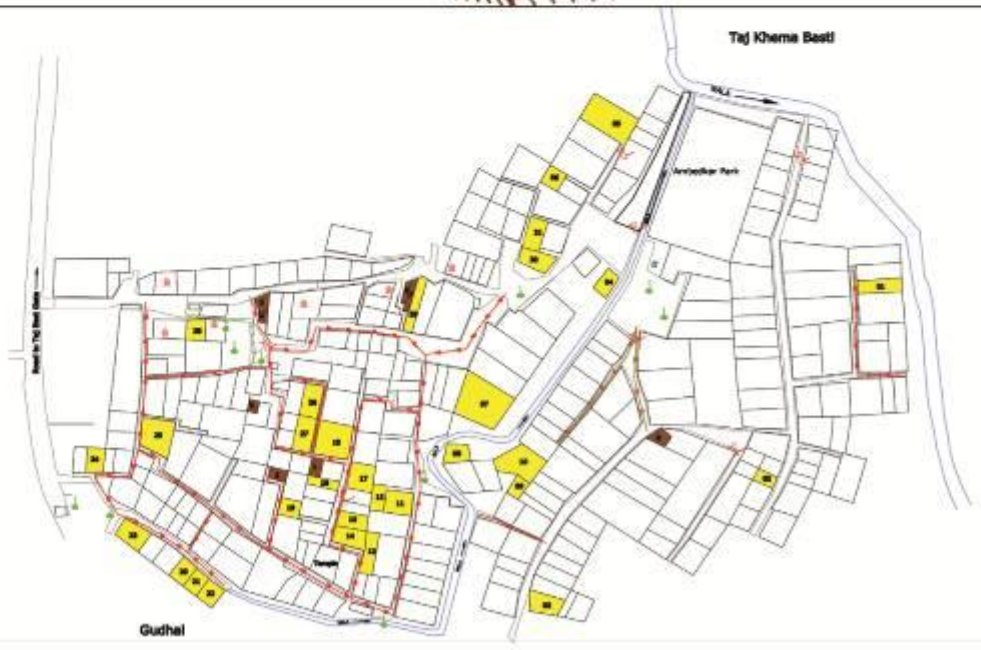

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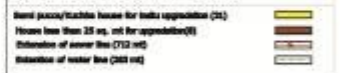

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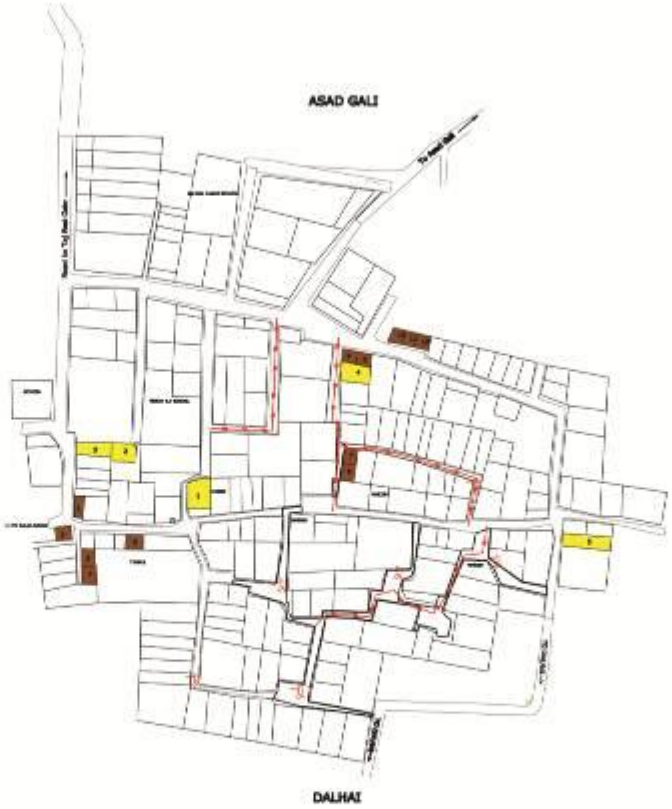

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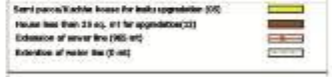

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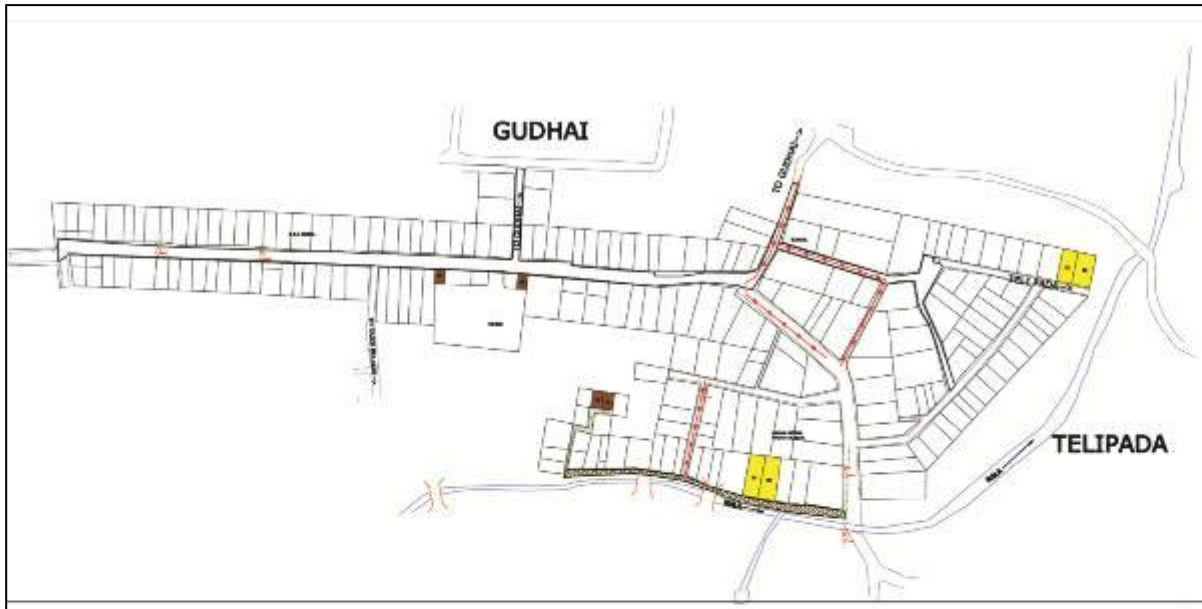

