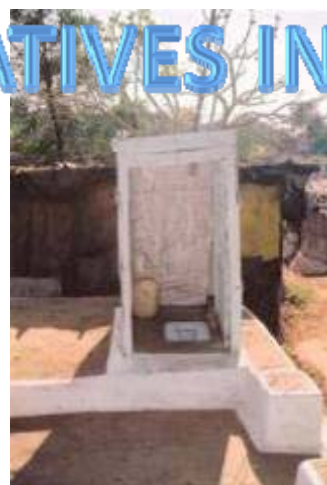


SANITATION INITIATIVES IN MADHYA PRADESH



Urban Administration and Development Department
Government of Madhya Pradesh



Madhya Pradesh Integrated Urban Sanitation Programme



Launched on 13
Feb 2009

Goal: achieve totally sanitized, healthy, livable cities and towns and enhance living standards of the communities, especially urban poor.

Progress



- Comprehensive Survey conducted covering all ULBs
 - Data received from 290 ULBs so far- uploaded on website
- Programme strategy and guidelines prepared- circulated to all ULBs
- 37 towns selected in Phase 1 of the programme
- Interdepartmental Coordination Committee formed under chairmanship of the CS
- State Sanitation Committee established
- State sanitation Cell established
- IEC strategy prepared – NGOs are being shortlisted
- Guidelines prepared for Establishing Septage Management system
- GoI sanctioned Rs. 2.55 Crore for preparing city sanitation plans (11 towns) and Strategizing the state sanitation programme
- State Government allocated Rs. 8.5 Crore (2009-10) and Rs 11.25 Cr for implementing the programme
- Seven proposals for construction of individual toilets (>8500 toilets) approved by GoI (under ILCS)
- Support from Bilateral agencies, INGOs to support various components of the programmes

Progress



- State level workshop organised on 13 Feb 2009
- Two training and orientations on the need and importance of the programme completed for 30 towns
- One training on sanitation completed for 30 towns
- Exposure visit to best practices completed
- City Sanitation Committee formed in 25 towns
- Template on basic sanitation situation wrt CSP circulated among all pilot towns – 15 towns already submitted pre CSP document
- Funds released to all 35 ULBs to carry out basic IEC Campaign in respective towns
- All 37 CSPs to be ready in next six to eight months



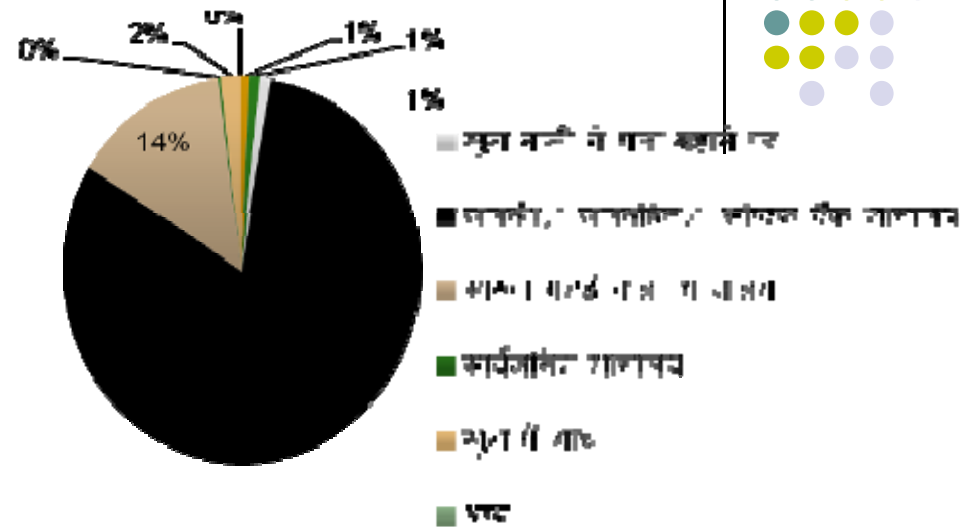
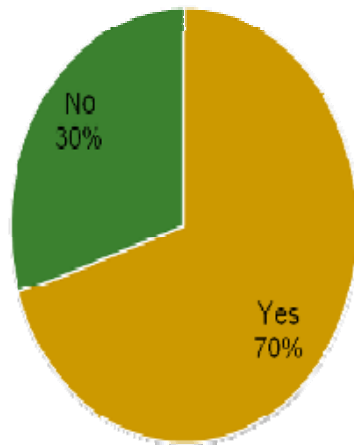
State		Madhya Pradesh					
Total Population		1.9 Crore (Urban)					
Total number of cities developing CSPs		37					
City Name	Population	Current status of sanitation				Authorities/ Agencies Involved	Current MoUD Rating
		% of open defecation	% of Liquid Waste treated through sewerage system	% of Liquid Waste treated through on site systems	% of Solid Waste treated		
Hoshangbad	121066	16	0	60	0	WSP	
Sarni	118069	32	0	50	0		
Nasarulganj	21423	19	0	60	0	UNH	
Sailana	13530	18	0	63	0	In-house	
Rau	25916	30*	0	52	0		
Sendhava	60818	35*	0	41	0		
Kushi	30213	13	0	61	0	In-house	
Sardarpur	7602	37	0	52	0		
Shahpur	22561	64	0	31	0		
Vidisha	155896	19	0	55	0	RCUES (L)	
Teekamgarh	85030	14	0	61	0		325
Kaimur	25040	30*	0	55	0		
Raisen	44365	22	0	61	0	WaterAid	
Chitrakoot	27686	66	0	32	0		
Orchha	10564	59	0	33	0		
Amarkantak	8801	35	0	55	0		
Maheshwar	24417	25	0	66	0		
Omkareshwar	8222	87	0	10	0		
Maihar	42675	42	0	35	0		



State	Madhya Pradesh						
Total Population	1.9 Crore (Urban)						
Total number of cities developing CSPs	37						
City Name	Population	Current status of sanitation				Authorities/ Agencies Involved	Current MoUD Rating
		% of open defecation	% of Liquid Waste treated through sewerage system	% of Liquid Waste treated through on site systems	% of Solid Waste treated		
Ujjain*	535792	15*	5	60	0		282
Shivpuri*	182539	18	0	77	0		205
Chanderi	35174	35*	0	58	0		
KhjuraHo	23966	55	0	35	0	WaterAid	
Sanchi	8431	40	0	51	0		
Bhedaghat	2287	39	0	47	0		
Bhopal*	1812329	14*	28	59	0	MPUSP (DFID)	253
Gwalior	1027720	12*	15	67	57	UNH	378
Mandav	10617	84	0	10	0		
Panna	64689	30*	0	61	0		
Kolar	65861	26	0	66	0		
Ashta	48407	43	0	42	0	WaterAid	
Dewas*	282640	11	0	54	0	USAID	336
Ratlam*	575540	20*	0	59	0		361
Gautampura	16135	30*	0	63	0		
Mandla	56007	84	0	09	0		
Jabalpur*	1082794	15*	0	68	0	MPUSP (DFID)	231
Indore*	1854930	10*	10	56	0	MPUSP (DFID)	61

Individual households toilet Facilities

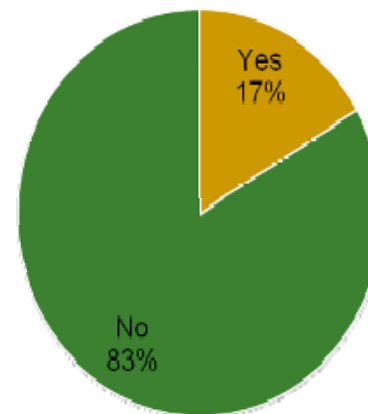
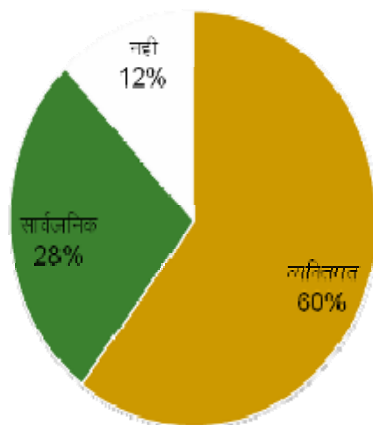
Disposal Type



Base:- ULBs: 248, HHs: 10,62,633

If no toilet-kind of toilet preferred

Is public toilets and Urinal facility adequate?

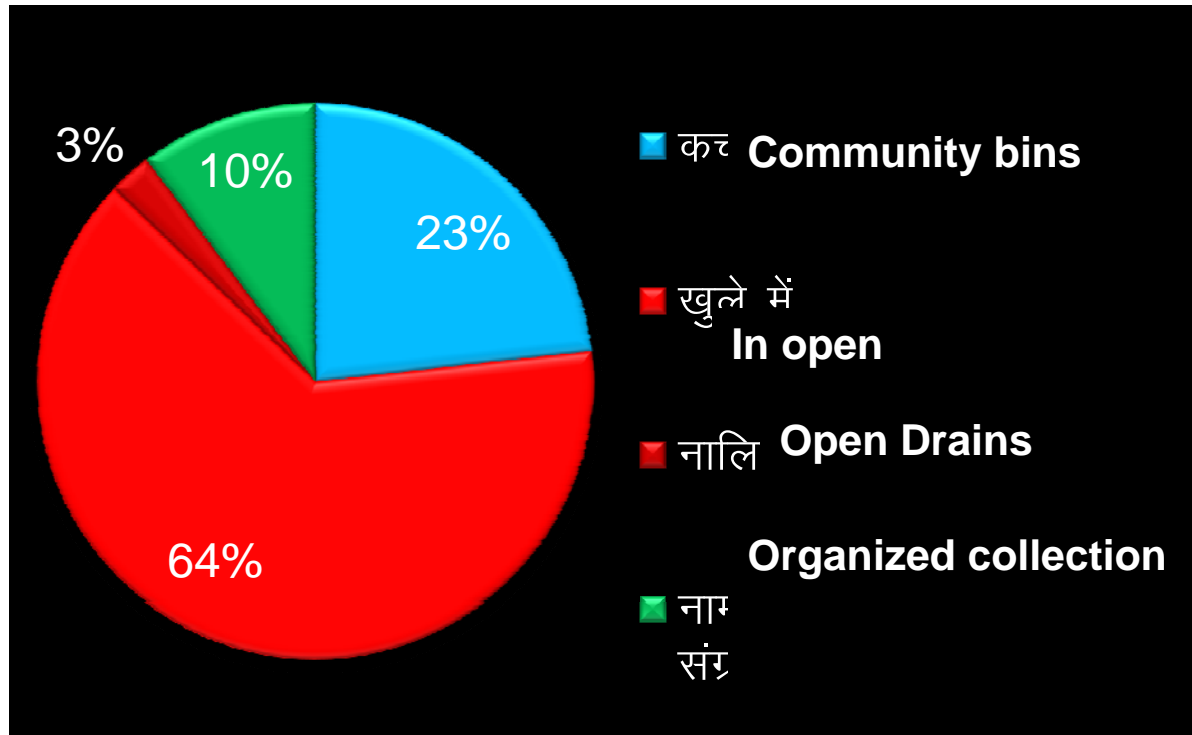




Main findings – Sanitation

- Large scale open defecation
 - smaller towns – 45%
 - medium and large towns 27% and 30% respectively
- Most households have septic tank type of toilets (~80%) followed by pit latrines (14%).
- Pit latrines reported more in small towns – about 21%
- About 12% of the households are not willing to have any type of toilet
- 60% households prefer individual toilets and 28% households prefer community toilets
- 83 to 89% households reported inadequate access to public toilets and urinals

