

Appendix 1.1

(Reference: Paragraph 1.3/Page 2)

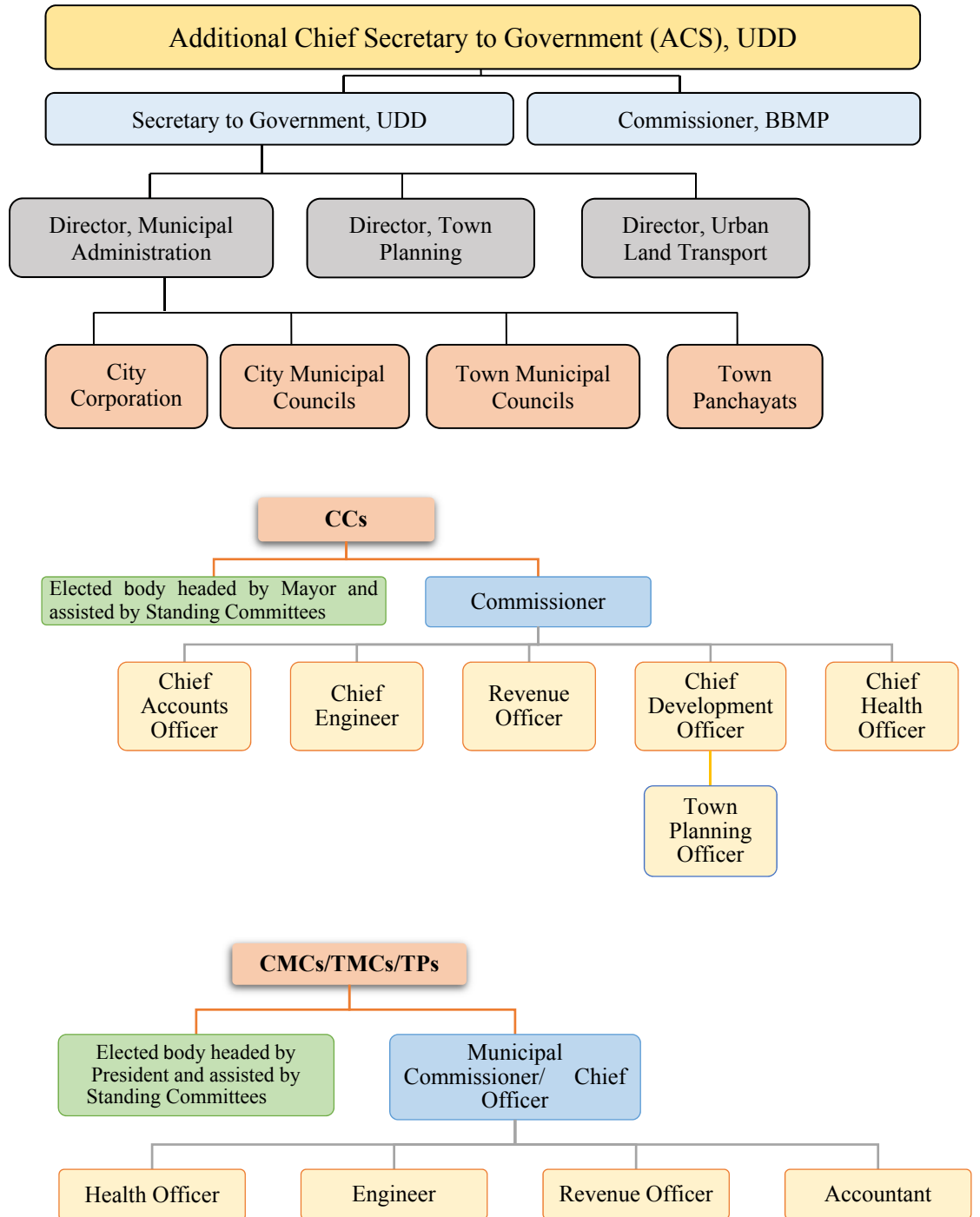
Regulatory framework governing the management of different types of waste

Municipal solid waste	<ul style="list-style-type: none"> • MSW (Management and Handling) Rules, 2000 • Manual on MSW management and handling Rules, 2000 • National Environment Policy, 2006 • National Mission on Sustainable Habitat, 2010 • Solid Waste Management Rules, 2016
Bio-medical waste	<ul style="list-style-type: none"> • The Bio-medical Waste (Management & Handling) Rules, 1998 and amended further in 2000 and again in 2003 • The Bio-medical Waste Management Rules, 2016
Plastic waste	<ul style="list-style-type: none"> • The Recycled Plastics Manufacture and Usage Rules, 1999 • Plastic Waste (Management & Handling) Rules, 2011 • Plastic Waste Management Rules, 2016
E-waste	<ul style="list-style-type: none"> • E-waste (Management & Handling) Rules, 2011 • E-waste (Management) Rules, 2016
Hazardous waste	<ul style="list-style-type: none"> • The Hazardous Waste (Management & Handling) Rules, 1989 • The Hazardous Waste (Management, Handling and Transboundary) Rules, 2008 • Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
Construction and Demolition waste	<ul style="list-style-type: none"> • Construction and Demolition Waste Management Rules, 2016

Appendix 1.2

(Reference: Paragraph 1.3/Page 2)

Organisational structure with respect to functioning of ULBs in the State



Appendix 2.1
(Reference: Paragraph 2.3/Page 6)

List of selected ULBs

Sl. No.	Division	District	Units selected for sample			
			City Corporation	City Municipal Council	Town Municipal Council	Town Panchayat
1.	Belagavi	Bagalkote		Bagalkote		
2.		Belagavi			Mugalkhod	Ainapura
					Ugar Khurd	Chinchali
3.		Dharwad	Hubballi-Dharwad			
4.		Gadag				
5.		Haveri				
6.		Uttara Kannada			Dandeli	Bhatkal
	Karwar				Kumta	
7.	Vijayapura					
8.	Bengaluru	Bengaluru Rural				
9.		Bengaluru Urban				
10.		Chikkaballapura		Chintamani		Gudibande
11.		Chitradurga			Hiriyur	
12.		Davanagere				
13.		Kolar			Malur	
14.		Ramanagara			Magadi	
15.		Shivamogga		Sagar		
16.		Tumakuru	Tumakuru	Sira		
17.		Kalaburagi	Ballari	Ballari	Hosapete	
18.	Bidar			Bidar	Humnabad	
19.	Kalaburagi					
20.	Koppal					
21.	Raichur				Manvi	
22.	Yadgir				Kakkera	
23.	Mysuru	Chamarajanagara				
24.		Chikkamagaluru				Koppa Sringeri
25.		Dakshina Kannada	Mangaluru			
26.		Hassan				
27.		Kodagu				
28.		Mandya			Maddur	
29.		Mysuru		Nanjangud	T. Narasipura	
30.		Udupi		Udupi		
Total number of ULBs selected			4	11	12	8

Appendix 2.2

(Reference: Paragraph 2.4/Page 6)

Brief profile of Mrs. Almitra Patel

Almitra Patel is an 82 years young biologist and chemist with an engineering degree and Masters from MIT, USA. After 31 years of heading a refractories firm, she has become since 1991 a self-taught garbologist.