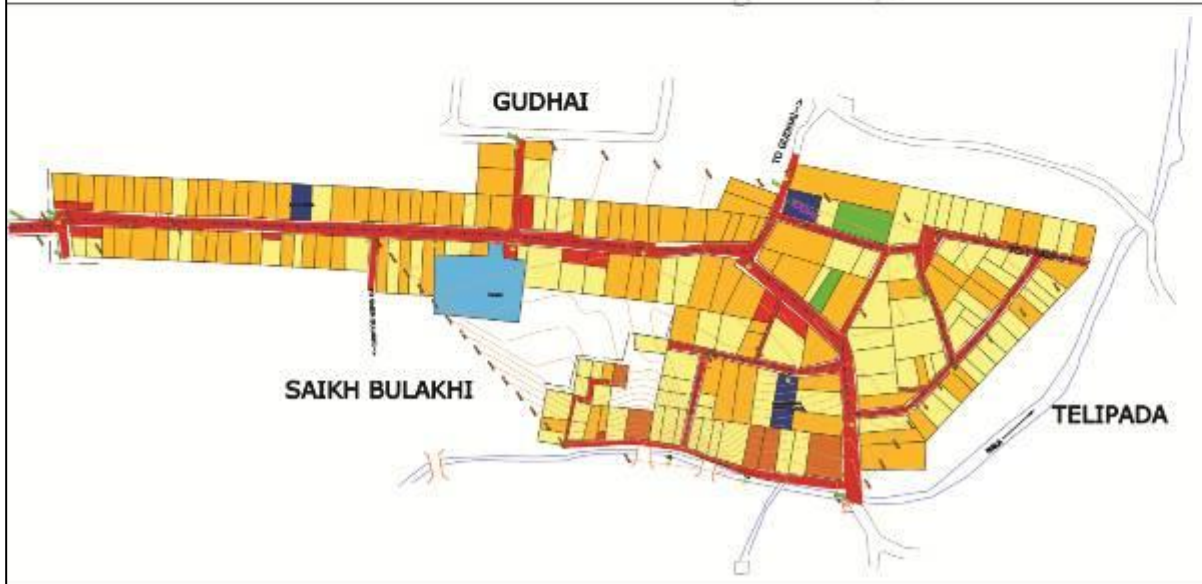

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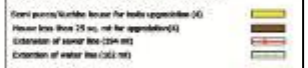

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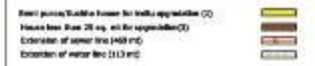
LEGEND of TSS Map

LEGEND of Proposed Works



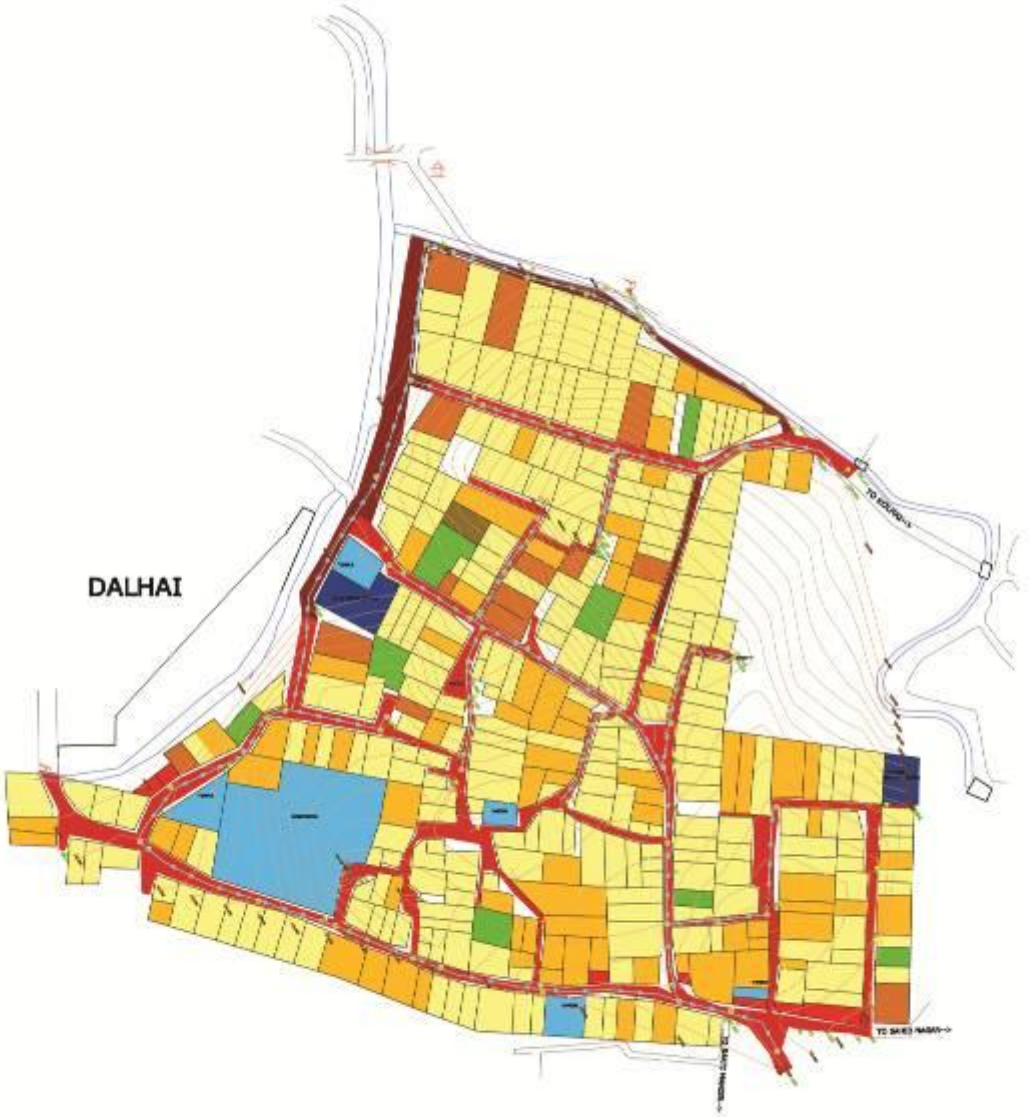
SHEET TITLE: TSS Map/Proposed Works

CENTRE FOR URBAN AND REGIONAL EXCELLENCE

CURE Head Office:
Flat No. 302,
Building No.3,
Sona Apartments,
Kaushalya Park,
Hauz Khas,
New Delhi-110016