Garbage Dumping site



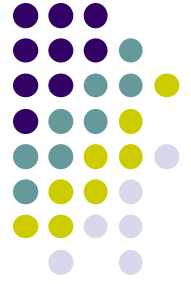
Base:- ULBs: 248, HHs: 10,62,633

Main findings - SWM



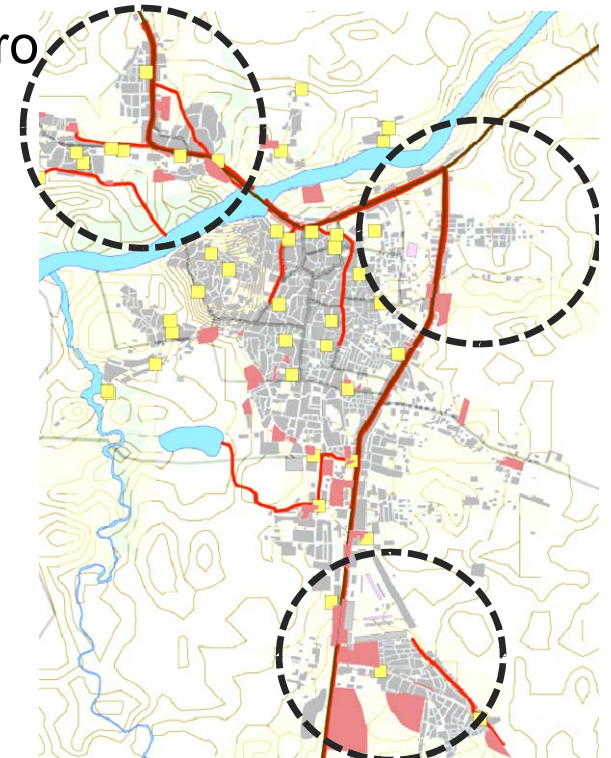
- Garbage is mostly dumped in Open
- Most ULBs do not have collection, transportation, disposal facilities
- None except one or two ULBs have recycling and conversion system- major cities have taken up the task
- Door to door collection is almost non existing
- Segregation is rarely practiced
- SWM is not a priority
- Advanced technologies not being used
- Lacks capacities and technical knowledge
- Garbage -chocking the drains all most everywhere
- It is not recognized as a resource





Liquid waste management

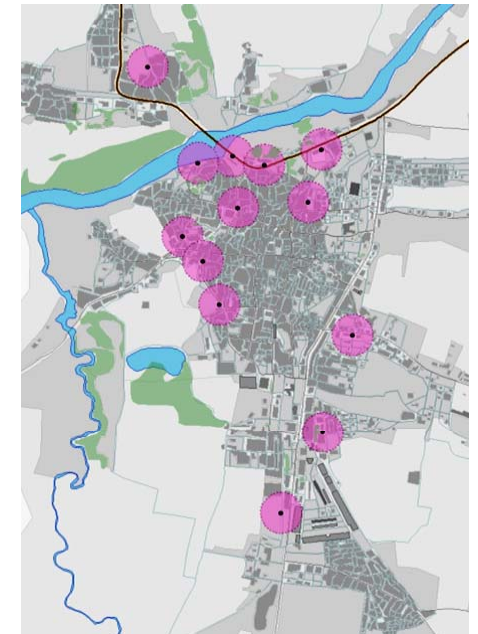
- Comprehensive GIS based planning for Liquid waste management
- Promote Decentralised technologies for small and medium towns
- Promote technologies such as simplified sewer and small bore sewer
- Strategy for Storm water drainage as a part of CSP
- Possibility for PPP and cost recovery through improvement and tariff restructuring

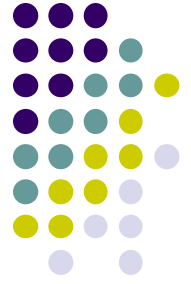




Solid waste management

- Comprehensive GIS based planning for Solid waste management
- Compliance with MSW Rule 2000
- Promote the concepts of Regional land fill sites, resource recovery, D2D collection
- Possibility for PPP and cost recovery through improved user charge collection and tariff restructuring





How do you propose to integrate new/ ongoing/ existing projects on sanitation with CSP?

- Programme strategy clearly defines convergence of various schemes and programmes of State and Central Govt.
- Funds under NUSP, IUSP, ILCS, IHSDP, UIDSSMT, JNNURM, Tribal welfare, Tourism, 12th and 13th Finance Commission, Donor funds- State is already planning in this direction

Plans for stakeholder participation- NGOs, Media, citizens, etc



- Most of the stakeholders are part of the City Sanitation Committees – which is mandatory for each participating ULB
- Focus on Participatory planning
- Stakeholder consultations focusing on Community is a mandatory process in CSP



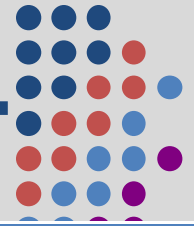
Short term and long term goals (with proposed timelines)

- All CSPs will have immediate, short term and long terms plans of implementation

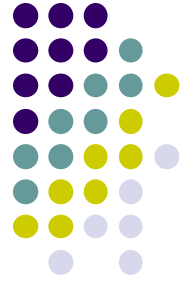
Sustainability plan..... Cost recovery?

- All CSP will have institutional and financial plan – including plan to raise resources, institutional strengthening and capacity building, good Governance

Challenges/ capacity needs of ULB...



Is their capacity within ULB to develop CSP?	Mostly No
Will the CSP be developed in house or through external agency ?	Mixed
Are any trainings required to develop CSP?	Yes to ULBs
Are there any best practices (if any) in urban sanitation that you can replicate?	Yes
Specific challenges faced (if any):	Procedural delay in selecting agencies
Additional support required from MoUD and others?	Follow up with external agencies, exposure visits