After the Surat plague she joined the late Capt J S Velu in two Clean India Campaigns by road in 1994 and 1995. She filed a countrywide PIL to enforce hygienic waste management and was appointed to a Supreme Court Committee for Solid Waste Management that produced a comprehensive blueprint for reform. That led to the country's first Municipal Waste Management Rules 2000, which require minimising waste to landfill by recycling dry waste and stabilising wet waste to enrich Bharat's soils. For this, source-separation of dry and wet waste and daily doorstep collection of wet waste is a must and is now compulsory for all citizens in the new SWM Rules 2016.

Till date she has visited 189 Indian cities to share best practices. She also works to minimise polluting wastes and promote eco-friendly packaging. She is currently Swachh Bharat Mission National Expert. Her current passions are cleaning up old dumpsites and getting phosphorus out of waste water to save India's surface waters.



Mrs Almitra H. Patel
Member, Supreme Court Committee for SWM.
National Expert, Swachh Bharat Mission.
50, Kothnur, Bagalur Road, Bangalore 560077
+91 98443-02914
www.almitrapatel.com
Youtube Almitra Patel

Appendix 3.1

(Reference: Paragraph 3.1/Page 7)

Roles and responsibilities of different institutions in SWM

Level/Responsible Institution	Role and responsibilities in SWM
Central Government (MoEFCC, MoUD and CPCB)	Laws and Rules; Policies and Norms; Guidelines, Manuals, and Technical Assistance; Financial Support; Monitoring implementation of laws and rules.
State Government (UDD headed by ACS and KSPCB headed by Chairperson)	Monitoring implementation of laws and rules in metropolitan cities; State Policy and SWM Strategy; Guidelines, Manuals, and Technical Assistance; Financial Support; Reporting on Service Level Benchmarks to the MoUD; Capacity Building of local bodies; Granting consent to set up treatment and disposal activities.
District (DC assisted by Project Director, DUDC)	Review the performance of ULBs on waste management process; Facilitate identification and allotment of suitable land for solid waste processing and disposal facilities.
ULBs (headed by Commissioner, Municipal Commissioner or Chief Officer)	Providing MSWM services; Preparation of SWM plan; Framing byelaws; Levy and collection of fees; Financing SWM system; Creating public awareness; Involvement of informal sector in SWM.
Informal Sector (waste recyclers, NGOs, CBOs and private partners)	Resource recovery and recycling at different stages; Providing support to the local recycling industry; Involvement of community; Creating awareness; Collection and transportation of waste; Technology providers.

Source: Manuals on MSWM, 2000 and 2016

Appendix 3.2
(Reference: Paragraph 3.2/Page 8)

Variations in per capita estimates indicated by ULBs and as worked out by audit

Sl. No.	Name of the ULB	Population	Residential Refuse (0.3)	Commercial refuse (0.1)	Street sweepings (0.05)	Institutional refuse (0.05)	Total in kg/day	Total in TPD	Waste generation as per ULB (2012-13)	Difference
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)=d+e+f+g	(i)=h/1,000	(j)	(k)=h-j
1	Ballari	4,10,447	1,23,134	41,045	20,522	20,522	2,05,223	205	145	60
2	HDMC	9,43,788	2,83,136	94,379	47,189	47,189	4,71,893	472	400	72
3	Mangaluru	4,89,488	1,46,846	48,949	24,474	24,474	2,44,743	245	212	33
4	Tumakuru	3,05,821	91,746	30,582	15,291	15,291	1,52,910	153	114	39
5	Bagalkote	1,20,000	36,000	12,000	6,000	6,000	60,000	60	35	25
6	Bidar	2,16,080	64,824	21,608	10,804	10,804	1,08,040	108	45	63
7	Chintamani	76,068	22,820	7,607	3,803	3,803	38,033	38	26	12
8	Dandeli	52,069	15,621	5,207	2,603	2,603	26,034	26	14	12
9	Hosapete	2,06,167	61,850	20,617	10,308	10,308	1,03,083	103	60	43
10	Karwar	63,755	19,127	6,376	3,188	3,188	31,879	32	20	12
11	Nanjangud	50,598	15,179	5,060	2,530	2,530	25,299	25	20	5
12	Sagar	53,660	16,098	5,366	2,683	2,683	26,830	27	21	6
13	Shidlaghatta	51,159	15,348	5,116	2,558	2,558	25,580	26	23	3
14	Sira	57,749	17,325	5,775	2,887	2,887	28,874	29	18	11
15	Udupi	1,25,306	37,592	12,531	6,265	6,265	62,653	63	55	8
16	Bhatkal	32,000	9,600	3,200	1,600	1,600	16,000	16	14	2
17	Hiriyur	56,416	16,925	5,642	2,821	2,821	28,209	28	20	8
18	Humnabad	44,483	13,345	4,448	2,224	2,224	22,241	22	14	8
19	Kumta	29,297	8,789	2,930	1,465	1,465	14,649	15	9	6
20	Maddur	28,906	8,672	2,891	1,445	1,445	14,453	14	9	5
21	Magadi	27,605	8,282	2,761	1,380	1,380	13,803	14	11	3
22	Malur	40,050	12,015	4,005	2,003	2,003	20,026	20	14	6
23	Manvi	46,465	13,940	4,647	2,323	2,323	23,233	23	16	7
24	T. Narasipura	31,498	9,449	3,150	1,575	1,575	15,749	16	2	14
25	Gudibande	9,441	2,832	944	472	472	4,720	5	3	2
26	Honnavaara	19,109	5,733	1,911	955	955	9,554	10	9	1
27	Koppa	5,004	1,501	500	250	250	2,501	3	2	1
28	Kudligi	26,680	8,004	2,668	1,334	1,334	13,340	13	7	6
29	Raibag	18,736	5,621	1,874	937	937	9,369	9	4	5
30	Sringeri	3,925	1,178	393	196	196	1,963	2	4	-2

Source: Census, 2011; MSWM Manual, 2000 and information furnished by test-checked ULBs

Note: Minimum rates for refuse generation as given in Section 3.3.6.2 of MSWM Manual, 2000, are considered for calculation.

