

Rising to the Challenge Sanitation Sector

Ministry of Urban Development Govt. of India

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Urban Governance

India has a 3-tier governance structure, with 28 States, 7 Union territories, and 250,000 local governments. Total populations is 1.2 Bn, of which 32% is urban. But no 'Hukou' type arrangement.

State (Provincial) subjects (as per constitution).

Govt of India supports infrastructure development and induces local governance reforms through financial aid.

Urban Development is MoUD, headed by Hon. Shri Venkaiah Naidu addresses various issues of urban sector through policy guidelines and financial grants for water, sanitation, metro rail and bus systems.

> Also, through policy advisories.

India's Urbanisation and Prospects

Urban Governance	 74th Constitutional Amendment Act enacted in 1992 by Parliament 18 functions recommended for municipal domain State Municipal Acts enacted; Municipal Elections held under State Election Commissions State Finance Commissions: to recommend on devolutions of State resources among local bodies 			
Urban System	 3 Types: Municipalities (Elected), Development Authorities (Nominated), Planning Authorities (Nominated) 			
Urban Morphology	 Number of Cities Statutory Towns Census Towns Metropolitan Cities (milli 	: : : on+) :	Year 2001 5161 3799 1362 35	Year 2011 7935 4041 3894 53
Urban Sustainabilit y	 Over 60% of GDP comes from cities. Challenge: Ensuring Financial, Environmental sustainability. Inclusive Governance 			

Trends of Urbanization

As per Census 2011:

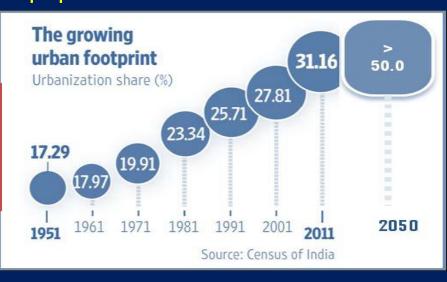
- 377 million i.e approximately 31% of the total population live in towns. This has increased from 17% in 1951.
- No. of towns increased from 5161 in 2001 to 7935 in 2011.
- 37% lives in 53 million plus Metros

Net decadal growth of urban population is more than the rural

growth

Projections:

More than 50% of the Country's population will be in Urban by 2050, 87 Metropolitan Cities

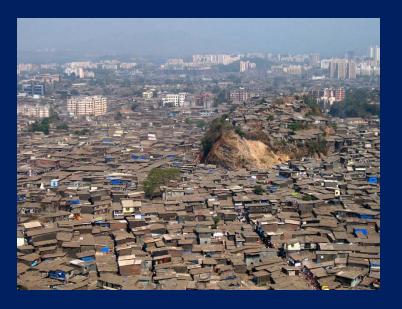


Slums

Out of 4,041 Statutory Towns in Census 2011 Slums reported from 2,543 Towns (63%)

Total Slum Enumeration Blocks (SEBs) in Census 2011 is about 1.08 lakh in the country

Parameter	No. of Households (in Lakhs)
Urban Households	789
Slums	137 (17.4%)