CSP Steps and Activities

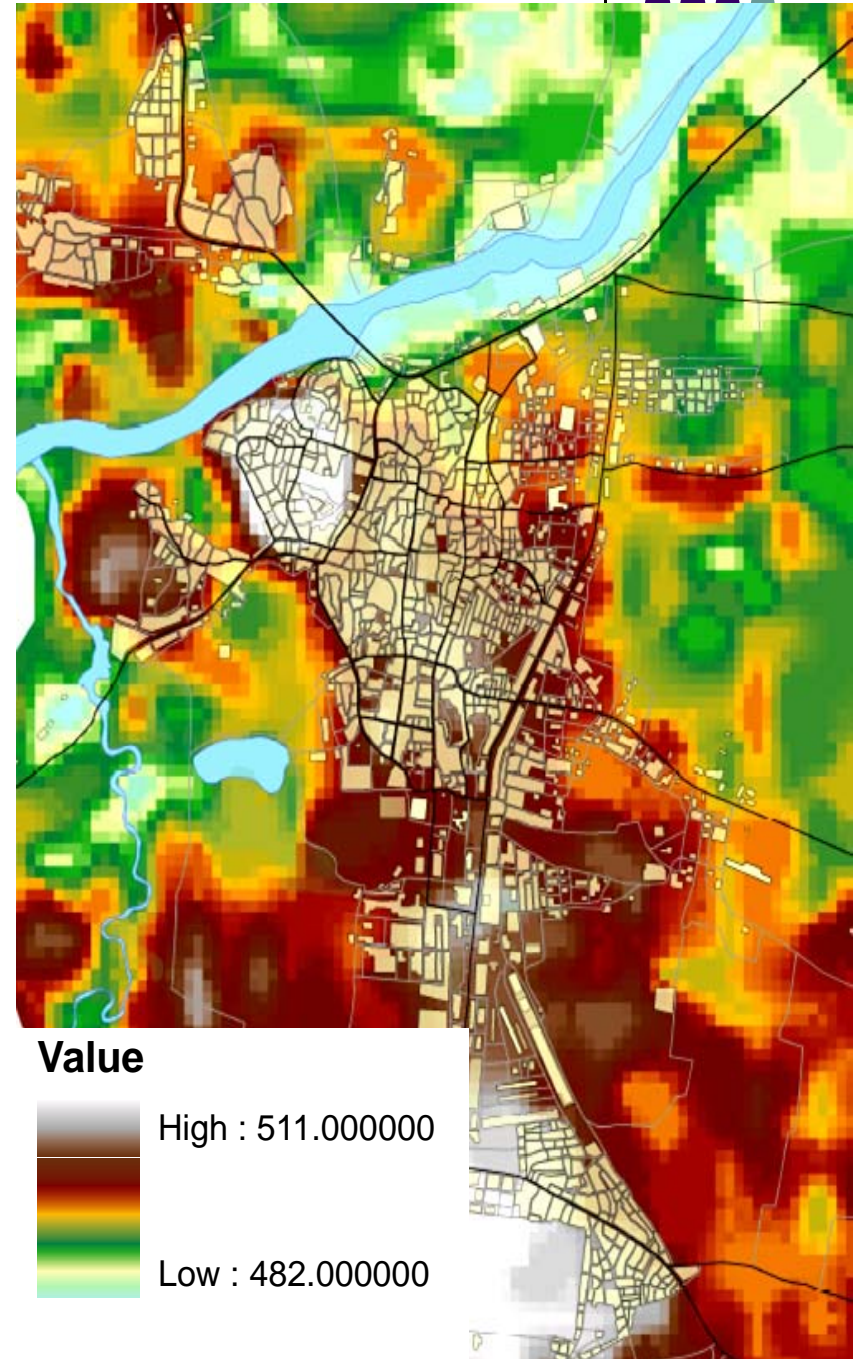
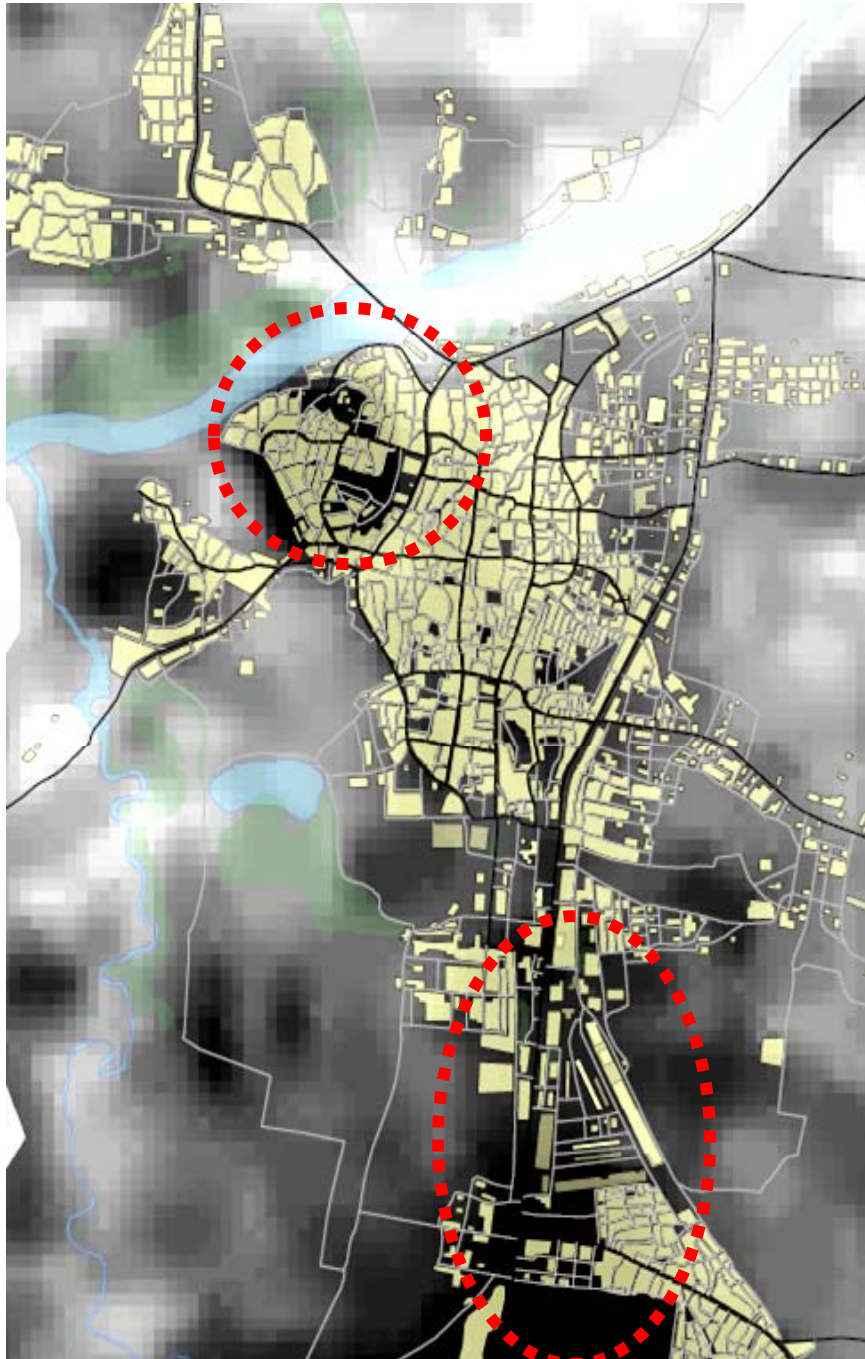
1. General Baseline study
2. Technical Situation analysis
3. Stakeholder engagement & Participatory Planning
4. Waste management options
5. Financing plans and Institutional capacity
6. Draft City Sanitation Plan
7. Final city sanitation plan

Timeline

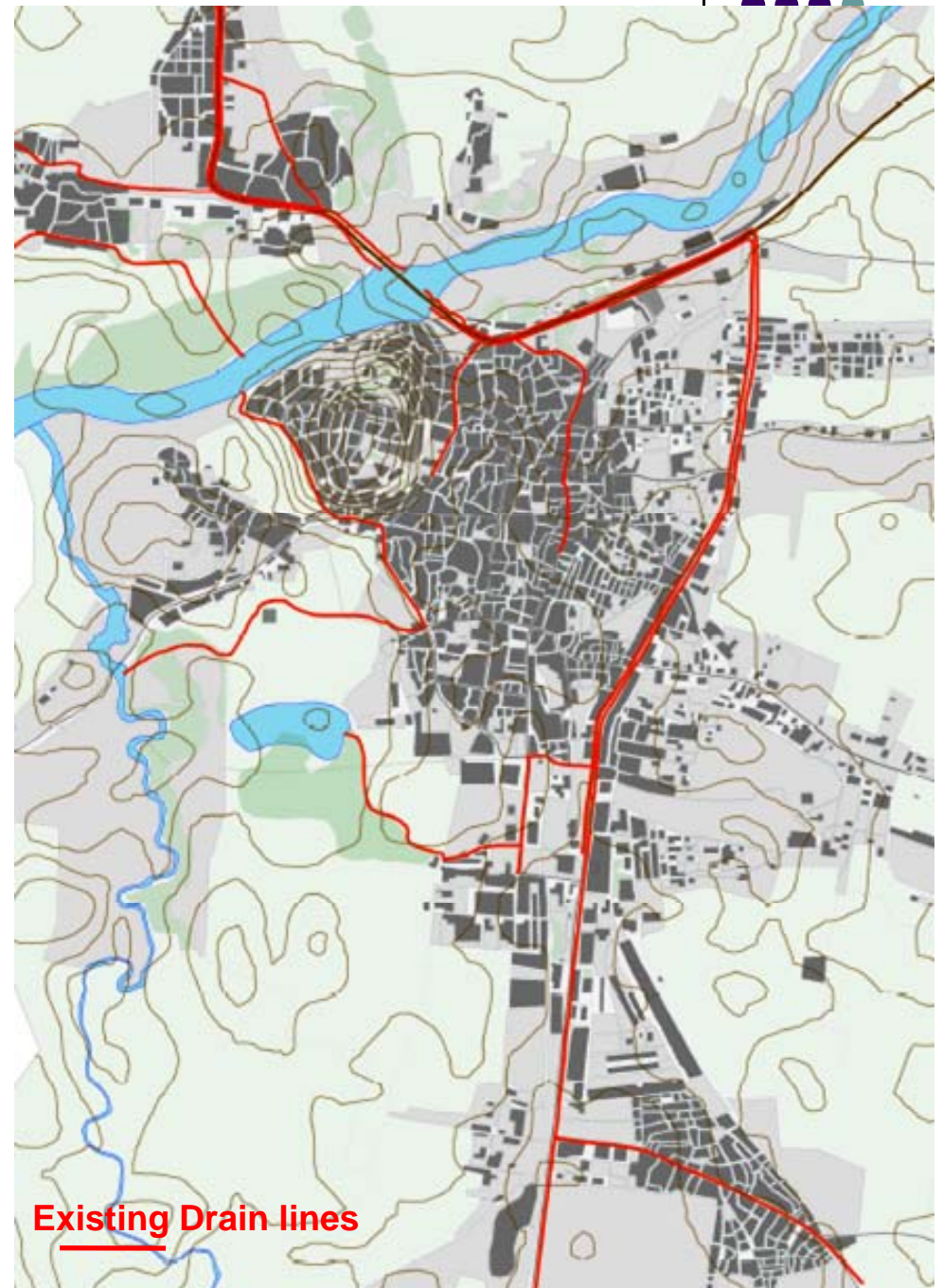
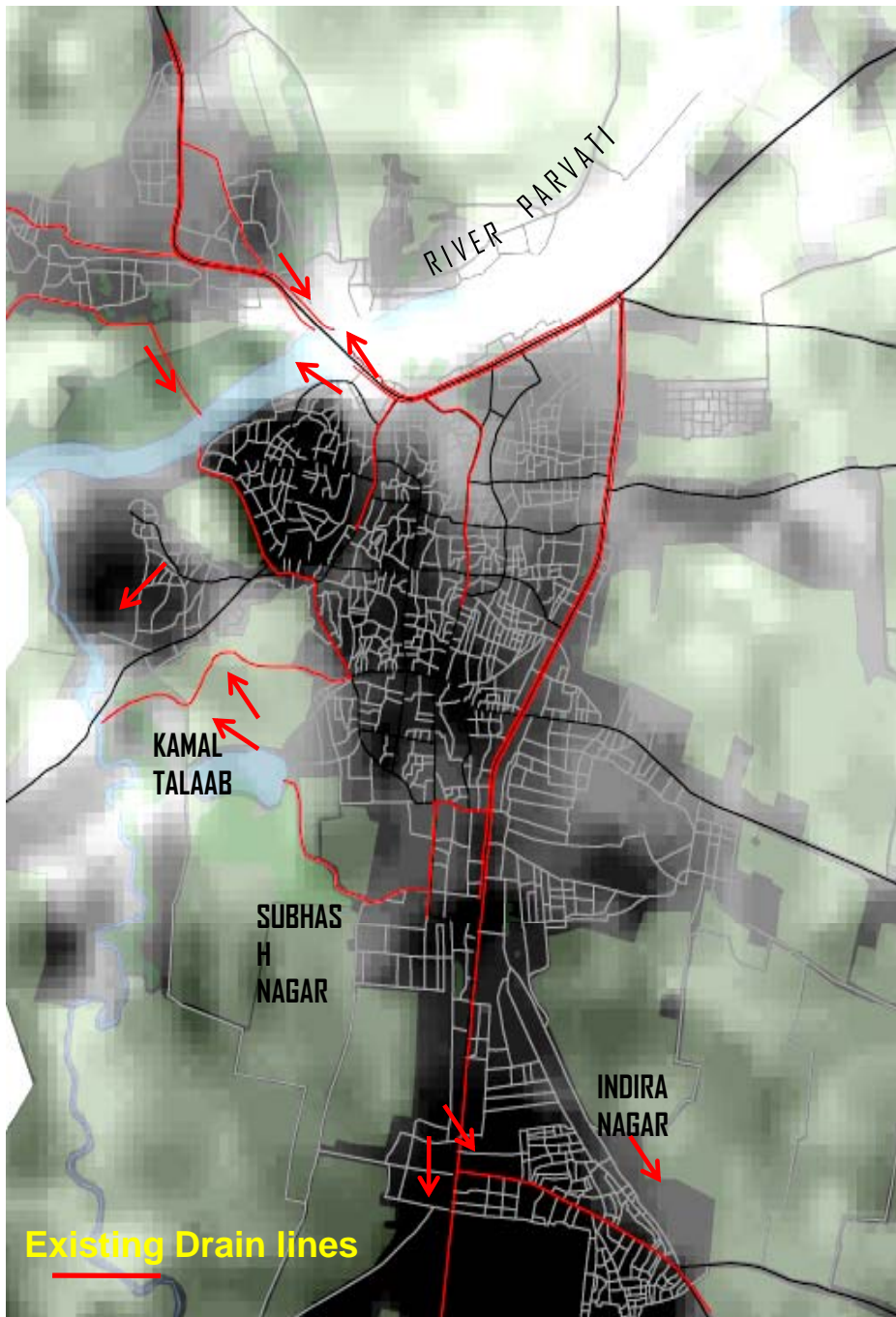