Appendix 3.3

(Reference: Paragraph 3.10/Page 15)

Status of committees prescribed to oversee the implementation of MSWM

Sl. No.	Committee (Chairperson)	Purpose	Remarks
1	State High Powered Committee (Chief Secretary)	To empanel consultants for preparation of DPRs, authorise institutes for appraisal of DPRs, approve DPR and financial model of SWM and sanction projects	-Constituted in August 2015. -Conducted eight meetings till March 2018 and approved 218 DPRs. -DPRs had shortcomings as detailed in Paragraph 3.5.
2	State Level Advisory Body (ACS, UDD)	To review the matters related to implementation of SWM rules, state policy and strategy on SWM and give advice to State Government	-Constituted in November 2016 and conducted two meetings till March 2018. -Due to overlapping functions, Empowered Committee constituted during August 2010 became non-functional.
3	State Level Technical Committee under SBM (Chief Engineer, KUIDFC)	To examine the technical feasibility of the DPR submitted by the ULBs	-Constituted in January 2016 and met nine times and technically approved DPRs of 218 ULBs. -Directive (February 2016) to address measures for managing special wastes in DPRs was not adhered to. -Due to overlapping functions, a Technical Committee constituted during November 2008 became non-functional.
4	District Level Review and Monitoring Committee (Member of Lok Sabha from the district)	To monitor the progress of SBM in the districts	-Despite a lapse of two years, District Level Review and Monitoring Committees were yet to be formed.
5	District Level Supervision Committee (Minister in-charge)	To monitor the implementation of SBM by conducting monthly/quarterly meetings, to approve the DPRs and to assist/guide ULBs	-Not constituted in any of the test-checked districts despite issue of orders in August 2015.
6	City Level Task Force (Mayor)	To review action plans and to review progress of SWM projects	-Delay of eight months by State Government in issuing (February 2017) necessary instructions -Not constituted in test-checked ULBs (December 2017).
7	Ward Committees	To monitor MSWM service provision at CC level and publicise contact details of ward committee members	-Not constituted in any of the four test-checked CCs.

Source: Information furnished by UDD and DMA

Appendix 3.4

(Reference: Paragraph 3.12/Page 17)

SLB performance indicators and benchmarks pertaining to SWM

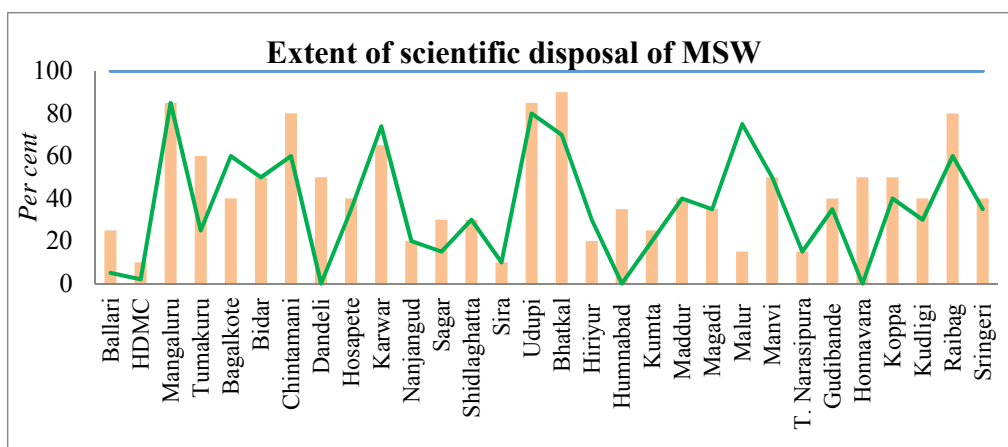
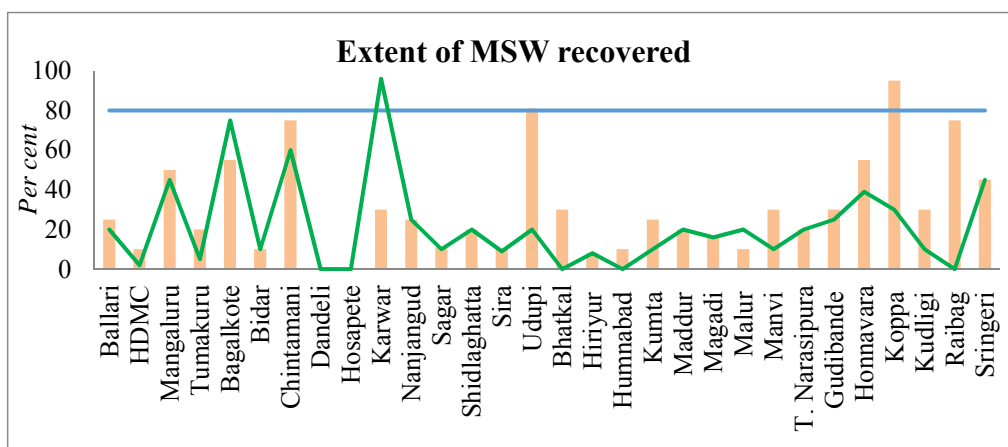
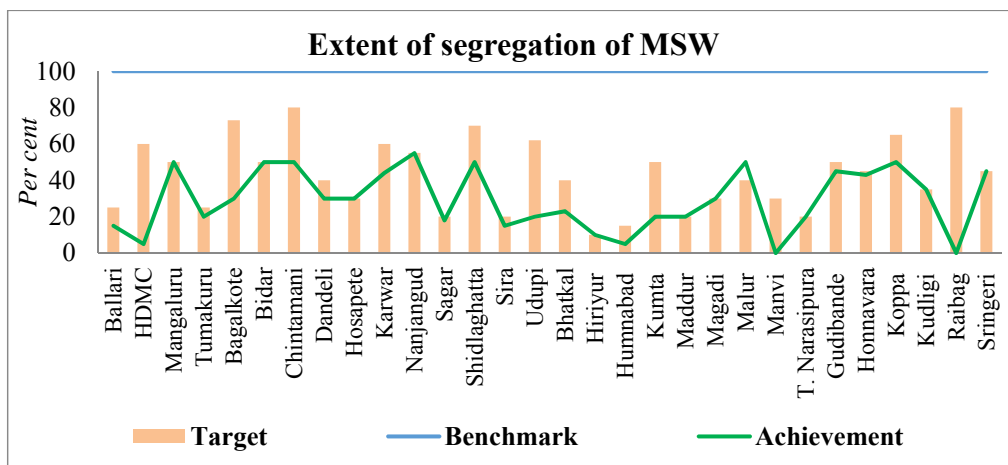
Sl. No.	Performance indicator	Unit As percentage of	Benchmark (in per cent)
1	Household level coverage of SWM services	households and establishments covered by daily doorstep collection system	100
2	Efficiency of collection of municipal solid waste	total waste collected against waste generated within the project area	100
3	Extent of segregation of municipal solid waste	households and establishments that segregate their waste	100
4	Extent of municipal solid waste recovered	quantum of waste collected, which is either recycled or processed	80
5	Extent of scientific disposal of municipal solid waste	waste disposed in a sanitary landfill against total quantum of waste disposed in landfills and dumpsites	100
6	Extent of cost recovery in SWM services	recovery of all operating expenses related to MSWM services that the ULB is able to meet from the operating revenues of sources related exclusively to MSWM	100
7	Efficiency in redressal of customer complaints	total number of MSWM related complaints resolved against total number of MSWM complaints received within 24 hours	80
8	Efficiency in collection of SWM user charges	current year revenues collected against total operating revenues for the corresponding period	90