Drawn by: CURE	Checked by: CURE
Date: May,2012	Scale:1:1000

Drw. No. Salkh Bulakhi



PROJECT:
DPR-2 for In-situ Housing Upgradation in Slums in Taj Ganj, Agra, Uttar Pradesh, under Rajeev Awas Yojana (RAY)

LEGEND of TSS Map

SHEET TITLE: TSS Map

CENTRE FOR URBAN AND REGIONAL EXCELLENCE

CURE Head Office:
Flat No. 302,
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Sona Apartments,
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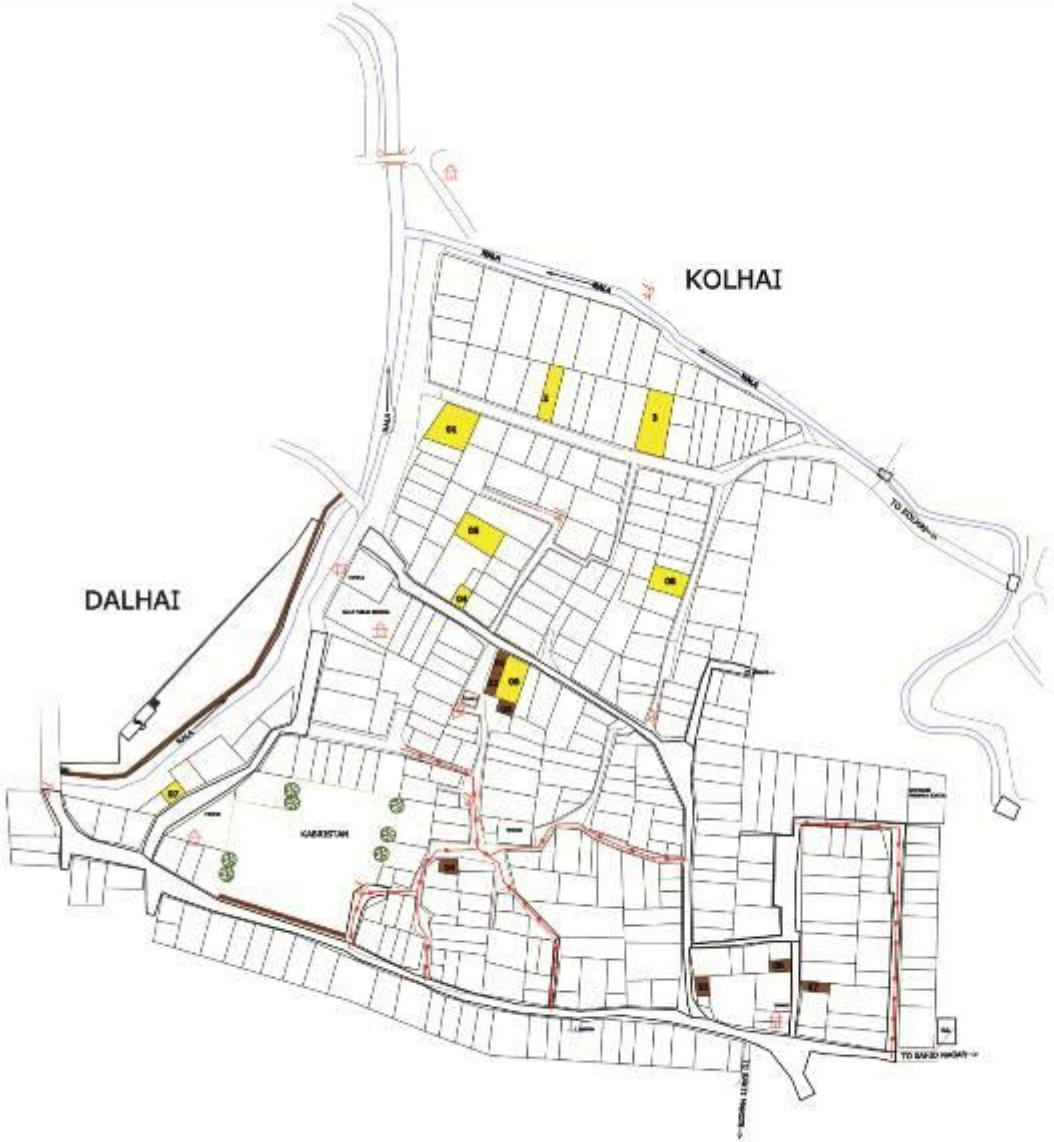
Hauz Khas,
New Delhi-110016

Drawn by: CURE	Checked by: CURE
Date: May,2012	Scale:1:1000

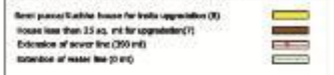
Drw. No. Telipada



PROJECT:
DPR-2 for In-situ Housing Upgradation in Slums in Taj Ganj, Agra, Uttar Pradesh, under Rajeev Awas Yojana (RAY)