No.	Activity	4 to 6 months															
		1				2				3				4			
1	General Baseline study	█	█	█	█												
2	Technical Situation analysis and inception report	█	█	█	█	█											
4	Stakeholder engagement, awareness raising and communication strategy				█	█	█	█									
5	Waste management options					█	█	█	█	█	█						
6	Financing plans and Institutional capacity					█	█	█	█	█	█						
7	Draft City Sanitation Plan summarizing all previous results											█	█				
8	Participatory Planning													█	█	█	
9	Final city sanitation plan														█	█	█

ASHTA : TOPOGRAPHY



ASHTA : EXISTING DRAINAGE SYSTEM



OPEN DRAIN SYSTEM:

- **Length of open drains** is almost **30 km**.
- No separate sewerage and storm water system. **On-site Sewerage Disposal (OSD)** system exists in the town.
- There are only **open roadside gutters** for wastewater drainage.
- In most cases, solid waste / garbage littering along the roadsides goes into open drains.
- **Direct disposal** of Sewage through natural open drains in Parvati river has resulted in the **degradation of river**
- **No sewerage treatment plant** for the city .
- **Rampant encroachment** on the drains of the town needs to be addressed.
- City experiences **Filthy and unpleasant atmosphere**.

Drain	Length (m)
Open drains	18-20 km
Closed drains	8-10 km
Natural drains (Nallah)	2 -5 km



CLUSTERWISE CALCULATIONS FOR SEWERAGE GENERATION:



Cluster	Ward No.	Population 2010	No. of Households	Water supply (40 lpcd)	Sewerage generated from flushing of toilet at 35 % of WS	Sullage generated at 55% of WS	Total Sewerage generated	Total Sewerage collected by Constructed Sewer Lines	Total Cluster Generation (KL)	Cluster Sewerage Conveyed y sewerage System (KL)	% Conveyance
Mirpura, Alipura	2	3900	510	156000	2730	68640	71370	10705.5	100.85	15.13	15
	3	1611	280	64440	1127.7	28353.6	29481.3	4422.2			

Indiranagar	15	7885	933	315400	8831.2	138776	147607.2	0	147.61	0	
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Shikhpura	1	2800	360	112000	3136	49280	52416	0	97.18	0	0
	18	2391	317	95640	2677.92	42081.6	44759.52	0			

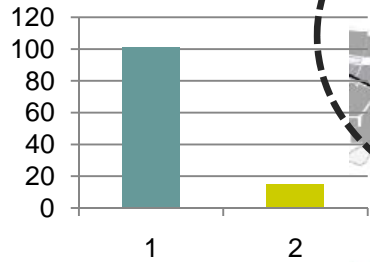
Central city	8	2131	298	85240	17900.4	37505.6	55406	49865.4	266.06	239.45	90
	9	1620	244	64800	13608	28512	42120	37908			
	10	1643	226	65720	13801.2	28916.8	42718	38446.2			
	12	1511	263	60440	12692.4	26593.6	39286	35357.4			
	13	1829	304	73160	15363.6	32190.4	47554	42798.6			
	14	1499	269	59960	12591.6	26382.4	38974	35076.6			

Mewad Colony, Bajrangpur	11	2076	273	83040	18600.96	36537.6	55138.56	33083.14	317.31	190.39	60
	16	6815	741	272600	61062.4	119944	181006.4	108603.84			
	17	3056	504	122240	27381.76	53785.6	81167.36	48700.42			
	6	3210	362	128400	32356.8	56496	88852.8	71082.24	131.43	105.14	
	7	1538	258	61520	15503.04	27068.8	42571.84	34057.47			

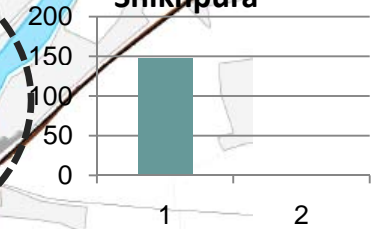
Old Killa	4	2652	341	106080	10395.84	46675.2	57071.04	42803.28	100.52	75.38994	75
	5	2019	287	80760	7914.48	35534.4	43448.88	32586.66			

CLUSTERWISE SEWERAGE GENERATION:

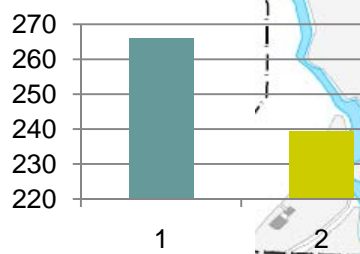
**Ward 2,3 :
Mirpura,Alipura**



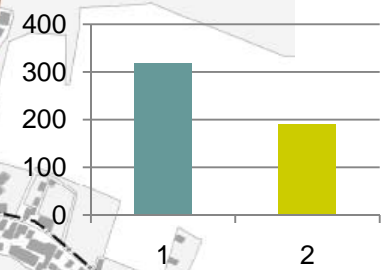
**Ward 1,18:
Shikhpura**



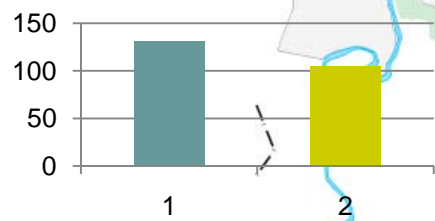
**Ward
8,9,4,5,10,12,13,14
Central City**



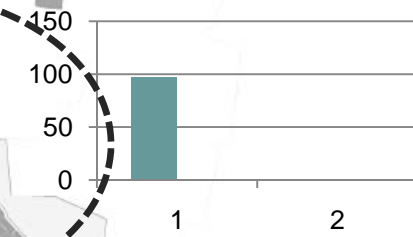
**Ward 11,17,16:
Mewad
Colony,Bajrangpura**



**Ward 6,7:
Subhash Nagar area**



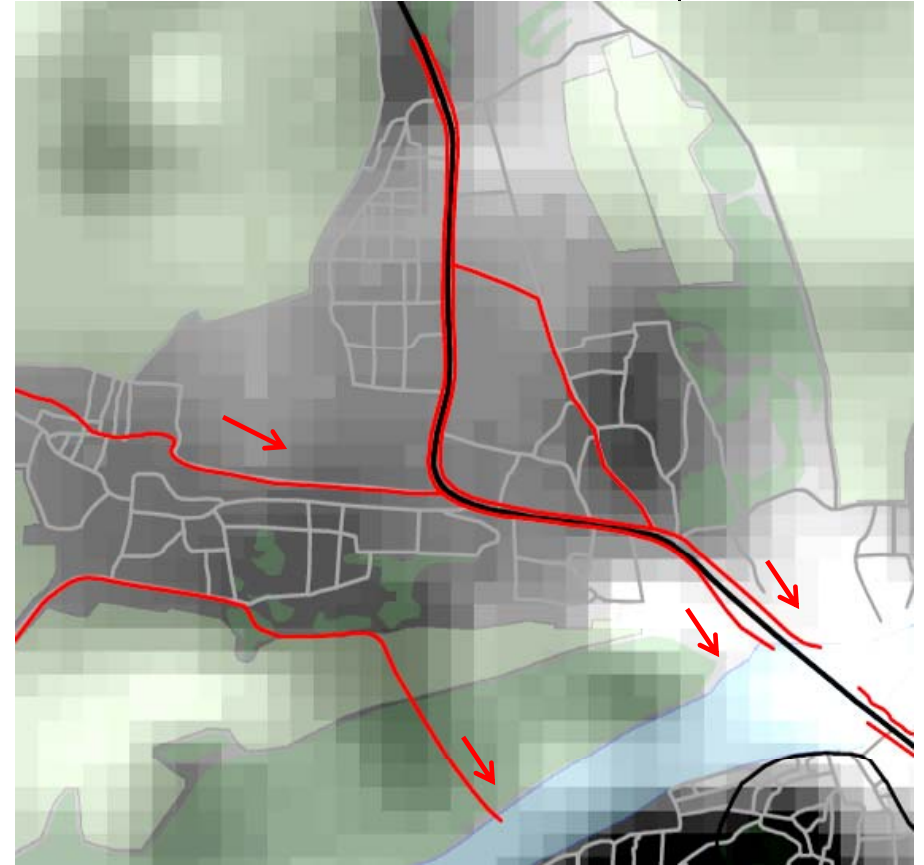
**Ward 15:
Indiranagar Ward**



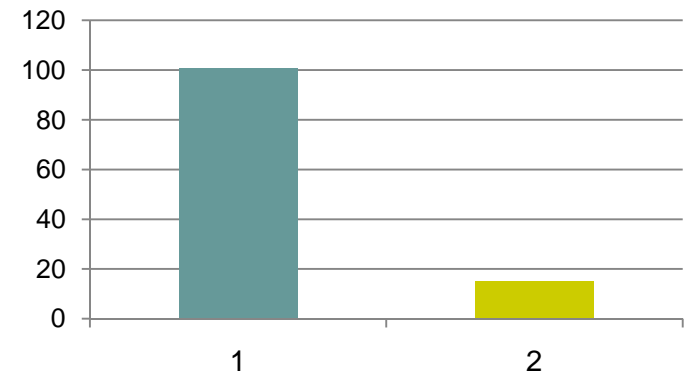
**1:Generated Sewage
2:Conveyed Sewage**