Source: MoUD website

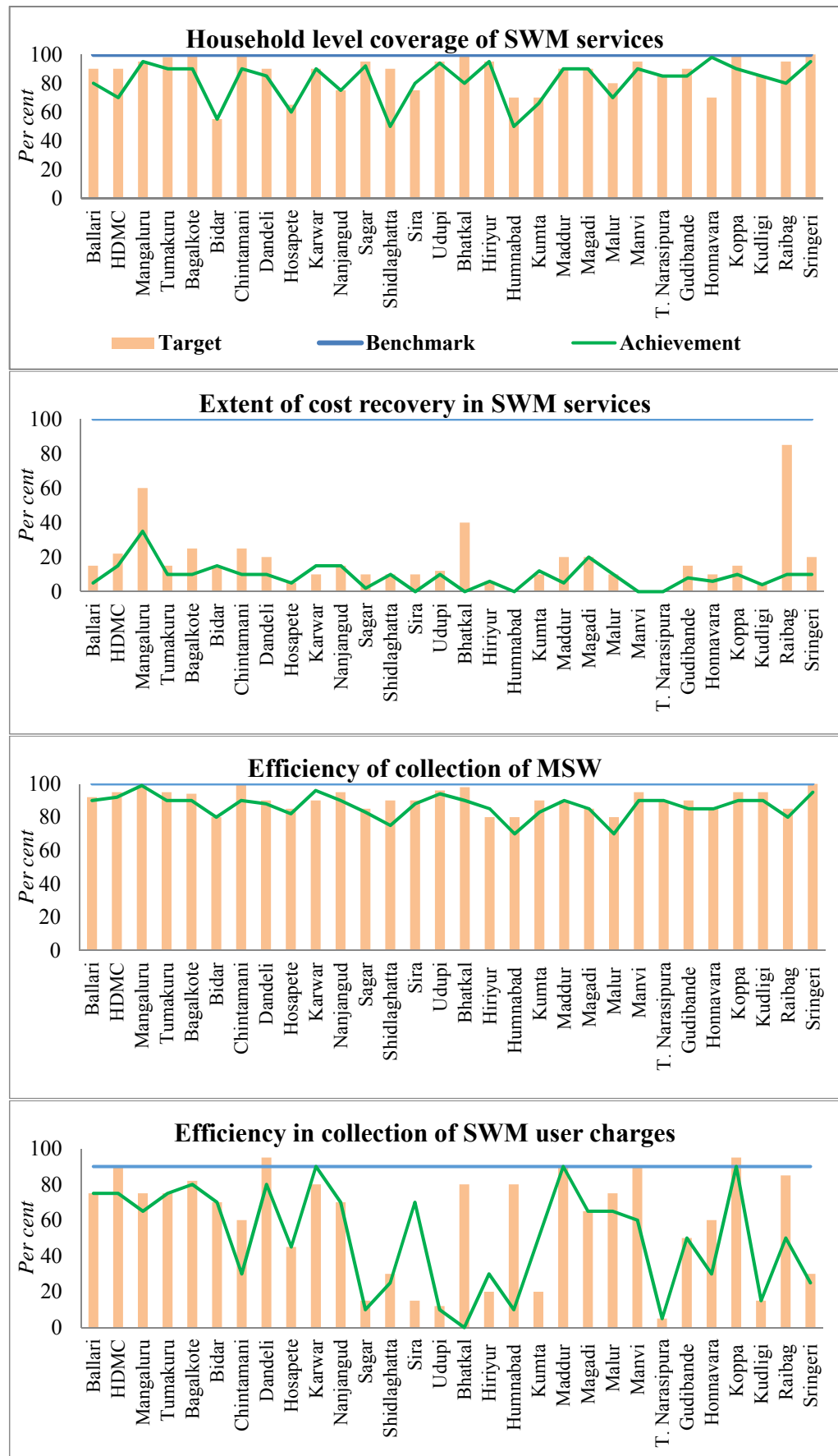
Appendix 3.5

(Reference: Paragraph 3.12.1/Page 17)

Status of achievements (2016-17) of 30 test-checked ULBs vis-à-vis targets fixed and benchmarks



Appendix 3.5 (concl.)



Source: Information furnished by test-checked ULBs

Appendix 3.6

(Reference: Paragraph 3.14/Page 20)

Course-wise details of training relating to SWM activities conducted during 2012-13 to 2016-17

Year	Sl. No.	Name of the course	Number of courses	Nomi-nated	Atte-nded	Per-centage	Expenditure (₹ in lakh)
2012-13	1	Job Course for Environmental Engineers	1	48	45	94	8.38
	2	Solid Waste Management	10	390	221	57	11.93
	3	Seminar on Solid Waste management	1	177	177	100	1.73
	4	Training needs analysis (TNA) for Environmental Engg, & Health Staff	1	26	14	54	0.34
	5	Workshop on Solid Waste Management / City Sanitation Plan	5	568	351	62	7.81
2013-14	6	Training of Trainers on manual scavengers	1	100	81	81	0.82
	7	Workshop on Prohibition of manual scavenging	1	150	126	84	2.16
	8	Sustainable environment management	4	160	74	46	3.01
	9	Workshop on urban sanitation	1	142	118	83	0.96
	10	Water & sanitation system in urban India (Jn-NURM)	1	38	29	76	7.14
2014-15	11	Climate Change	1	35	17	49	0.46
	12	Sustainable Environment Management	5	203	122	60	7.93
	13	Water and Waste Water Management	6	271	139	51	4.74
	14	Pourakarmika Training	25	1,252	1,133	90	8.77
	15	Prohibition of Manual Scavengers	2	397	261	66	0.69
2015-16	16	SWM Act – 2000, Bio methanisation, DEWATs	5	234	100	43	2.87
	17	UGD Safety Manual	2	90	40	44	0.89
	18	Urban Lake Management	2	147	52	35	0.85
	19	Waste to Energy Concepts	5	234	98	42	0.97
	20	Sustainable Environment Management	1	45	16	36	1.23
2016-17	21	Workshop on Animal Birth Control (Dogs) Rules 2001 and its implementation	2	140	42	30	0.76
	22	Foundation Course for Environment Engineers	1	38	36	95	7.71
	23	Urban Lake Management	1	82	19	23	0.30
	24	Green Building Concepts	3	150	65	43	2.03
	25	Climate Change	1	100	66	66	0.35
	26	Orientation Programme under AMRUT including TNA for Environmental Engineers of ULBs	1	30	24	80	3.02
	27	Capsule-II Training for Environmental Engineers	1	21	13	62	2.06
	28	Capsule -III Training for Environment Engineers	1	21	13	62	2.07
	29	Orientation Programme under AMRUT including TNA for Senior Health Inspectors of ULBs	3	90	63	70	6.12
	30	Capsule-II Training for Health Inspectors	2	63	46	73	4.45
	31	Capsule - III Training for Health Inspectors	1	46	36	78	3.01
Total			97	5,488	3,637	66	105.56