Source: Census 2011, MoUD

Status of Urban Services

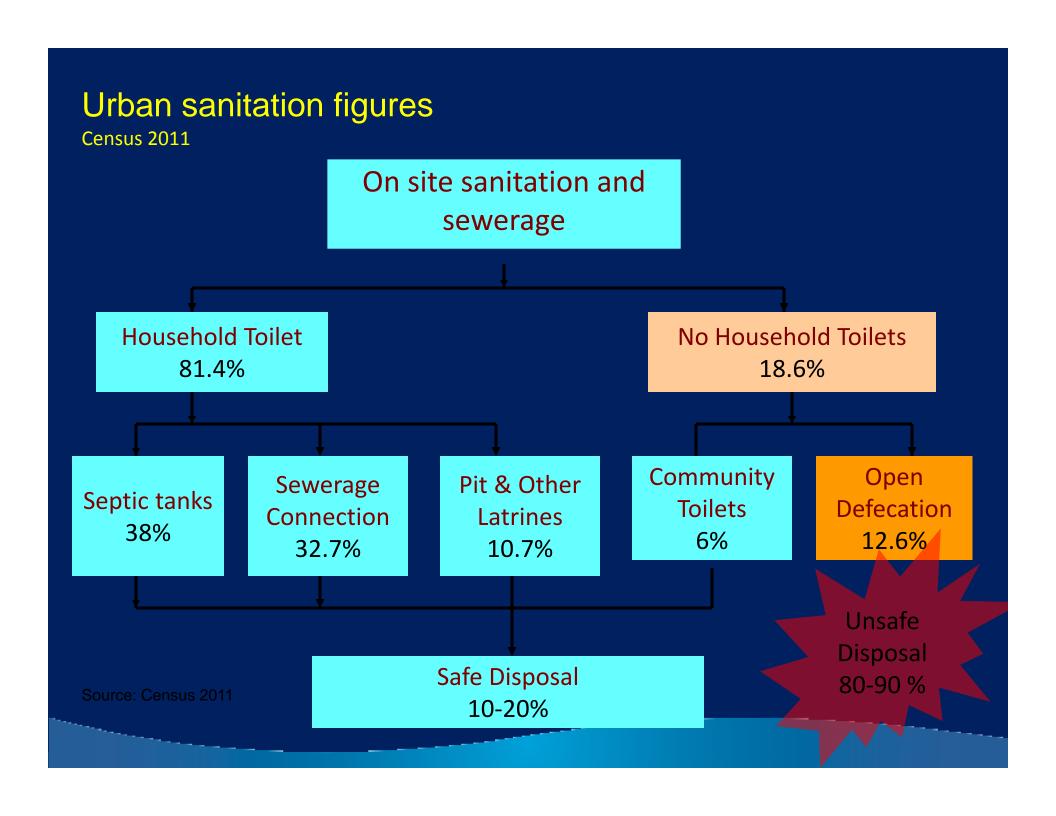
- Drinking Water availability within the premises is 71.2%;
- Only 32.7% of the urban population has access to piped sewer system;
- Average duration of water supply ranges from 1 6 hours;
- Only 21% of waste water is treated;
- Waste collection efficiency ranges between 70% and 90% in major Metro cities;
- Segregation of solid waste is around 30%;
- Organized public transport system operational in more than 65 class-I cities; and
- BRTS and Metro projects are operational in selected Mega and Metropolitan cities.











Service Levels Gap

Service Indicators	National Benchmark	India Status
Water Supply		
Per Capita supply of water	135 lpcd	69 lpcd
Extent of metering of water connections	100%	13%
Extent of non revenue water (NRW)	20%	32%
Cost recovery in water supply services	100%	39%
Sewerage		
Coverage of toilets	100%	70%
Collection efficiency of the sewage network	100%	10%
SWM		
Household level coverage	100%	35%
Extent of scientific disposal of municipal solid waste	100%	10%
Storm Water Drainage		
Coverage of storm water drainage network	100%	46%

Key Issues

Lack of Awareness

- —linkage of sanitation with health hazards
- -awareness at community & institutional level

Financial

- —Severe lack of investment, aggravated by unwillingness to look at cost-effective solutions.
- —Inadequate cost recovery, due to lack of will to charge/ pay, poor collection rates, high degree of inefficiency.
- -Projects are often stand alone and do not result in larger systemic changes

Institutional

- -Unclear and ambiguous, overlapping responsibilities among multiple agencies
- –Non existent autonomous regulator.
- -Lack of autonomy and power, and state interference due to ineffective implementation of 74th Constitutional Amendment

Key Issues

Economical

- —Coping costs of sanitation are very high- not only for the poor but for the country
- -Land policy is the sole most critical element

Technical

- -Fragmented approach to planning & provision of Environmental Services (SW, sewerage, drainage)
- -Dependence on big systems, lack of innovation
- -Slums- segregated approach, delinked from city-wide systems
- –Poor/ Non-Existent maintenance

Environmental

- Disjunct between spatial planning (in terms of land uses), and environmental planning
- -Little importance given to the concept of sustainability.