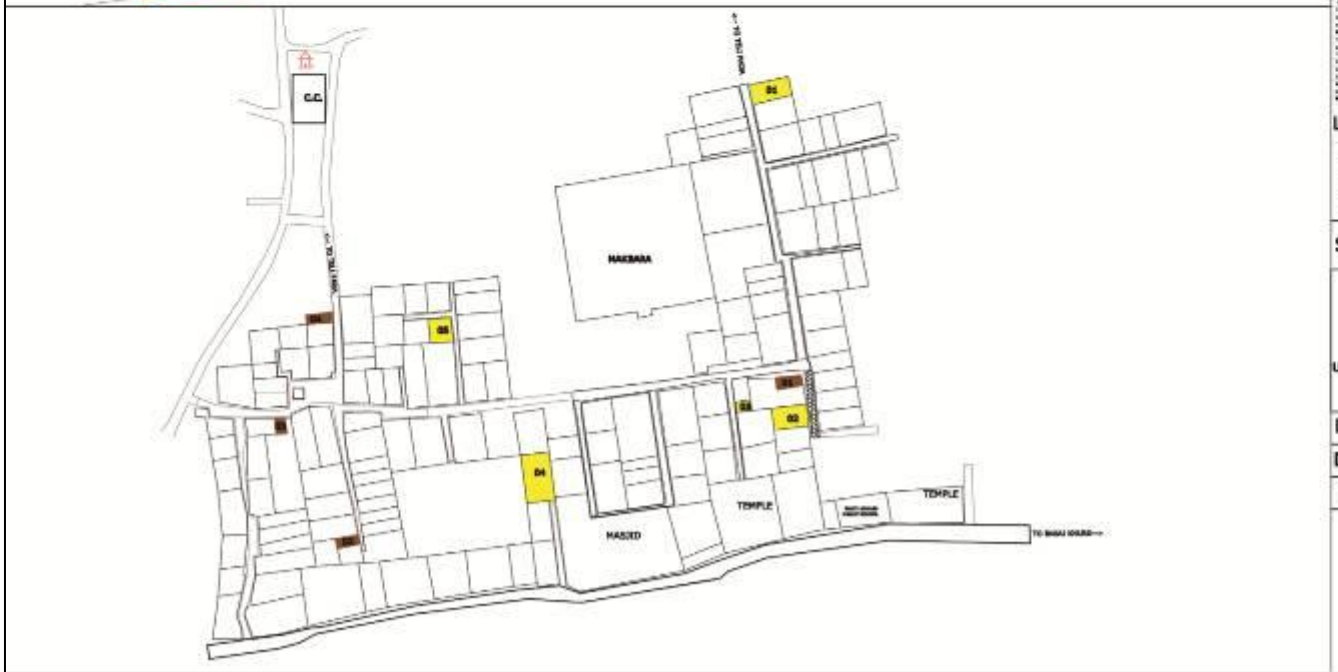
LEGEND of TSS Map

LEGEND of Proposed Works



SHEET TITLE: Proposed Works

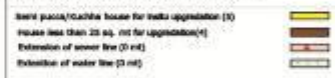
CENTRE FOR URBAN AND REGIONAL EXCELLENCE	CURE Head Office: Flat No. 302, Building No.3, Sona Apartments, Kaushalya Park, Hauz Khas, New Delhi-110016
Drawn by: CURE	Checked by: CURE
Date: May,2012	Scale:1:1000
Drw. No. Tellpada	



PROJECT:
DPR-2 for In-situ Housing Upgradation in Slums in Taj Ganj, Agra, Uttar Pradesh, under Rajeev Awas Yojana (RAY)

LEGEND of TSS Map

LEGEND of Proposed Works



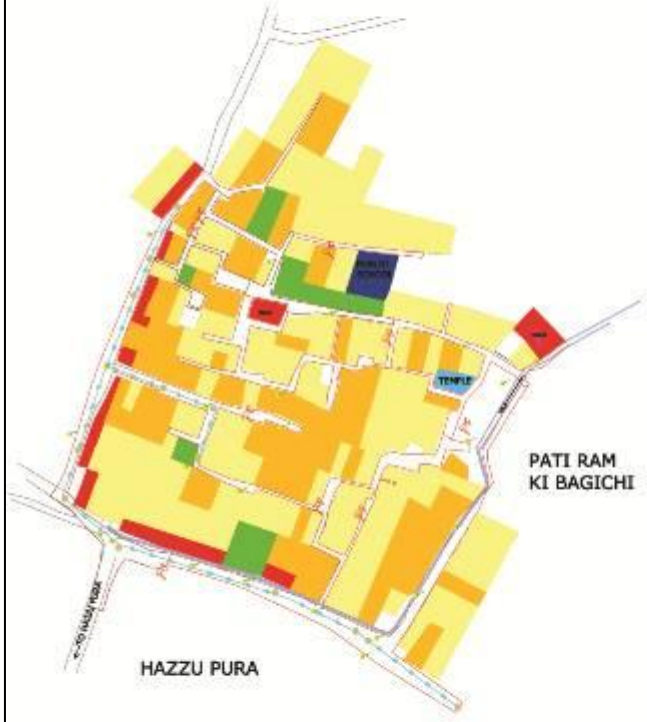
SHEET TITLE: TSS Map/Proposed Works

CENTRE FOR URBAN AND REGIONAL EXCELLENCE

CURE Head Office:
Flat No. 302,
Building No.3,
Sona Apartments,
Kaushalya Park,
Hauz Khas,
New Delhi-110016