Source: Information furnished by SIUD

Appendix 4.1

(Reference: Paragraph 4.3/Page 23)

Details of utilisation of funds in test-checked ULBs during the period
from 2012-13 to 2016-17

(₹ in crore)

Sl. No.	Name of the ULB	13th Finance Commission				14th Finance Commission			SFC-Entry tax devolution		
		OB	R	E	Unspent amount	R	E	Unspent amount	R	E	Unspent amount
City Corporations											
1	Ballari	0.14	9.64	3.17	6.61 (68)	4.06	0.00	4.06 (100)	1.15	0.00	1.15 (100)
2	HDMC	0.08	13.90	4.35	9.63 (69)	9.18	0.00	9.18 (100)	1.20	0.00	1.20 (100)
3	Mangaluru	0.18	4.59	2.09	2.68 (56)	3.58	0.00	3.58 (100)	1.15	0.00	1.15 (100)
4	Tumakuru	0.08	6.15	5.41	0.82 (13)	3.23	1.55	1.68 (52)	0.76	0.26	0.50 (66)
City Municipal Councils											
5	Bagalkote	0.25	3.06	2.77	0.54 (16)	0.70	0.55	0.15 (21)	0.41	0.04	0.37 (90)
6	Bidar	0.28	1.28	1.21	0.35 (22)	1.87	0.18	1.69 (90)	0.76	0.11	0.65 (86)
7	Chintamani	0.00	1.47	1.27	0.20 (14)	0.81	0.43	0.38 (47)	0.66	0.49	0.17 (26)
8	Dandeli	0.11	1.43	0.73	0.81 (53)	0.50	0.00	0.50 (100)	1.16	0.00	1.16 (100)
9	Hosapete	0.01	2.02	1.14	0.89 (44)	2.21	0.00	2.21 (100)	4.14	0.00	4.14 (100)
10	Karwar	0.00	1.72	1.16	0.56 (33)	0.66	0.20	0.46 (70)	0.56	0.51	0.05 (9)
11	Nanjangud	0.07	2.02	1.31	0.78 (37)	0.51	0.00	0.51 (100)	0.15	0.00	0.15 (100)
12	Sagar	0.00	1.71	1.71	0.00 (0)	0.91	0.50	0.41 (45)	0.71	0.36	0.35 (49)
13	Shidlaghatta	0.32	0.89	1.09	0.12 (10)	0.51	0.00	0.51 (100)	0.15	0.06	0.09 (60)
14	Sira	0.13	1.09	0.85	0.37 (30)	0.65	0.24	0.41 (63)	0.61	0.00	0.61 (100)
15	Udupi	3.48	2.86	5.88	0.46 (7)	1.26	0.00	1.26 (100)	0.61	0.61	0.00 (0)
Town Municipal Councils											
16	Bhatkal	0.00	1.62	1.53	0.09 (6)	0.23	0.23	0.00 (0)	0.25	0.16	0.09 (36)
17	Hiriyur	0.00	0.80	0.64	0.16 (20)	0.42	0.17	0.25 (60)	0.20	0.00	0.20 (100)
18	Humnabad	0.00	1.07	1.07	0.00 (0)	0.34	0.11	0.23 (68)	0.25	0.25	0.00 (0)
19	Kakkera	0.00	0.00	0.00	0.00 (0)	0.20	0.00	0.20 (100)	0.00	0.00	0.00 (0)
20	Kumta	0.00	1.03	0.24	0.79 (77)	0.39	0.21	0.18 (46)	0.75	0.00	0.75 (100)
21	Maddur	0.09	1.21	0.96	0.34 (26)	0.25	0.19	0.06 (24)	0.25	0.00	0.25 (100)
22	Magadi	0.00	1.23	1.08	0.15 (12)	0.27	0.00	0.27 (100)	0.20	0.18	0.02 (10)
23	Malur	0.00	0.93	0.91	0.02 (2)	0.36	0.16	0.20 (56)	0.15	0.00	0.15 (100)
24	Manvi	0.45	1.67	1.42	0.70 (33)	0.25	0.25	0.00 (0)	0.25	0.00	0.25 (100)
25	Mugalkhod	0.00	0.00	0.00	0.00 (0)	0.30	0.05	0.25 (83)	0.00	0.00	0.00 (0)
26	T. Narasipura	0.00	0.69	0.69	0.00 (0)	0.10	0.10	0.00 (0)	0.15	0.00	0.15 (100)
27	Ugar Khurd	0.00	0.00	0.00	0.00 (0)	0.20	0.00	0.20 (100)	0.00	0.00	0.00 (0)
Town Panchayats											
28	Ainapura	0.00	0.00	0.00	0.00 (0)	0.17	0.17	0.00 (0)	0.00	0.00	0.00 (0)
29	Chinchali	0.00	0.00	0.00	0.00 (0)	0.16	0.00	0.16 (100)	0.00	0.00	0.00 (0)
30	Gudibande	0.13	0.67	0.77	0.03 (4)	0.06	0.04	0.02 (33)	0.20	0.00	0.20 (100)
31	Honnavaara	0.02	0.87	0.82	0.07 (8)	0.27	0.09	0.18 (67)	0.15	0.15	0.00 (0)
32	Koppa	0.00	0.45	0.32	0.13 (29)	0.04	0.02	0.02 (50)	0.30	0.16	0.14 (47)
33	Kudligi	0.36	0.89	0.74	0.51 (41)	0.39	0.34	0.05 (13)	0.20	0.00	0.20 (100)
34	Raibag	0.00	0.82	0.82	0.00 (0)	0.27	0.27	0.00 (0)	0.15	0.09	0.06 (40)
35	Sringeri	0.22	0.51	0.69	0.04 (5)	0.04	0.04	0.00 (0)	0.16	0.10	0.06 (38)
Total		6.40	68.29	46.84	27.85 (37)	35.35	6.09	29.26 (83)	17.79	3.53	14.26 (80)