Strategy for Sanitation

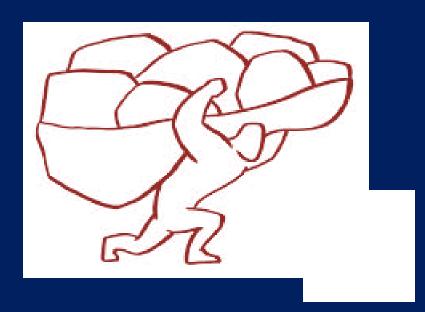
Strategy for Govt of India

- Awareness Generation
- Help in creation of Institutional with clear Roles & Responsibility
- Reaching the Unserved & Poor Households
- Knowledge Development
- Capacity Building
- Financing
- National Monitoring and Evaluation
- Coordination at the National Level

Strategy for States

- Clear Assignment of Institutional responsibility, resources and capacities
- Setting standard at the State Level
- Planning & Financing at the State Level
- Reaching the Unserved Population & Urban Poor
- Capacity Building & Training

Challenges in Infrastructure Provision



Water Supply

Quantity and Quality

- Network mapping
- Water source
- Assessing NRW
- Projections of water supply
- Intrusion of sewage into water lines due to lack of pressure

Technology

- Leak detection technology
- Pipe laying in congested areas
- Water meters
- Appropriate technology selection

Construction and O&M

- Designing issues
- Pipe material
- Electromechanical parts
- Absence of optimum operation SOPs
- Lack of low cost reliable power supply







Sewerage

Quantity and Quality

- Mixed sewage results in poor functioning of plants
- Lack of knowledge for assessment of sewage estimation
- Intrusion of storm water into sewage leads to plant failure

Technology

- Cost effective technologies which require less land, Energy
- Technology for pumps that need less priming
- Lack of Solutions for Recycling and reuse of sewage

Others

- Lack of low cost efficient equipment for O&M
- Non availability of Operation and maintenance manual and SOPs.
- Lack of low cost energy efficient E&M parts & power supply
- Lack of capacity of human resource to deal with modern technologies









Solid Waste Management

Waste Quality

- Absence of segregation of waste at source
- Lack of technologies in waste processing & improved realization of byproducts and their market
- Absence of methods of segregated waste collection and transportation

Technical Support

- Lack of design standards for solid waste storage depots
- Methodologies for technology selection process
- Lack of asset management technology
- Absence of Technical institutions supporting SWM issues

High Cost of Technology

- Lack of low cost less land intensive technology
- Lack of Managemen t
 Information System (MIS) for SWM in ULBs
- High cost & maintenanc e issues in imported Machines





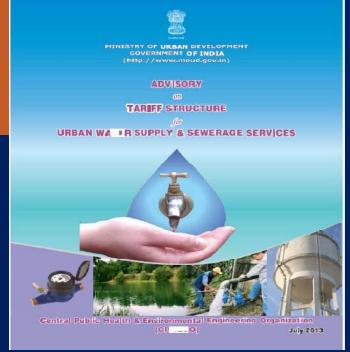


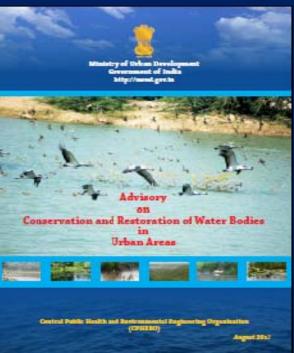
Policies of the Ministry of Urban











Vision of NUSP, 2008

VISION: "All Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women."

GOALS:

The overall goal of this policy is to transform Urban India into community-driven, totally sanitized, healthy and liveable cities and towns

Specific Goals are:

A Awareness Generation and Behaviour Change

B Open Defecation Free Cities

C Integrated City-Wide Sanitation

Awareness generation and behavior change

This will be achieved by:

- Generating awareness amongst households and institutions about sanitation and its linkages with public and environmental health;
- Promoting mechanisms to bring about and sustain behavioural changes aimed at adoption of healthy sanitation practices;
- A national level communications strategy on generating awareness on Urban Sanitation.

Open Defecation Free Cities

This will be accomplished by:

- Promoting access to households with safe sanitation facilities (including proper disposal arrangements);
- Promoting community-planned and managed toilets wherever necessary, for groups of households who have issues of space, tenure or economic constraints in gaining access to individual facilities;
- Adequate availability and 100% upkeep and management of Public Sanitation facilities in all urban areas.