DRAINAGE SYSTEM FOR MIRPURA ,ALIPURA WARD 2,3



Ward No.	Population 2010	No. of Households	Cluster Generation (KL)	Cluster collection by Sewreage System (KL)	% generation	Conveyance By constructed Drain
2	3900	510	100.8513	15.127695	100	15
3	1611	280			100	





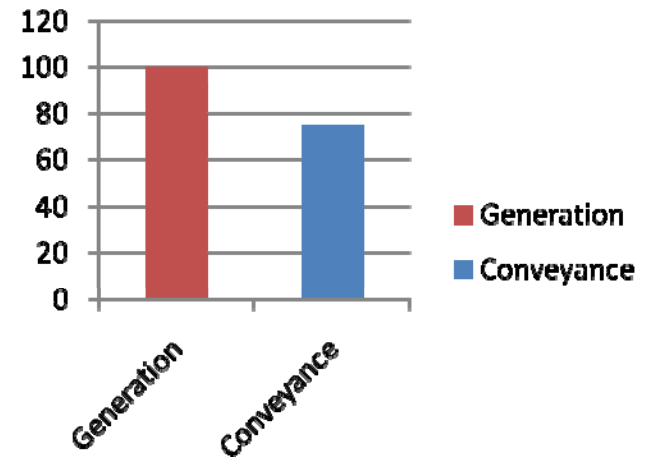
DRAINAGE SYSTEM – MIRPUR , ALIPUR AREA WARD NO. 2 & 3



DRAINAGE SYSTEM FOR OLD KILLA AREA - WARD 4,5



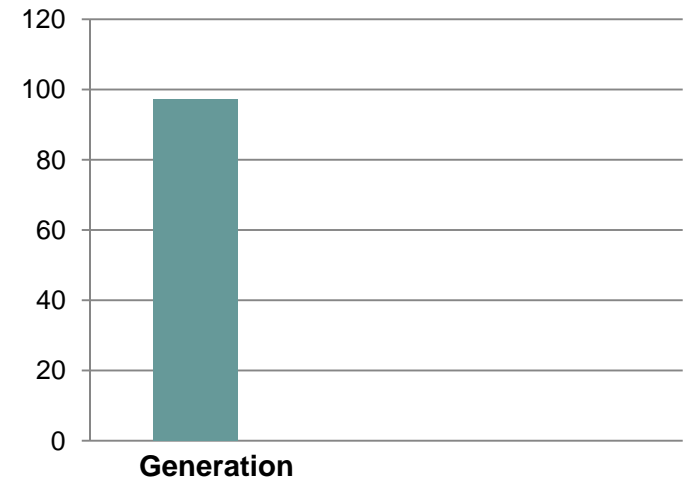
Cluster	Ward No.	Population 2010	No. of Households	Total Cluster Generation (KL)	Cluster Sewerage Conveyed y sewerage System (KL)	% Conveyance
Old Killa	4	2652	341	100.52	75.39	75
	5	2019	287			



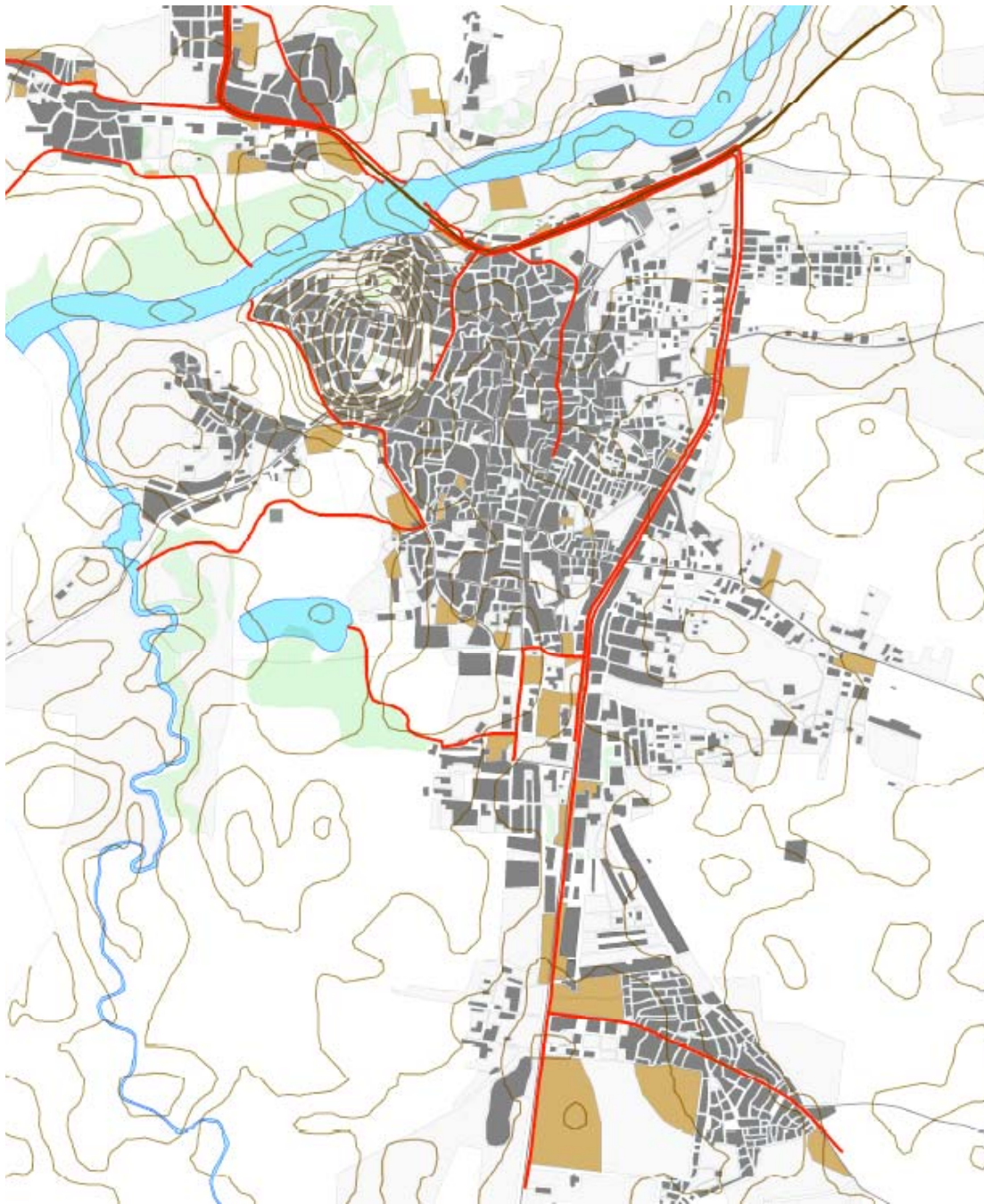
DRAINAGE SYSTEM FOR INDIRA NAGAR- WARD 15