OB: Opening balance; R: Receipts; E: Expenditure

Source: Information furnished by test-checked ULBs

Appendix 4.2

(Reference: Paragraph 4.4/Page 24)

Increase/decrease in resource-expenditure gap in test-checked ULBs

(₹ per ton)

Sl. No.	Name of the ULB	Resource-expenditure gap		Increase /Decrease (-)
		2012-13	2016-17	
City Corporations				
1	Ballari	1,010	1,655	645
2	HDMC	2,614	3,920	1,306
3	Mangaluru	844	1,806	962
4	Tumakuru	1,755	3,131	1,376
City Municipal Councils				
5	Bagalkote	933	800	(-)133
6	Bidar	1,081	1,441	360
7	Chintamani	747	2,162	1,415
8	Dandeli	917	671	(-)246
9	Hosapete	501	661	160
10	Karwar	990	1,282	292
11	Nanjangud	167	1,771	1,604
12	Sagar	1,045	1,853	808
13	Shidlaghatta	404	907	503
14	Sira	1,085	1,024	(-)61
15	Udupi	1,268	1,690	422
Town Municipal Councils				
16	Bhatkal	80	104	24
17	Hiriyur	2,258	3,158	900
18	Humnabad	547	704	157
19	Kumta	357	463	106
20	Maddur	2,433	3,047	614
21	Magadi	998	1,993	995
22	Malur	761	554	(-)207
23	Manvi	225	144	(-)81
24	T.Narasipur	4,119	2,944	(-)1,175
Town Panchayats				
25	Gudibande	2,040	2,121	81
26	Honnavar	239	1,197	958
27	Koppa	2,634	4,187	1,553
28	Kudligi	1,936	2,035	99
29	Raibhag	738	1,585	847
30	Sringeri	699	1,670	971

Source: Information furnished by test-checked ULBs

Appendix 4.3

(Reference: Paragraph 4.5.1/Page 26)

ULB-wise details of SWM cess collected and foregone, and revenue expenditure incurred during the period 2012-13 to 2016-17

(₹ in crore)

Sl. No.	Name of the ULB	SWM cess collected	SWM cess foregone	Revenue expenditure for the test-checked ULBs
City Corporations				
1	Ballari	3.51	0.00	59.18
2	HDMC	27.13	0.00	236.47
3	Mangaluru	19.37	3.12	106.40
4	Tumakuru	5.44	0.00	55.09
City Municipal Councils				
5	Bagalkote	0.32	1.32	17.74
6	Bidar	0.42	2.60	25.69
7	Chintamani	0.00	1.99	11.28
8	Dandeli	0.39	0.46	6.83
9	Hosapete	2.05	2.70	29.01
10	Karwar	0.43	0.68	11.47
11	Nanjangud	0.18	0.48	8.73
12	Sagar	0.26	1.43	12.58
13	Shidlaghatta	0.06	0.60	4.71
14	Sira	0.42	0.00	8.87
15	Udupi	0.00	3.86	19.76
Town Municipal Councils				
16	Bhatkal	0.00	0.39	3.75
17	Hiriyur	0.42	0.57	16.06
18	Humnabad	0.01	0.43	5.12
19	Kakkera	0.00	0.04	0.10
20	Kumta	0.28	0.30	3.14
21	Maddur	0.16	0.13	6.40
22	Magadi	0.14	0.09	4.57
23	Malur	0.23	0.40	4.30
24	Manvi	0.28	0.46	2.68
25	Mugalkhod	0.00	0.05	0.11
26	T. Narasipura	0.03	0.34	3.35
27	Ugar Khurd	0.00	0.07	0.20
Town Panchayats				
28	Ainapura	0.00	0.07	0.09
29	Chinchali	0.00	0.08	0.14
30	Gudibande	0.03	0.10	1.79
31	Honnavaara	0.01	0.35	2.97
32	Koppa	0.02	0.04	1.66
33	Kudligi	0.00	0.63	3.53
34	Raibag	0.00	0.24	2.42
35	Sringeri	0.00	0.11	1.19
Total		61.59	24.13	677.38

Source: Information furnished by test-checked ULBs

Appendix 4.4

(Reference: Paragraph 4.6/Page 27)

Statement showing the details of diversion of funds allocated for SWM

(₹ in lakh)

Sl. No.	Name of the ULB	Name of the fund	Name of the item	Estimated cost	Amount	Date of payment
1	CC Ballari	2012-13 13 th FCG	Open <i>nala</i> de-silting machine	42.00	41.90	27.02.14
2			Sewer Suction cum jetting machine	40.00	35.25	27.12.13
3			Power radar for cleaning UGD	5.00	5.00	27.02.13
4			Man hole de-silting machine	3.50	3.50	21.01.14
5			Hand held non-motorised cleaners	1.50	0.00	-
6			Truck-mounted water tanker	8.00	7.90	14.06.16
7		2013-14 13 th FCG	Purchasing of 4,000 litres capacity sucking cum jetting machine	28.97	0.00	-
8	HDMC	2012-13 13 th FCG	4,000 litre capacity Suction cum Jetting machine (2 Nos)	52.00	52.51	15.12.14
9			Manhole Desilting Machine	8.50	7.35	09.05.16
10	CC Tumakuru	SFC 2012-13	Purchase of Sucking & Jetting vehicle for UGD Purpose	24.82	0.00	-
11			Purchase of fogging machine	25.00	23.80	01.06.15
12			Purchase of Manhole De-silting Machine	25.00	29.80	23.05.14
13		SFC 2014-15	Yearly cleaning solution using of Microbial infusion in STP Unit	40.00	40.00	NA
14			Purchase of 2 vehicles of 6,000 litre capacity Suction & Jetting machine for UG complaint Reliefs	25.00	25.00	NA
15			Purchase of Mobile Toilet	12.00	11.50	NA
16			Purchase of Corpse Vehicle	20.00	12.50	NA
17	SFC 2015-16	Purchase of Sucking & Jetting vehicle for UGD Purpose	12.00	10.25	NA	
18	CMC Karwar	2013-14 13 th FCG	Purchase of De-silting Machine	14.00	10.26	NA
19			Purchase of fogging machine	4.00	0.96	NA
20	CMC Chintamani	2012-13 13 th FCG	Truck mounted Suction cum Jetting machine having 4,000 litre capacity	28.00	24.88	28.09.13
21	CMC Dandeli	2012-13 13 th FCG	Purchase of vehicle mounted fogging machine	5.00	4.92	NA
22	CMC Sira	2013-14 13 th FCG	Purchase of land for STP Unit	14.40	14.40	31.10.15
23		2014-15 13 th FCG	Purchase of De-silting Machine	13.00	0.00	-
24	TMC Bhatkal	2012-13 13 th FCG	Purchase of auto mounted fogging machine	2.00	2.00	NA
25	TMC Humnabad	2012-13 13 th FCG	Purchase of jetting machine	5.20	5.20	11.02.13
			Purchase of drain cleaning machine	7.50	7.50	11.02.13
		2016-17 14 th FCG	Purchase of fogging machine	3.00	0.00	-
26	TMC Kumta	2012-13 13 th FCG	Purchase of water tanker	3.00	3.00	NA
			Purchase of fogging machine	3.54	1.80	17.01.17
Total				475.93	381.18	