Sanitary and safe disposal

100% of human excreta and liquid wastes from all sanitation facilities must be disposed of safely.

This will be achieved by:

- Ensuring that all human wastes are collected, treated and disposed of safely;
- Promoting proper disposal and treatment of sludge from on-site installations (spetic tanks, pit latrines, etc.);
- Promoting proper functioning of network-based sewerage systems and ensuring connections of household to them;
- Encourage recycle and reuse of treated waste water for non-potable applications, wherever possible.

Developing State Strategies and City Sanitation Plans

- Each state and city to formulate its own sanitation strategy and their respective city sanitation plans within two years.
- State Sanitation Strategies (SSS):

11 States namely Chattisgarh, Madhya Pradesh, Orissa, Tripura, Uttar Pradesh, West Bangal, Maharashtra, Rajasthan, Uttarakhand, Bihar and Tamil Nadu have formulated SSS.

City Sanitation Plans (CSP):

Ministry has extended financial support to 124 cities from 11 States for preparation of CSPs. So far 70 draft CSPs from 8 states have been received.

Each state needs to institute a state rewards scheme, in order to mobilize cities and promote healthy competition.

Main elements of state sanitation strategies

- Issue of guidelines to cities for the adoption of participatory approaches to community sanitation
- Planning for appropriate sanitation for floating population
- Final responsibility for performance in sanitation will be with the ULB
- ULBs to have the key regulatory remit over all properties in respect of outcome and process standards
- SSS identifies the agencies for orientation of elected representatives and train state level and ULB personnel
- Such an agency could be a government, NGO or private sector organization
- Capacity building needs to focus not only on training but also development of systems and capacities

Milestones for 100% sanitation

1. Open Defecation Free

Totally free from open defection;
Sanitary collection of 100 percent human excreta and wastes
Proper removal and treatment of all wastewater

2. Wastewater and Drainage safely managed

- a) All wastewater collected and disposed off safely;
- b) All storm water is properly manage

3. Solid Waste collected and disposed of fully and safely

- a) 100 percent of solid waste is collected regularly;
- b) Solid wastes are disposed of safely (including treatment and re-use)

4. Services to the Poor and Systems for Sustaining Results

- a) Special attention to the un-served and urban poor.
- b) Robust processes and systems in place in the city for the sustenance of results.

5. Improved Public Health Outcomes and Environmental Standards

- a) The city shows <u>sustained improvements in public health indicators</u>
- b) Improved environmental standards

Next steps for implementation of National Urban Sanitation Policy

- Encourage states to develop State Sanitation Strategy;
- Encourage cities to develop comprehensive city sanitation plans;
- Provide assistance for the development of city sanitation plans and DPRs and their implementation;
- Provide technical assistance and support for awareness generation and capacity building and project implementation
- Promote public private partnership of projects identified in the city sanitation plans, wherever feasible;
- Periodic sanitation ratings needs to be conducted for recognition of best performing cities on selected sanitation parameters.
- National Advisory Groups on Urban Sanitation has been setup to provide advisories for effective implementation of NUSP.

Programs on Sanitation/Wastewater Management: JnNURM

Jawaharlal Nehru National Urban Renewal Mission (JnNURM) was launched by the Government of India on 3rd **December 2005**

To encourage **reforms** and fast track **planned development** of identified cities as prioritized by States

Focus is to create
economically productive,
efficient, equitable and
responsive cities

The program was planned to operate on a mission mode by facilitating large scale investments in the urban sector, policy change and institutional reforms for strengthening

Policy Framework

Institutional Framework

Financial Framework

Project Development

Monitoring & Evaluation

JnNURM at a Glance

Duration

 From 2005-06 to 2011-12, extended up to March 2014 for completion of ongoing projects and achievement of reforms

Coverage

Around 765 Cities/Towns

Infra. Investment

• INR 80,725 crore (**USD 12.4 Billion**)*

Central Allocation

• INR 42,900 crore (USD 6.5 Billion)*

Projects

• 1356 Sanctioned

• 604 Completed

Reforms

 78% achievement of 23 reforms implemented



SWM Rules, Regulation and Guidelines in India

MSW Management and Handling Rules, 2000

- Rules created in the year 2000 by MoEF
- Foundation stone for waste management practice in India