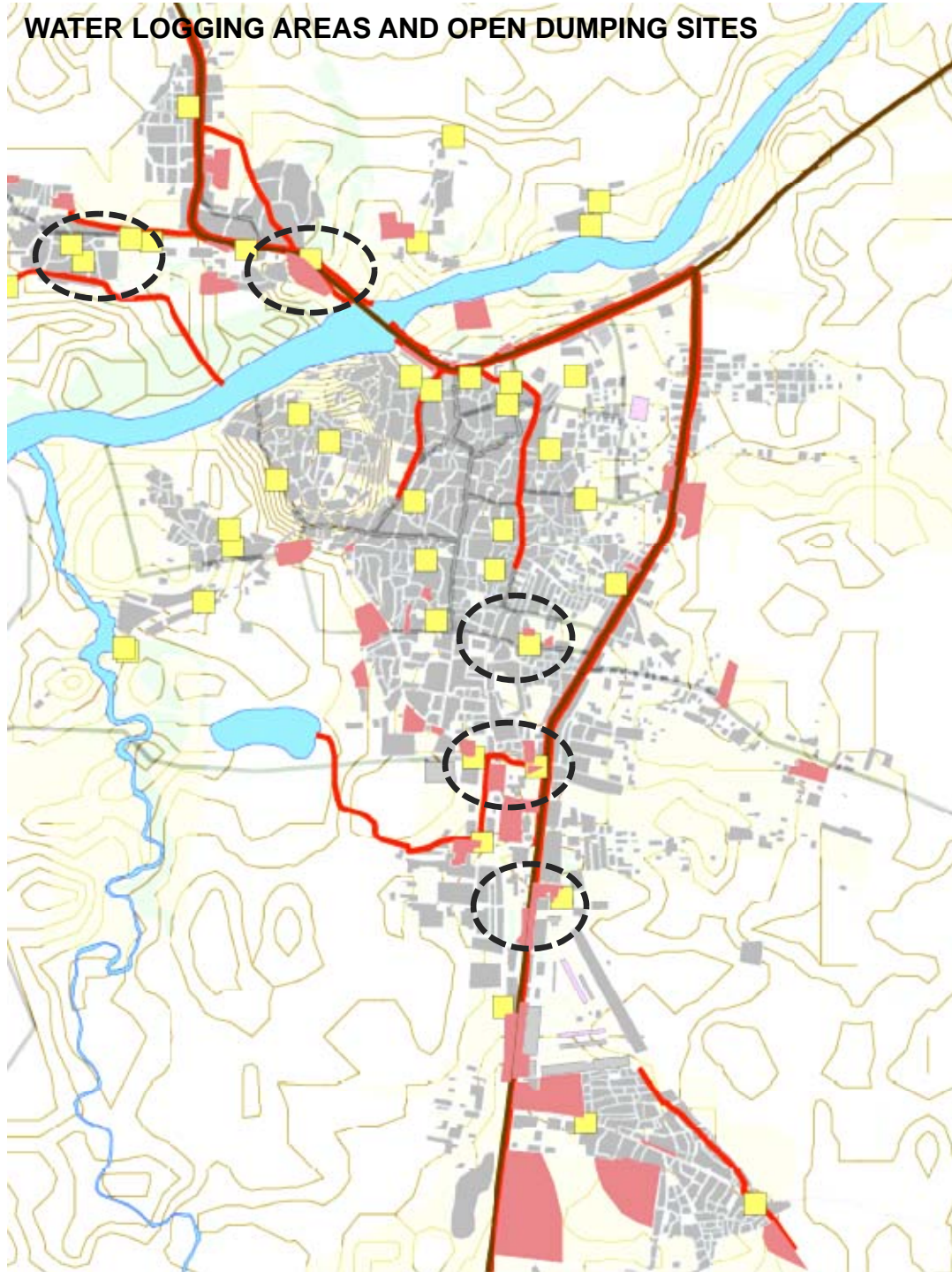
Cluster	Ward No.	Population 2010	No. of Households	Total Cluster Generation (KL)	Cluster Sewerage Conveyed y sewerage System (KL)	% Conveyance By constructed Drain
Indiranagar	15	7885	933	147.61	0	0



WATER LOGGING AREAS



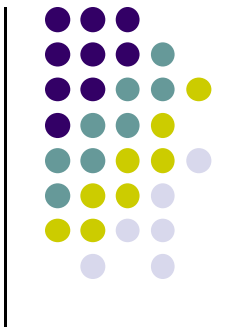
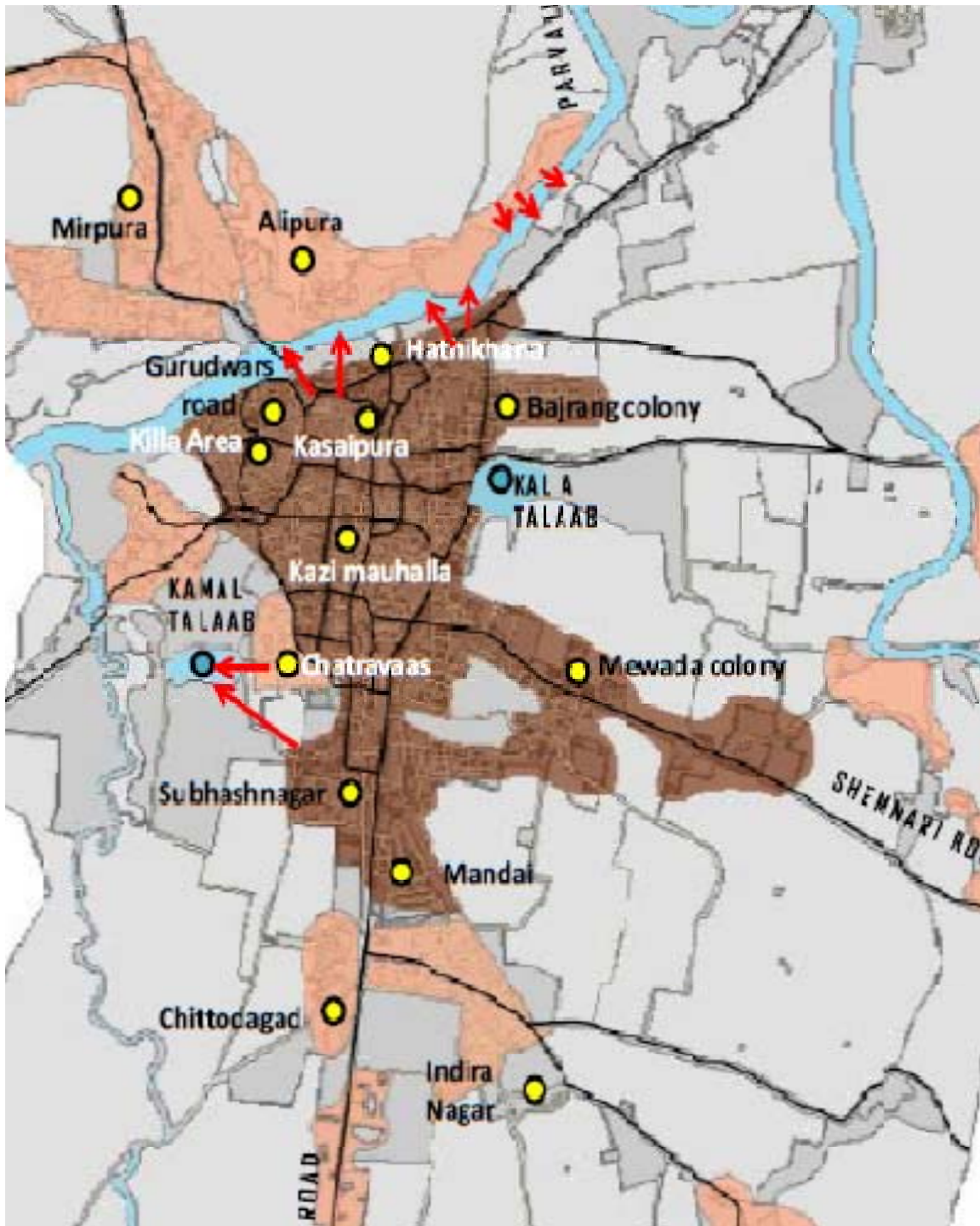
WATER LOGGING AREAS AND OPEN DUMPING SITES



HOUSEHOLD SANITATION



Cluster	Location	Access to Sanitation Facility (% Households)			
		Individual Septic tank Toilets	Community Toilets	Open Defecation	Individual Pit Latrines
Mirpura	N-W	5%	-	85%	10%
Shikhpura	N-E	10%	-	65%	25%
Central city area	Central	75%	15%	15%	5%
Mewad colony, Bajrangpura	E,S-E	80%	-	-	20%
Indiranagar, Chittodgadh	S	15%	20%	60%	5%
Subhash nagar	S-W	70%	-	10%	20%
Old Killa	West	35%	10%	25%	30%

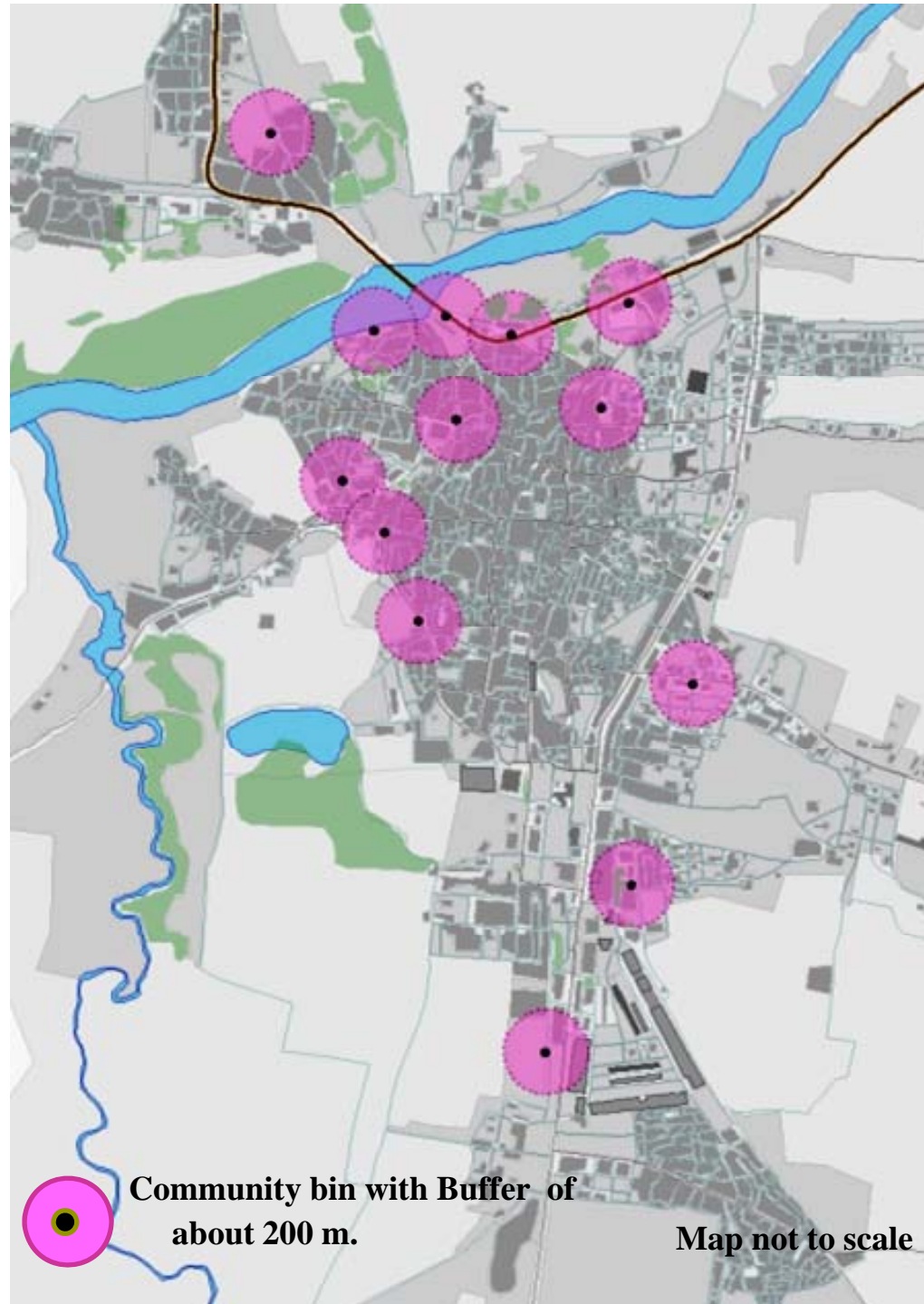
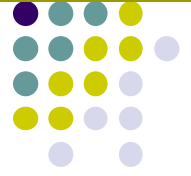