Source: Information furnished by test-checked ULBs

Appendix 4.5

(Reference: Paragraph 4.6/Page 28)

Statement showing the diversion of funds in CMC, Sira

(₹ in lakh)

Year of action Plan	Name of the originally approved work	Estimated Amount	Name of the work now approved	Estimated Amount	Expenditure	Date of payment
2009-10 SFC	Purchase of Twin container Dumper placer	10.50	Construction of CC drain near St. Anns school in ward no.2	4.00	10.23	27.09.16 27.10.16 17.02.17
			Construction of additional Room for Home Guard office	1.50		
			Construction of Anganwadi building at Kalidas nagar in ward no.8	5.00		
	3 cum secondary storage container-2	0.90	Laying of interlock pavers from Canara bank to Swathi Hospital in ward no.29	3.40	3.25	27.10.16
	4.5 Cum secondary storage container-4	2.20				
Construction of SWM platform	0.30					
2011-12 SFC	Purchase of Sucking and Jetting machine	5.11	Construction of CC drain in Jyothinagar in ward no.3	3.50	2.32	20.07.16
			Iron Grill work for Social Welfare department in ward no.2	1.61		
2012-13 SFC	Construction of Bio-methanation plant	23.00	Laying Bituminous road from NH 47 to Morarji Desai residential school	11.00	00	
			Bituminous road for cross roads in Mallikapura region in ward 26	4.00		
			Construction of CC drain in wards 19 and 20	8.00		
Total		42.01		42.01	15.80	

Source: Records of CMC, Sira

Appendix 5.1

(Reference: Paragraph 5.2/Page 29)

Statement showing details of modes of communication used for IEC activities

Sl. No.	ULB	Audio	Video	Mass communication	Wall Paintings	Schools	Hoardings	Street Jathas	Pamphlets
City Corporations									
1	Ballari	Yes	No	No	Yes	Yes	Yes	NA	No
2	HDMC	Yes	Yes	No	No	No	No	NA	Yes
3	Mangaluru	Yes	Yes	TV Channel	Yes	Yes	Yes	Yes	Yes
4	Tumakuru	Yes	Yes	TV Channel	Yes	Yes	Yes	Yes	Yes
City Municipal Councils									
5	Bagalkote	No	Yes	Newspaper	No	No	Yes	No	Yes
6	Bidar	No	No	Newspaper	No	No	Yes	No	Yes
7	Chintamani	No	No	No	No	No	No	No	Yes
8	Dandeli	No	No	Newspaper	No	Yes	Yes	No	Yes
9	Hosapete	Yes	Yes	TV Channel	Yes	Yes	Yes	No	Yes
10	Karwar	Yes	Yes	No	No	No	Yes	No	Yes
11	Nanjangud	NA	NA	NA	NA	NA	NA	NA	NA
12	Sagar	Yes	Yes	TV Channel	No	Yes	Yes	Yes	Yes
13	Shidlaghatta	No	No	No	No	No	No	No	No
14	Sira	Yes	No	Newspaper	Yes	No	No	Yes	Yes
15	Udupi	Yes	No	No	No	Yes	No	No	Yes
Town Municipal Councils									
16	Bhatkal	Yes	Yes	No	No	No	No	No	Yes
17	Hiriyur	No	No	No	No	No	No	No	Yes
18	Humnabad	No	No	No	No	Yes	No	Yes	No
19	Kakkeri	No	No	No	No	No	No	No	Yes
20	Kumta	Yes	Yes	TV Channel	Yes	Yes	Yes	Yes	Yes
21	Maddur	NA	NA	NA	NA	NA	NA	NA	NA
22	Magadi	No	No	No	No	No	No	No	Yes
23	Malur	No	No	No	No	No	No	No	Yes
24	Manvi	No	No	No	No	No	No	No	Yes
25	Mugalkhod	No	No	No	No	No	No	No	No
26	T.Narasipura	Yes	No	No	No	No	No	Yes	Yes
27	Ugar Khurd	NA	NA	NA	NA	NA	NA	NA	NA
Town Panchayats									
28	Ainapura	No	No	No	No	No	No	No	Yes
29	Chinchali	No	No	No	No	No	No	No	Yes
30	Gudibande	No	No	No	No	Yes	No	No	No
31	Honnavaara	No	No	No	No	No	No	No	No
32	Koppa	No	No	No	No	Yes	No	Yes	No
33	Kudligi	Yes	Yes	TV Channel	Yes	Yes	Yes	No	Yes
34	Raibag	No	No	No	No	No	No	No	Yes
35	Sringeri	No	No	No	No	Yes	No	No	No

Source: Information furnished by test-checked ULBs

NA: Not available

Appendix 8.1

(Reference: Paragraph 8.2.5/Page 61)

Statement showing the actual periodicity of collection of BMW in Government hospitals compared with that prescribed in the agreements

Sl. No.	Name of the ULB	Periodicity as per agreement	Actual periodicity
1	HDMC	Not available	Not available
2	CMC, Chintamani	3 days in a week	Daily
3	CMC, Dandeli	Not specified	Alternate days
4	CMC, Hosapete	Daily	Daily
5	CMC, Nanjangud	Not specified	Alternate days
6	CMC, Sagar	2 days in a week	Once in 3 days
7	CMC, Shidlaghatta	3 days in a week	Daily
8	CMC, Sira	Daily	Alternate days
9	TMC, Bhatkal	Alternate days	Alternate days
10	TMC, Hiriya	Daily	Once in 3 days
11	TMC, Humnabad	Not available	Not available
12	TMC, Kakkera	Not available	Once in a week
13	TMC, Kumta	Not specified	Alternate days
14	TMC, Maddur	Not specified	Alternate days
15	TMC, Magadi	Except Sunday	Once in 3 days
16	TMC, Malur	Thrice a week	Thrice a week
17	TMC, Manvi	Not specified	Alternate days
18	TMC, Mugalkhod	Daily	Once in a week
19	TMC, T. Narasipura	Not specified	3-7 days
20	TMC, Ugar Khurd	Daily	Once in a week
21	TP, Ainapura	Daily	Alternate days
22	TP, Chinchali	Not specified	Weekly twice
23	TP, Honnavara	Alternate days	Alternate days
24	TP, Koppa	Daily	Alternate days
25	TP, Kudligi	Daily	Alternate days
26	TP, Raibag	Regularly	Daily