Drawn by: CURE	Checked by: CURE
Date: May,2012	Scale:1:1000

Drw. No. DEWANJI KA MOHALLA 1/



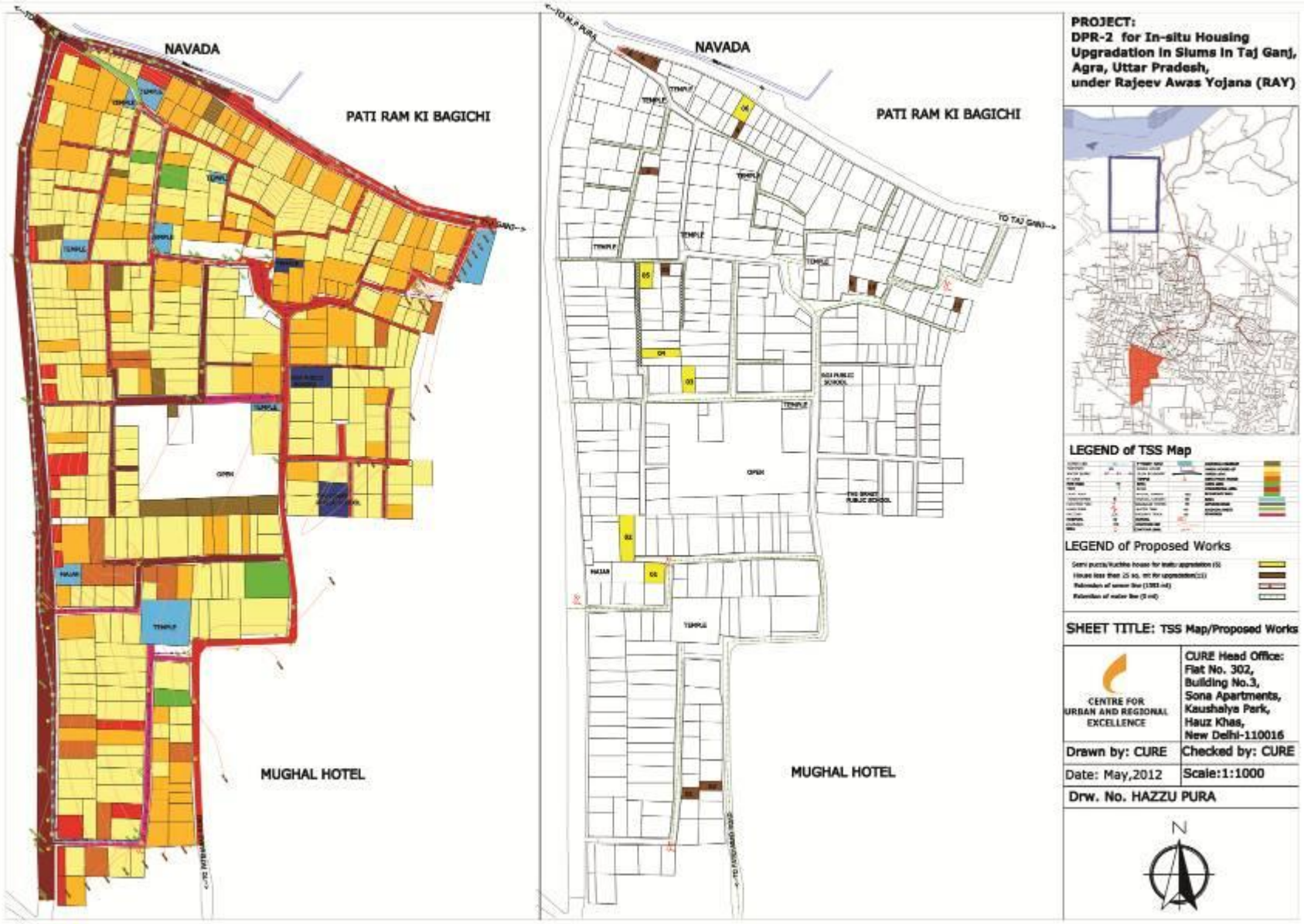
PROJECT:
DPR-2 for In-situ Housing Upgradation in Slums in Taj Ganj, Agra, Uttar Pradesh, under Rajeev Awas Yojana (RAY)

LEGEND of TSS Map

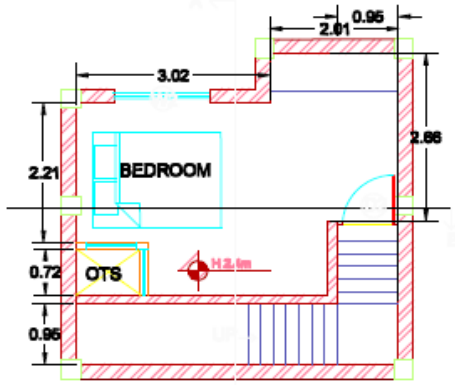
LEGEND of Proposed Works

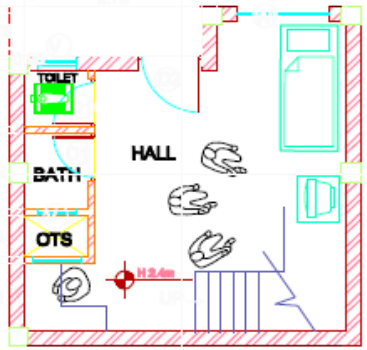
SHEET TITLE: TSS Map/Proposed Works

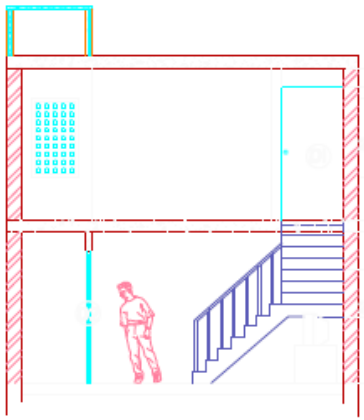
CENTRE FOR URBAN AND REGIONAL EXCELLENCE	CURE Head Office: Flat No. 302, Building No.3, Sona Apartments, Kaushalya Park, Hauz Khas, New Delhi-110016
Drawn by: CURE	Checked by: CURE
Date: May,2012	Scale:1:1000
Drw. No. Navada 1/	

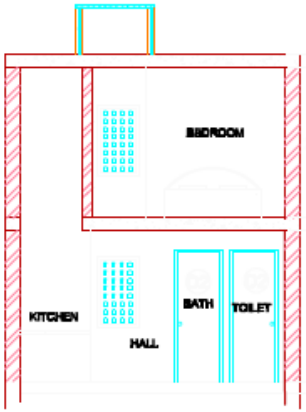

NAVADA
PATI RAM KI BAGICHI
MUGHAL HOTEL
NAVADA
PATI RAM KI BAGICHI
MUGHAL HOTEL
TO TAJ GANJ
TO KAGUARD ROAD
PROJECT:
DPR-2 for In-situ Housing Upgradation in Slums in Taj Ganj, Agra, Uttar Pradesh, under Rajeev Awas Yojana (RAY)
LEGEND of TSS Map
LEGEND of Proposed Works
SHEET TITLE: TSS Map/Proposed Works
CENTRE FOR URBAN AND REGIONAL EXCELLENCE
CURE Head Office: Flat No. 302, Building No.3, Sona Apartments, Kaushalya Park, Hauz Khas, New Delhi-110016
Drawn by: CURE
Checked by: CURE
Date: May,2012
Scale:1:1000
Drw. No. HAZZU PURA
N

2. Housing Designs









Notes-

- All dimensions are in mm
- Drawings to be read, do not measure
- Clear cover is 50 mm
- All levels are finished floor levels.

legend-

D1	0.75MX2.1M (with ventilator on top)
D2	0.80MX2.1M
W	0.50MX1.2M
W1	0.90MX1.2M
V	0.60MX0.45M

Sheet title-

Houses less than 25 sq. mt (Square Plot)