Location of OD Areas and Sites





**Map showing locations
of Community Bins**



**Community bin with Buffer of
about 200 m.**

Map not to scale

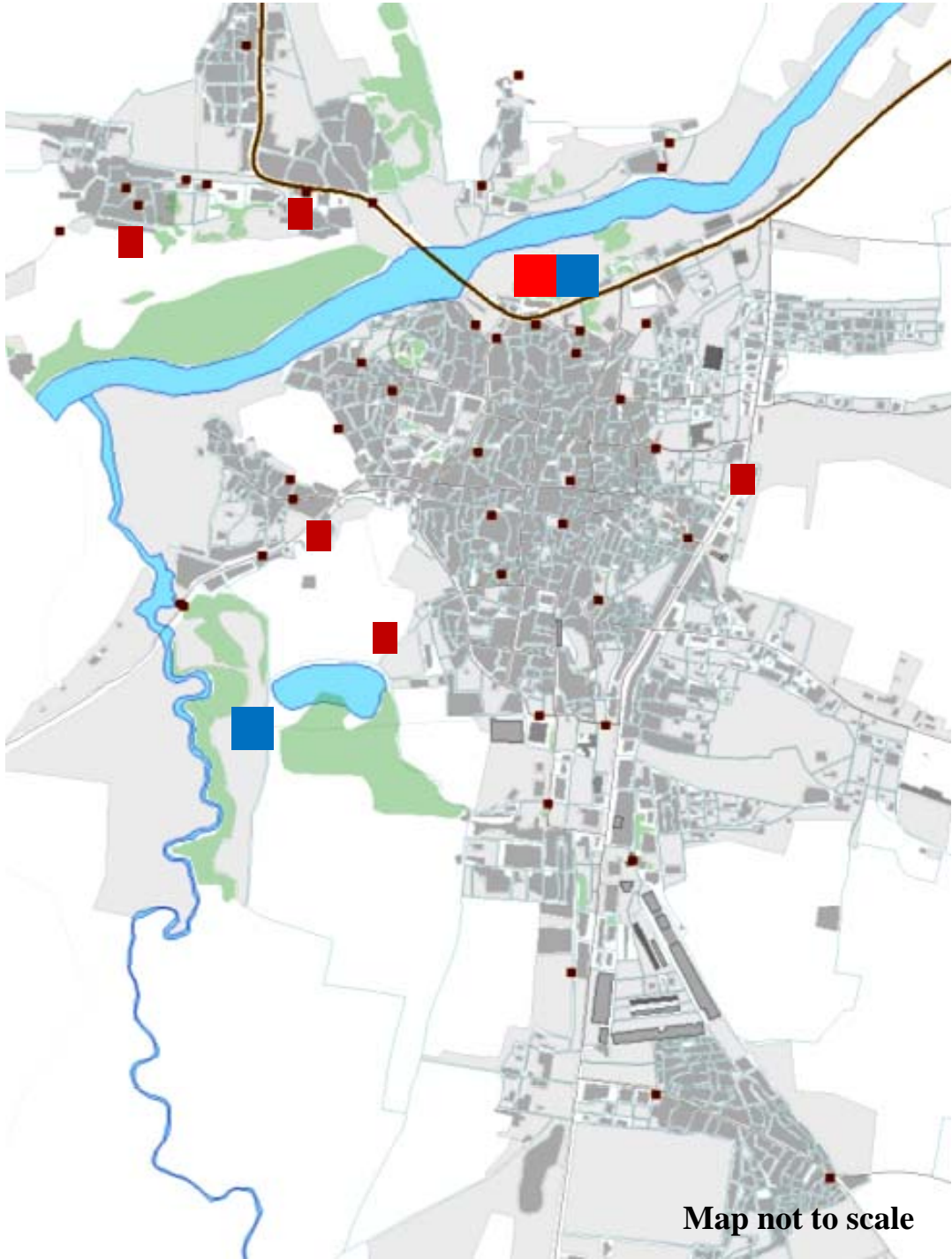


Locations of open dump sites



● Locations of open Dumping Areas

Map not to scale



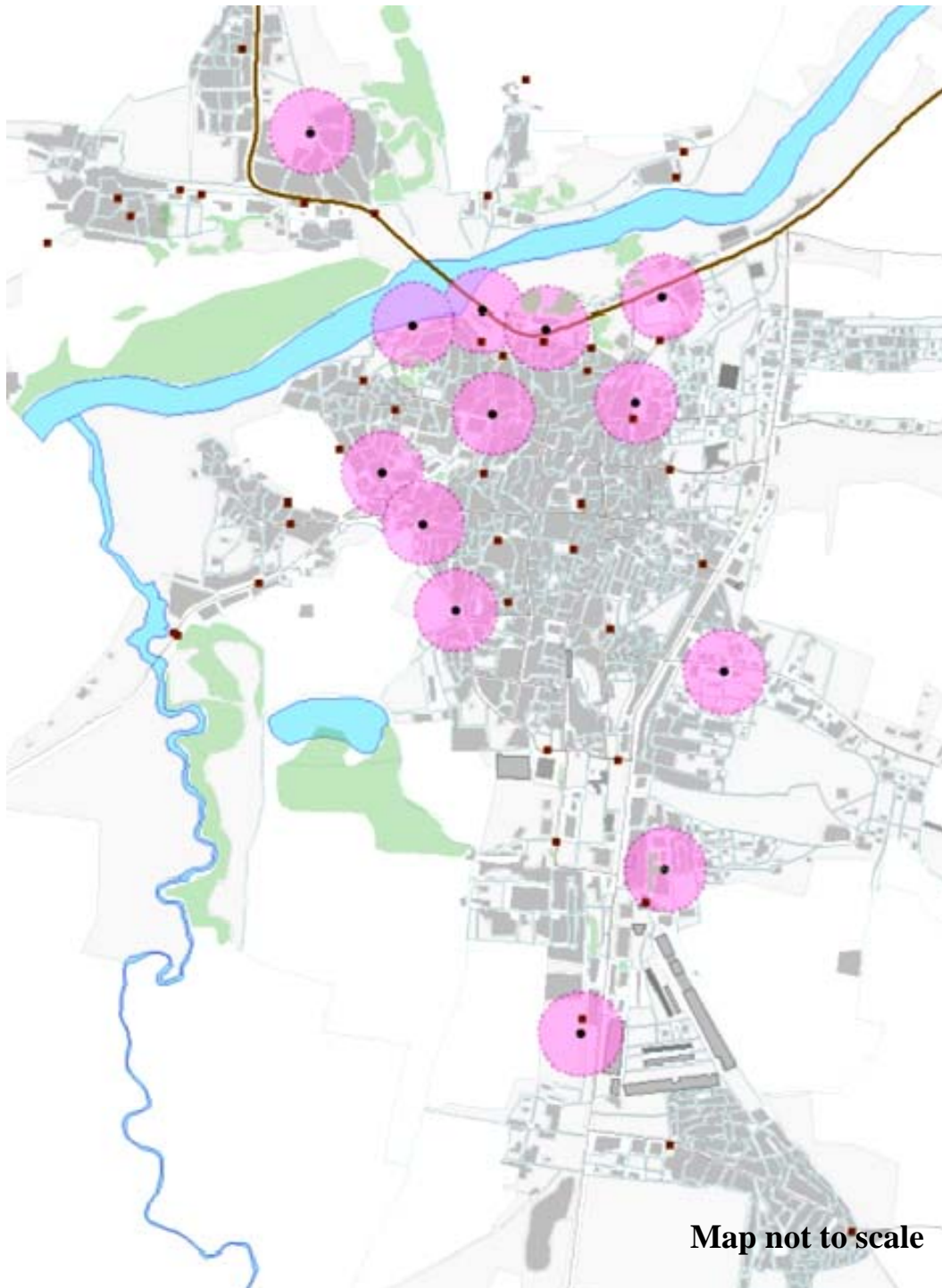
Location of major dumping areas



Location of dumping of Debris and waste generated from construction activity

Locations of major open Dumping Areas

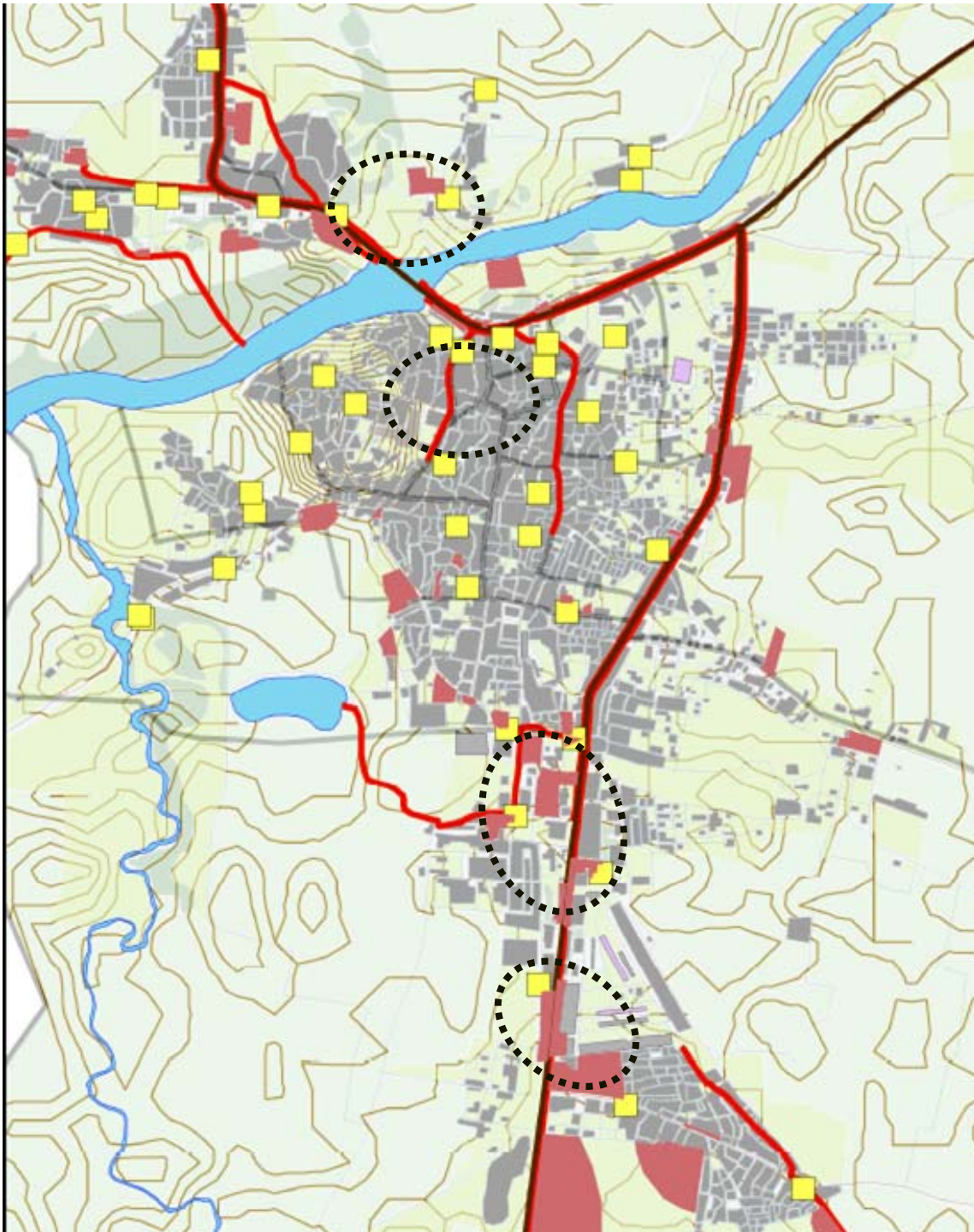
Map not to scale



Locations of open dump areas & Community bins.

- Lack of daily waste collection mechanism
- Insufficient Community bins Waste Management.
- It is observed that community bins are not vacated daily which are overflowing and hence resulted into the creation of open dumping areas.

- Locations of Community Bins
- Locations of Open Dumping Areas

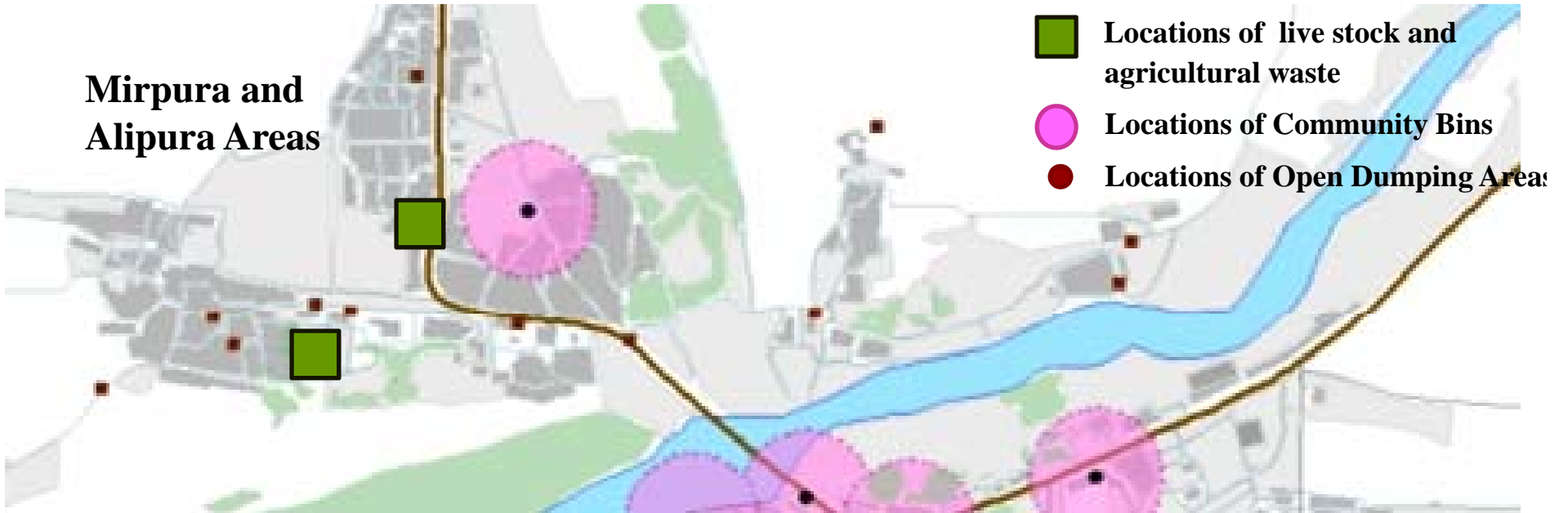


Issues observed in Solid Waste System

- Mixing of solid waste dumped on open sites results into littering of garbage
- Choking of open drains due to mixing of solid waste along road sides