Manual on Municipal Solid Waste Management and Handling 2000

• Guidelines published by Ministry of Urban Development through CPHEEO in the year 2000

TAG Report on Municipal Solid Waste Management

- Compilation Document based on information received on proven waste treatment and disposal technologies
- Published by Ministry of Urban Development in the year 2005

Inter-ministerial Task Force on Integrated Plant Nutrient Management

• Report presented by the Interministerial Task Force to understand production and marketability of compost. Study undertaken by Ministry of Urban Development

National Urban Sanitation Policy(NUSP)

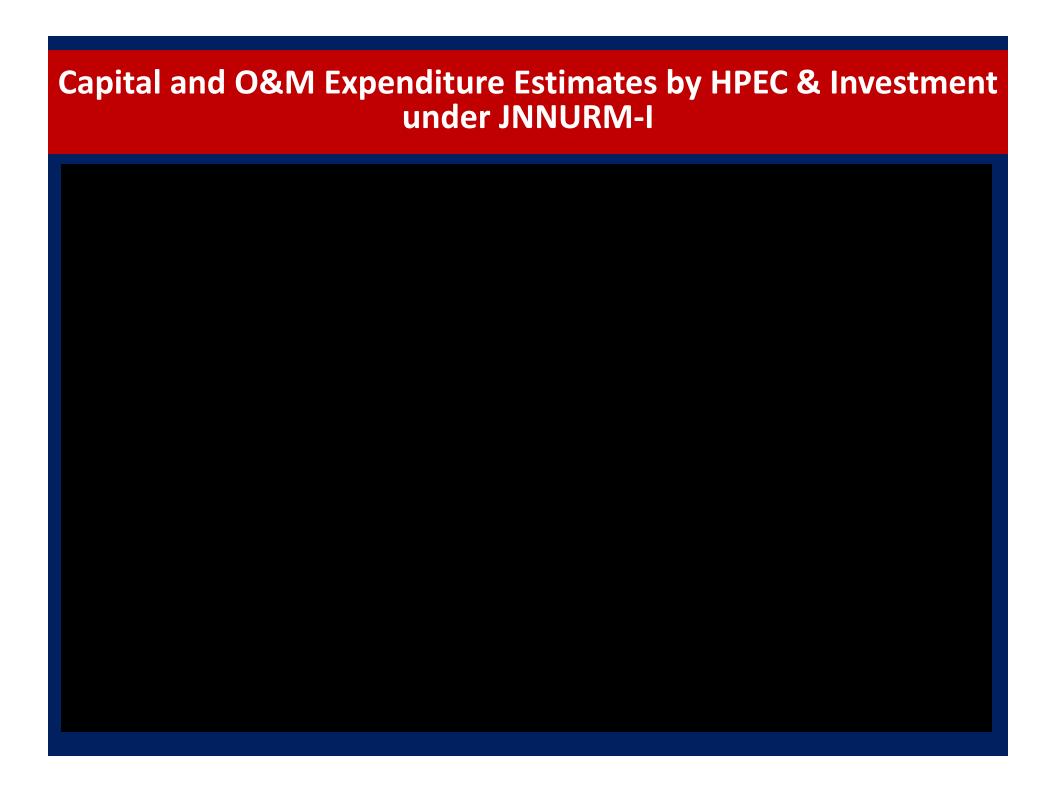
- Policy prepared by the Ministry of Urban Development in 2008
- Broadly covers aspects of urban sanitation, with a specific focus to eliminate open defecation in cities

Service Level Benchmark (SLB by Ministry of Urban Development)

• Benchmarks to evaluate performance of Urban Services developed by Ministry of Urban Development in 2009.