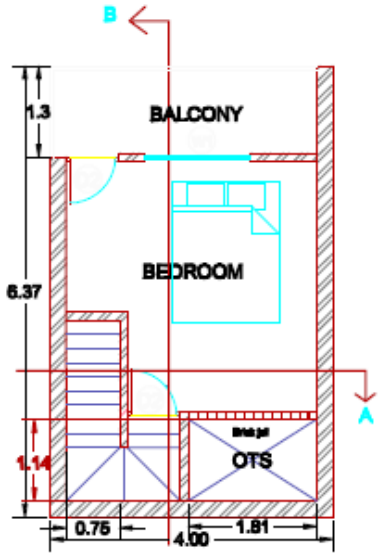
UNIT-B

CENTRE FOR URBAN AND REGIONAL EXCELLENCE

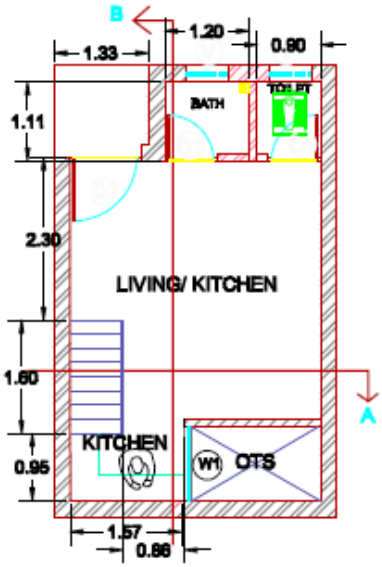
CURE Head Office
Flat no-302
Building no 3
Sona apartments
Kaushalya park,
Hauz khas
New Delhi-110 016

Drawn by:CURE	Checked by: CURE
Date- March 2012	scale 1:75

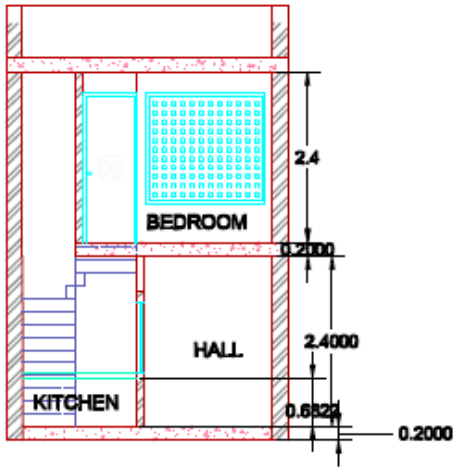
AREA CALCULATIONS
PLOT : 30Sq.m
CARPET AREA: 32Sq.m



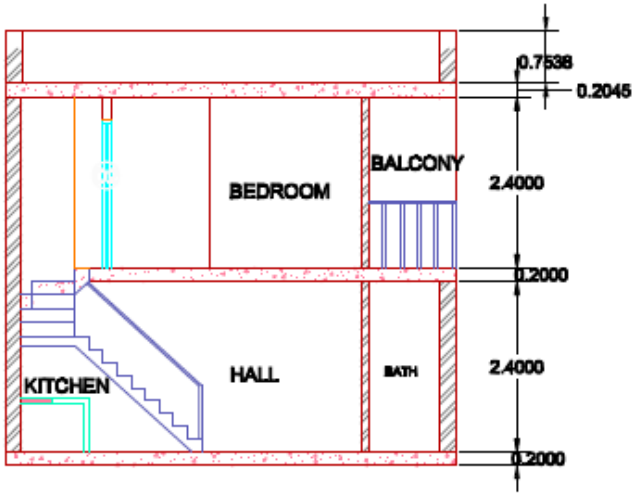
FIRST FLOOR



GROUND FLOOR



SECTION AA



SECTION BB

Notes-

- All dimensions are in mm
- Drawings to be read, do not measure
- Clear cover is 50 mm
- All levels are finished floor levels.

legend-

- D1 0.75MX2.1M (with ventilator on top)
- D2 0.80MX2.1M
- W 0.50MX1.2M
- W1 0.90MX1.2M
- V 0.60MX0.45M

Sheet title-

Houses less than 25sq mt (Linear plots)

UNIT-A

CENTRE FOR URBAN AND REGIONAL EXCELLENCE

CURE Head Office
Flat no-302
Building no 3
Sona apartments
Kaushalya park,
Hauz khas
New Delhi-110 016

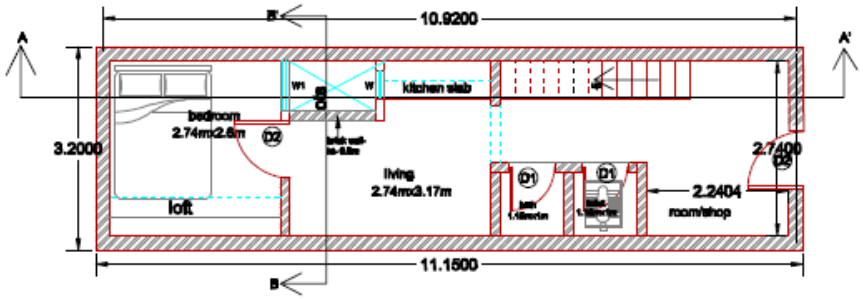
Drawn by:CURE

Checked by: CURE

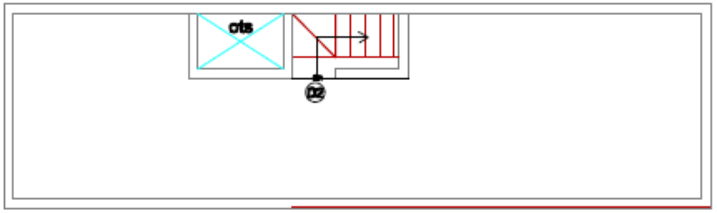
Date- March 2012

Scale 1:75

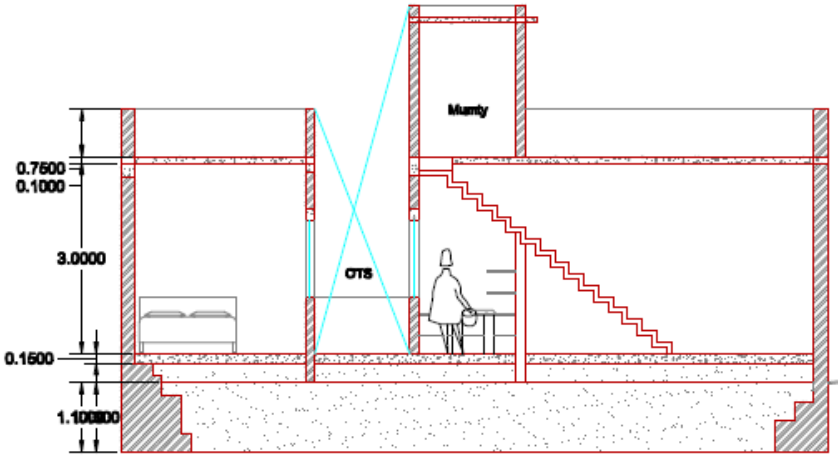
CALCULATIONS:
PLOT : 25Sq.m
CARPET AREA: 27Sq.m