Source: Information furnished by test-checked ULBs

Appendix 11

Compilation of Good practices

1. Municipal Solid Waste Management Plan (Paragraph 3.3/Page 9)

Ahmedabad Municipal Corporation (AMC)

AMC developed (March-May 2012) a road map for zero waste city, which consists of ten focal areas and 34 strategic actions, to guide AMC to introduce and implement policies and strategies, and to raise awareness amongst private, business, industrial, scientific and research communities in Ahmedabad to work together towards a resource efficient and zero waste society. The road map for zero waste provided a conceptual framework to address SWM issues in the city. AMC engaged a non-profit organisation to prepare a master plan for SWM. The methodology adopted for preparing the master plan included the following:

- Developing a city profile;
- Assessment of existing waste management practices;
- Stakeholder consultations;
- Future population and waste generation projections;
- Developing alternate scenarios for strengthening SWM;
- Drafting key recommendation for strengthening municipal SWM services;
- Institutional arrangements and human resource requirements; and
- Capital investment plan and potential funding sources.

Along with devising a SWM master plan that guides policy decisions and investments in the sector, AMC has framed public health bye-laws for creating standards and norms at the local level, for various SWM processes.

The Health bye-laws are applicable to every public and private space, commercial centres, residences and all other premises and include detailed regulations on waste management process, prevention of waterborne, vector borne and food borne diseases, offences under the bye-laws, general offences which are applicable to all the citizens within city limit, enforcement of the provisions and schedule of fines.

Apart from the above, AMC initiated IEC campaign and established mobile courts to address violations.

Source: Compendium of Good Practices under Urban Solid Waste Management in India Cities - National Institute of Urban Affairs (2015)

Appendix 11 (contd.)

2. Integration of informal waste collector in waste management (Paragraph 3.9/Page 14)

Pune Municipal Corporation

Pune Municipal Corporation (PMC) launched (2005-06) a pilot program for door-to-door collection in partnership with *Kagad Kach Patra Kashtakari Panchayat (KKPKP)*. PMC played the role of enabler and facilitator and provided equipment, infrastructure and management support. KKPKP trained 1500 waste pickers in door-to-door collection to provide service to 1.25 Lakh households in exchange of a user fee. The pilot proved to be a success, as it offered a sustainable mechanism for institutionalizing door-to-door collection in Pune and improved the working conditions for the waste pickers.

The pilot project continued for two years from 2006-2008 after which PMC decided to scale up the initiative to cover the whole city. The waste picker members of KKPKP came together to form SWaCH (Solid Waste Collection and Handling or, officially SWaCH *Seva Sahakari Sanstha Maryadit*, Pune) a co-operative of self-employed waste pickers to provide front-end waste management services to the citizens of Pune.

Today SWaCH provides door-to-door waste collection services to 4 lakh households in the city and covers 60 *per cent* of PMC's geographical area. Remaining 40 *per cent* households are dependent on PMC's trucks or community bins for disposal. Out of 144 municipal wards, SWaCH covers 122 wards.

Source: Compendium of Good Practices under Urban Solid Waste Management in India Cities - National Institute of Urban Affairs (2015)

3. Constitution of Ward Committees (Paragraph 3.10/Page 15)

- The Corporation of Cochin, in its endeavor (2007) to ensure source segregation of MSW and its institutionalisation at Kochi, formed, *inter alia*, Ward level Sanitation Committees with the respective ward Councilor as Chairman and Junior Health Inspector, representatives of RWAs, Confederation of Real Estate Developers Association of India (CREDAI), NGOs, *etc.*, as members for each ward. As a result, institutional and managerial models were established. Intensive interactive meetings on the overall concept of segregation with residents and citizens of wards were held by the Ward Council, Corporation officials, Councilors as well as representatives of NGOs and Sanitation committees.
- The Government of Andhra Pradesh, while formulating (February 2014) Integrated Municipal Solid Waste Management Strategy, 2014, included greater emphasis on civic engagement by involving NGOs, women community groups, Ward Committees/Sabhas, Area Sabhas, *etc.*, in awareness generation as one of the guiding principles of the SWM strategy.

Source: Manual on MSWM, 2016

Appendix 11 (contd.)

4. Good practices in segregated collection of MSW (Paragraph 6.1.1.1/Page 34)

CMC, Dandeli has an arrangement for collecting waste from 27 out of 31 wards. Other four wards come under West Coast Paper Mills (Organisation) area and the door-to-door collection of waste and its disposal are managed by the Organisation itself.

Exhibit 11.1: Collection of waste (27.04.2017)



Vermicomposting (27.04.2017)



Source: Joint Physical Verification

CMC, Kolar - The door-to-door waste collection is carried out by *pourakarmikas* who come by each street with a cart carrying four bins each. A single cart is managed by 2 municipal sweepers provided with all safety and hygiene equipment including gloves, masks and coats. They also carry with them a weighing scale in order to weigh each batch of waste they collect. This helps in monitoring the system, finding discrepancies in segregation as well as serves as a continuous waste audit of the city. At each collection point, bins are offloaded and fresh bins are placed at the site for the next round of collection. A municipal truck collects waste from the collection point. The municipal corporation has tied up with local waste dealers, itinerant buyers (*raddi wallah*) and larger waste traders to whom all dry recyclables are sold.



Exhibit 11.2: Neatly segregated wet waste in CMC, Kolar

Source: An Inclusive Swachh Bharat through the Integration of the Informal Recycling Sector: A Step by Step Guide

Appendix 11 (concl.)**5. Usage of Plastic waste in road formation by KRRDA (Paragraph 8.1.3/Page 57)****Use of plastic waste for laying of roads under Pradhan Mantri Gram Sadak Yojana (PMGSY) and Namma Grama Namma Rasthe Yojane (NGNRY)**

Karnataka Rural Road Development Agency (KRRDA), as part of promoting cost effective and fast construction technology focused on use of locally available marginal materials for construction of rural roads in the State. Use of waste plastic was one of the technology adopted. The extent of length of plastic road sanctioned and completed during the period 2012-13 to 2016-17 is indicated below.

**Details of sanctioned and completed length of plastic roads by KRRDA
(in kilometres)**

Sl. No.	Scheme	Year of sanction	Sanctioned length	Completed length
1	PMGSY II	2013-14	129.74	121.37
2	NGNRY II	2012-13	3.73	6.75
3	NGNRY III	2014-15	200.22	177.09
4	NGNRY IV	2016-17	96.18	-
Total			429.87	305.21

The performance studies carried out indicated satisfactory performance with good skid resistance, good texture value and stronger road.

Source: Information furnished by KRRDA