National Mission on Sustainable Habitat • The NMSH is a component of the National Action Plan for Climate Change. Focus on Waste Recycling in 2010

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The sector-wise detail of projects sanctioned under UIG of JNNURM (Rs. in Lakh)

S. No.	Sector	No. of projects	Approved Cost	ACA Committed	ACA Released
1.	Drainage/Storm Water Drains	78	910348.37	372984.09	268319.01
2.	Water Supply	190	2319972.33	1137000.32	779249.30
3.	Sewerage	131	1750025.98	816243.19	487278.48
4.	Urban Renewal	10	46445.28	19249.12	9765.35
5.	Solid Waste Management	46	211021.81	112365.96	71991.56
6.	Development of Heritage Areas	7	22542.60	14412.02	7507.83
7.	Preservation of Water Bodies	4	11670.54	6861.22	5667.27
	Total	466	5272026.91	2479115.92	1629778.8

The sector-wise detail of projects sanctioned under UIDSSMT of JNNURM (Rs. in Lakh)

S. No.	Sector	No. of projects	Approved Cost	ACA Committed	ACA Released
1.	Drainage/ Storm Water Drains	79	164362.57	135609.38	65511.29
2.	Water Supply	573	1270421.46	1024460.59	726766.92
3.	Sewerage	129	536297.62	424898.03	218874.98
4.	Urban Renewal	9	3725.77	3174.35	2039.18
5.	Solid Waste Management	64	44664.03	36818.79	24740.93
6.	Development of Heritage Areas	1	1765.60	1412.48	706.24
7.	Preservation of Water Bodies	11	3611.94	2928.82	1651.46
	Total	866	2024848.99	1629302.44	1040291 1.

Monura

ii. Other Programmes of the Ministry

The sector-wise detail of projects sanctioned under Urban Infrastructure Development in Satellite towns / Counter Magnets of Million plus cities (UIDSST) (Rs. in Lakh)

S. No.	Project	No. of projects	Sanctioned cost	GOI share	Fund released	Comple ted	Under progress
1	Solid Waste Management	5	7223.73	5779	1443.74	0	5
2	Water Supply	5	23526.41	18820.93	5594.67	0	5
3	Sewerage Scheme	6	332327.66	25370.77	7410.59	0	6

The sector-wise detail of projects sanctioned under Scheme of 10% Lump-sum Provision Scheme for North Eastern Region including Sikkim (Rs. in Lakh)

S. No.	Project		No. o	f Sanctioned cost	GOI share	Fund released	Complet ed	Under progress
1	Water Scheme	Supply	22	22792.2	19418.73	8973.45	10	12
2	Solid Managem	Waste ent	5	1757.05	1670.52	1673.52	5	0
3	Storm Drainage	Water	20	20461.33	19163.08	15447.65	13	7

NMSH Standards ...

		MoUD NMSH Standards
S. No.	Description	Weblink
1	Municipal Solid Waste	http://moud.gov.in/sites/upload_files/moud/files/mswm.pdf
2	Urban Storm Water Management	http://moud.gov.in/sites/upload_files/moud/files/uswm.pdf
3	Urban Water Supply and Sewerage	http://moud.gov.in/sites/upload_files/moud/files/uwss.pdf
4	Urban Planning	http://moud.gov.in/sites/upload_files/moud/files/plan.pdf
5	Urban Transport	http://moud.gov.in/sites/upload_files/moud/files/NMSH_UT_Parameterspdf
6	Energy Efficiency	http://moud.gov.in/sites/upload_files/moud/files/Energy_Efficiency.pdf

List of Manuals ...

S. No.	Description	Weblink
1	Manual on Sewerage & Sewage Treatment	http://moud.gov.in/manual_sewage
2	Manual on Water Supply & Treatment	http://moud.gov.in/manual_ws
3	Manual on Municipal Solid Waste Management	http://moud.gov.in/swm_manual
4	Manual on operation & Maintenance on Water supply	http://moud.gov.in/publicinfo

List of Advisories ...