GROUND FLOOR PLAN

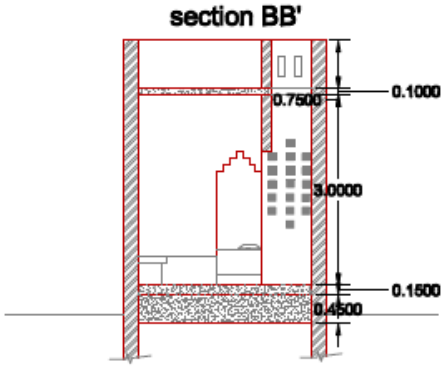


ROOF PLAN

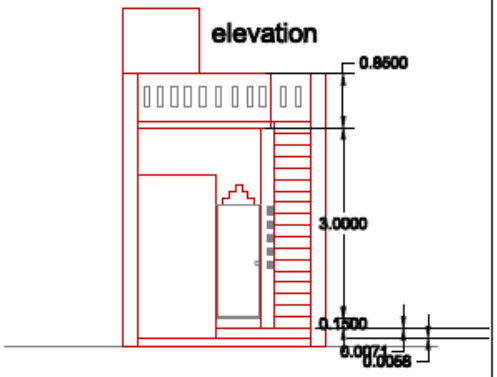


section AA'

Road lvl



section BB'



elevation

Notes-

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- All levels are finished floor levels.

Legend

- D1 0.75MX2.1M (with ventilator on top)
- D2 0.80MX2.1M
- W 0.60MX1.2M
- W1 0.90MX1.2M
- V 0.60MX0.46M

Sheet title-

Houses for Kuchha/Pucca houses (Linear plots)

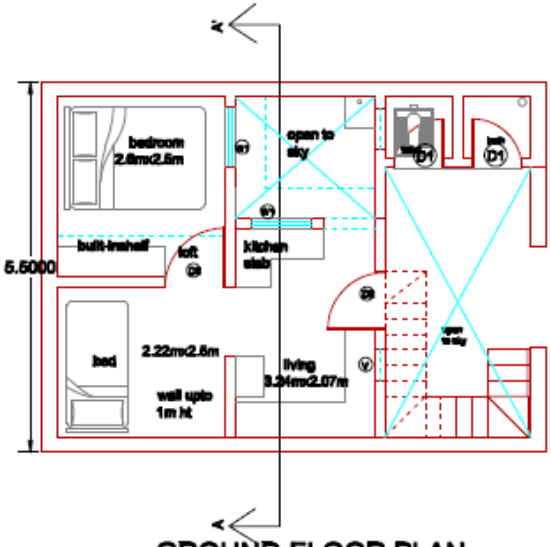
UNIT-A

CENTRE FOR URBAN AND REGIONAL EXCELLENCE

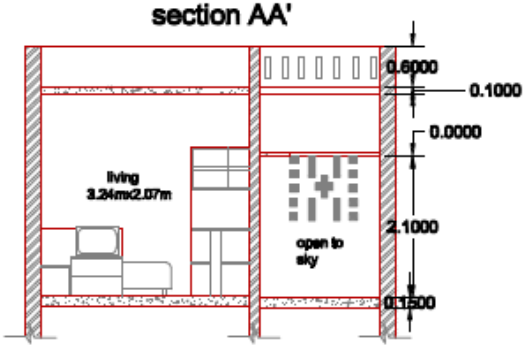
CURE Head Office
Flat no-302
Building no 3
Sona apartments
Kaushalya park,
Hauz khas
New Delhi-110 016

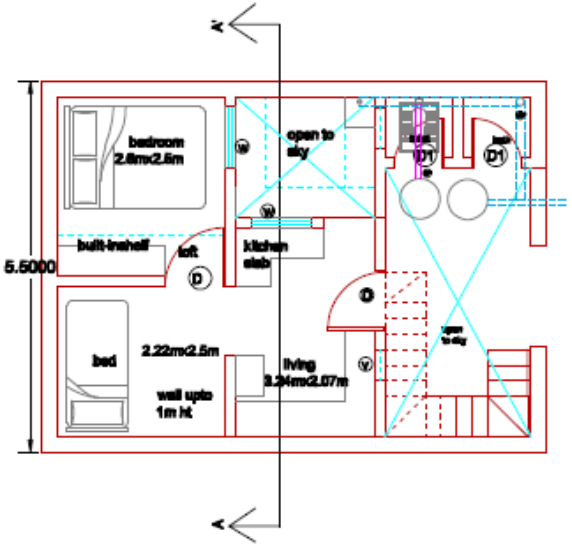
Drawn by:CURE	Checked by: CURE
date- sept 2011	scale 1:75

Area Calculations:
Plot area: 35.6 Sq. mt (and above)
Carpet Area: 25 sq. mt.

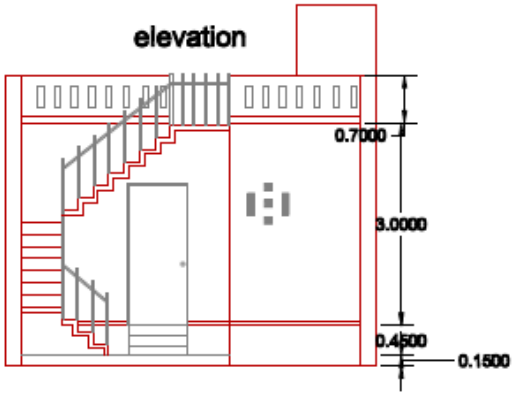


GROUND FLOOR PLAN





PLUMBING PLAN



Notes-

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- Drawings to be read, do not measure
- Clear cover is 50 mm
- All levels are finished floor levels.