- This situation has led to creation of obnoxious odor and filthy conditions.

- Water logged areas.
- Major open Dumping Areas

Mirpura and Alipura Areas



Mixing of Solid Waste with waterlogged areas and open Drains

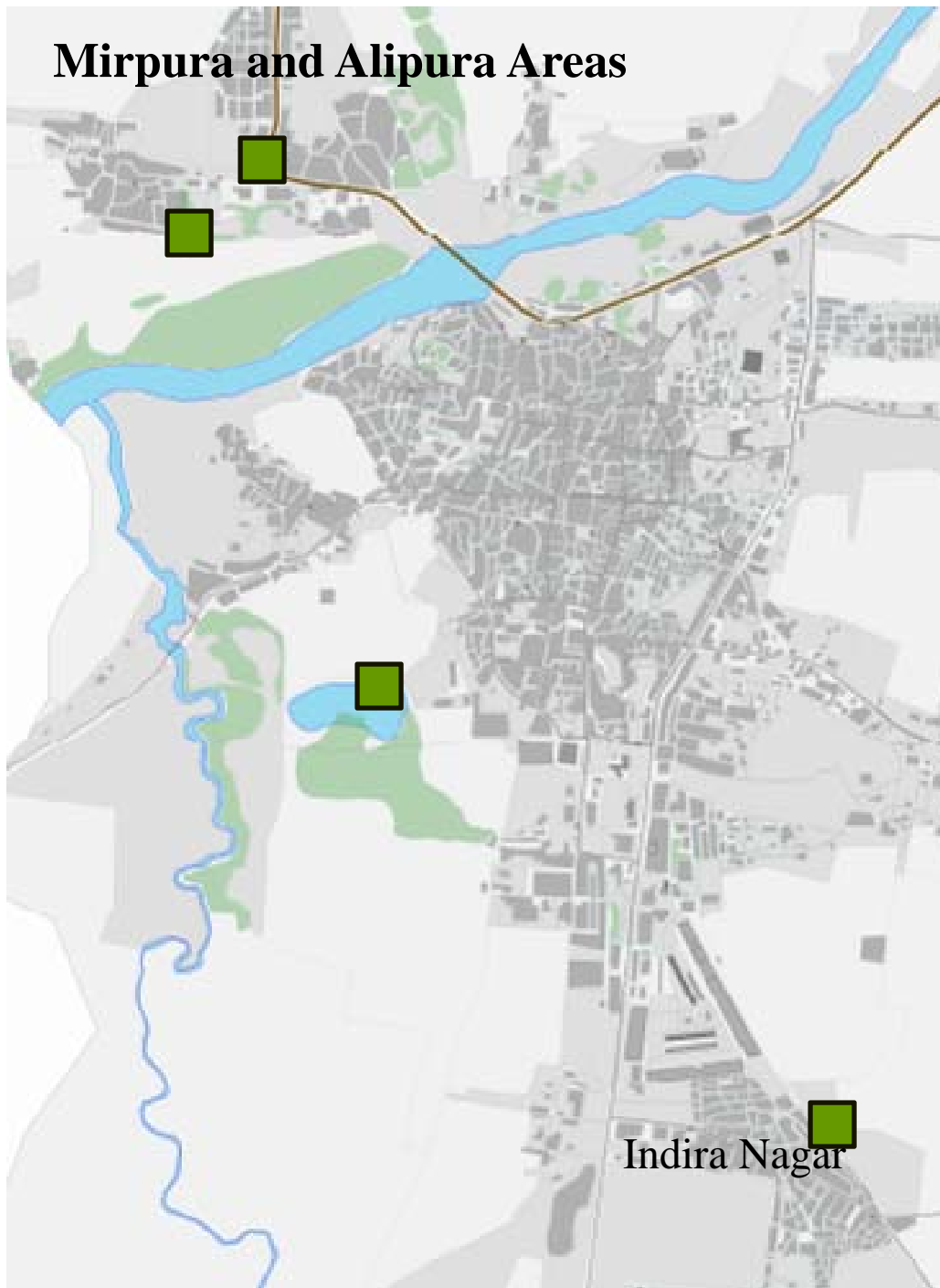


Various types of waste generated at household level

Organic Waste	50%
Inorganic Waste	30%
Recyclable Waste	20%


Generation of waste at household level

No. of Households	5511
Waste generated per capita (Gm)	350-500gm.
Total waste generated (MT)	1.9 MT



Location showing live stock and agricultural Waste

- It is observed that, in the locations like Indira Nagar, Mirpura , Alipura Areas, livestock and agricultural waste is generated.
- A common practice of decomposition is observed –
Making pits of about 5'x5'x3', are dug and waste is dumped along with soil and organic waste for decomposition.
- 15-20 days of decomposition gives good quality of manure which is being used for agriculture.

 **Locations of live stock and agricultural waste.**



Agricultural / Livestock Waste