S.		
No	Description	Weblink
1	Advisory on Tariff Structure for Urban Water Supply &	http://moud.gov.in/sites/upload_files/moud/files/advisory%20on%20wate
	Sewerage Services	r%20supply1.pdf
2	Advisory on Conservation and Restoration of Water Bodies in	http://moud.gov.in/sites/upload_files/moud/files/Urban%20Development
	Urban Areas	<u>0.pdf</u>
3	Advisory Note on Septage Management	1. http://moud.gov.in/sites/upload_files/moud/files/SeptageMgmtAdvM
		ay20.pdf
4	National Urban Sanitation Policy 2008	http://moud.gov.in/NUSPpolicy
5	A Handbook on Service Level Benchmarks	http://moud.gov.in/servicelevel
6	Toolkit for Public Private Partnership frameworks in Municipal	http://moud.gov.in/sites/upload_files/moud/files/SWM_PPP_Tookit-
	Solid Waste Management (in 3 volumes)	Volume-I_0.pdf
7	Guidance note : Municipal Solid Waste management on	http://moud.gov.in/sites/upload_files/moud/files/msw_guide_note.pdf
	Regional basis	
8	Guidelines for Decentralized Wastewater Management	http://moud.gov.in/sites/upload_files/moud/files/Guidelines_DWM_0.pdf
0	Guidelines for Preparation Of Detailed Project Reports And	http://moud.gov.in/sites/upload_files/moud/files/GUIDELINES%20of%20
9	Selection Of Technologies For Processing And Final Disposal	DPR%20and%20technologiy%20selection%20for%20SWM%20with%2
	Of Municipal Solid Waste Using 12th Finance Commission	012th%20Finace%20commission%20grant.pdf
	Grants	012ti1/8201 iriace/820c0minission/820grant.pui
10	A Guidance Note on Continuous Water Supply (24x7 Supply)	http://moud.gov.in/sites/upload_files/moud/files/Guidancefor_CWS.pdf
11	Advisory on "Recent Trends in Technologies in Sewerage	http://moud.gov.in/Note%20on%20Recent%20Trends
	Systems"	
12	Advisory Note on Improving Urban Water Supply & Sanitation	http://moud.gov.in/sites/upload_files/moud/files/Advisory_Note_uwss_2.
	Services	<u>pdf</u>
13	Toolkit on Solid Waste Management under JnNURM	http://moud.gov.in/sites/upload_files/moud/files/SWM-toolkit.pdf
14	Checklists for technical appraisal of DPRs posed to Ministry for	http://moud.gov.in/sites/upload_files/moud/files/OM_Checklists_0.pdf
	availing Central Assistance under various programmes through	
	OM no. A-11031/1/2011-CPHEEO dated 19.03.2012	
15	Technology Advisory Group Report on Municipal Solid Waste	http://moud.gov.in/sites/upload_files/moud/files/tag_swm.pdf
	Management, which specifies selection of technologies on	
	MSW	
16	Report on Integrated Plant Nutrient Management with a view to	http://moud.gov.in/sites/upload_files/moud/files/imtf_pnm.pdf
	promote City Compost from garbage	
17	Report on NMSH: Adaptation and mitigation measures in the	23
	field of water supply and sanitation, April, 2014	

Awareness Creation ...

S. No.	Description	Weblink
1	PDF of CSP Baseline Assessment	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Baseline_Assessment_sheets.pdf
2	City Sanitation Plan webpage within MoUD website	http://www.moud.gov.in/cityplan
3	NUSP - CSP reports - Tirupati	http://cmsmoud.nic.in/sites/upload_files/moud/files/List_Of_CSP_Cities.pdf
4	NUSP - CSP reports - Varanasi	http://cmsmoud.nic.in/sites/upload_files/moud/files/List_Of_CSP_Cities.pdf
5	NUSP - CSP reports - Kochi	http://cmsmoud.nic.in/sites/upload_files/moud/files/List_Of_CSP_Cities.pdf
6	NUSP - CSP reports - Shimla	http://cmsmoud.nic.in/sites/upload_files/moud/files/List_Of_CSP_Cities.pdf
7	Kochi CSP Brochure	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Brochure_Kochi.pdf
8	Nashik CSP Brochure	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Brochure_Nashik.pdf
9	Raipur CSP Brochure	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Brochure_Raipur.pdf
10	Shimla CSP Brochure	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Brochure_Shimla.pdf
11	Tirupati CSP Brochure	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Brochure_Tirupati.pdf
12	GIZ-NUSP Fact Sheet 1	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Fact_Sheet_0.pdf
13	CSP Fact Sheet	http://cmsmoud.nic.in/sites/upload_files/moud/files/CSP_Fact_Sheet.pdf

Thank you

Parmod Kumar Director (Urban Development) dirud-mud@nic.in