Legend

- D1 0.75MX2.1M (with ventilator on top)
- D2 0.90MX2.1M
- W 0.60MX1.2M
- W1 0.90MX1.2M
- V 0.60MX0.45M

Sheet title-

Houses for Kuchha/Pucca houses (Square plots)

UNIT-B

CENTRE FOR URBAN AND REGIONAL EXCELLENCE

CURE Head Office
Flat no-302
Building no 3
Sona apartments
Kaushalya park,
Hauz khas
New Delhi-110 016

Drawn by:CURE

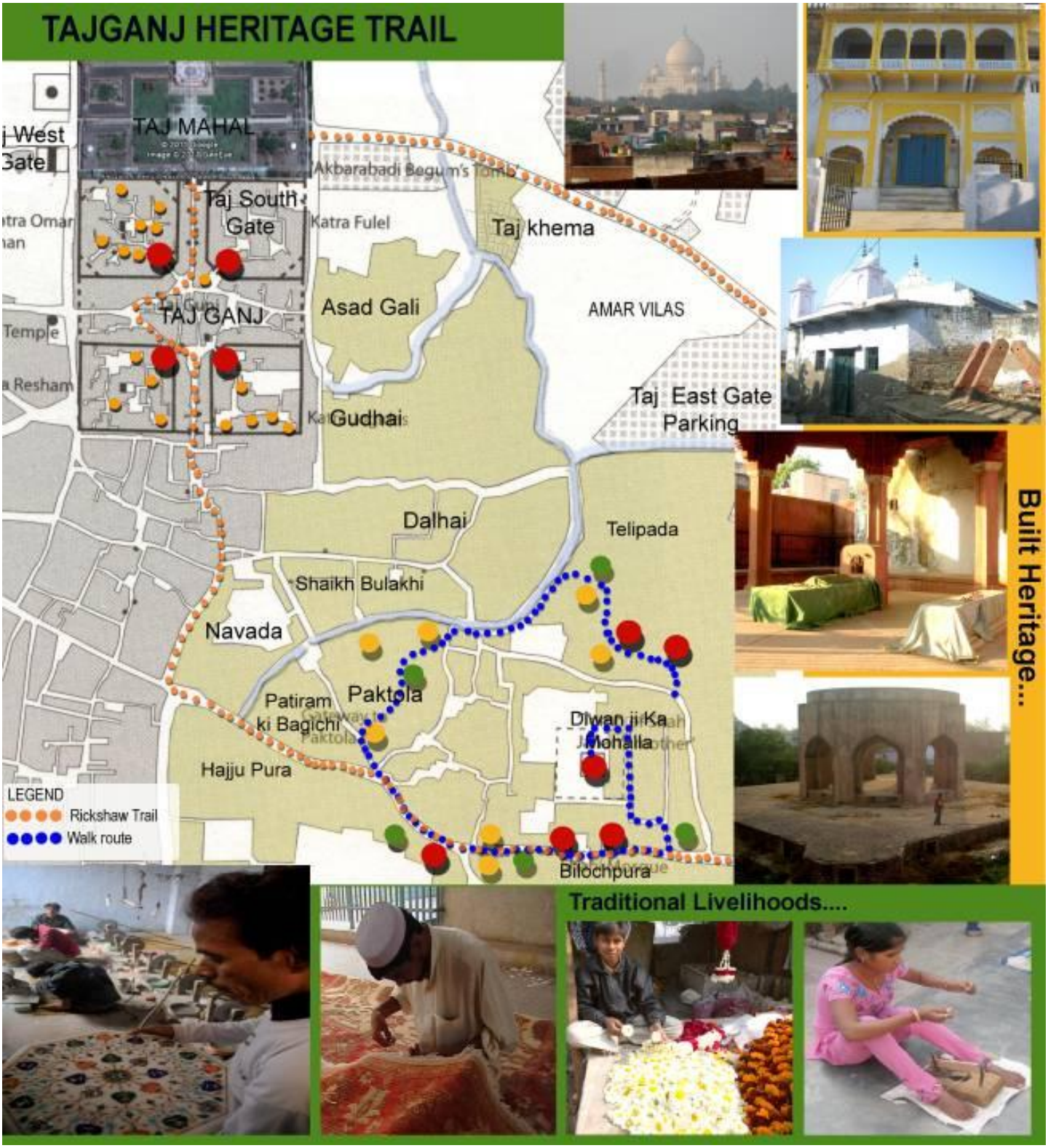
Checked by: CURE

date- sept 2011

scale 1:75

Area Calculations:
Plot area: 40 Sq. mt (and above)
Carpet Area: 25 sq. mt.

Heritage Trail Map



B. Cost Estimates:

Sl No	Characteristics/Item	Total	Central Govt.(50%)	State/ULB Share (50%-Beneficiary share for housing)	Beneficiary's Contribution
1	**New Houses to be Constructed**	479			
	Unit Dwelling Cost (in Rs.)				
	Total cost of New Pucca Houses (101)	30300000			
	Total cost of Houses less than 25 sq Mt (124)	37200000			
	Total cost of Affordable Houses (254)	127000000			
2	**Costs (in Rs.)**				
	• **Construction cost in-situ Dwelling Units (Rs.)**	**194500000**	97250000		
	• **Infrastructure Costs**				
	Water supply	2736000			
	Sewerage	11794000			
	Total Infrastructure Cost	**14530000**	7265000		
3	**Capital Costs**	**209030000**	104515000		
4	*Contingency For escalation (60%) due to SOR 2010-2011. Narration*	125418000	62709000		
5	*IEC, Capacity Building & DPR preparation (4% of Capital Costs)*	8361200	4180600		
6	*Administrative & other expenses (4% of Capital Costs)*	8361200	4180600		
7	*Centage (12.5%)*	26128750	0		
8	**Total Project Costs and Contributions in Rs. Lakhs (Without centage)**	**351170400**	**175585200**		
9	**Total Project Costs and Contributions in Rs. Lakhs (With centage)**	**377299150**	**188649575**		