

CHAPTER 12

Assessment of Physical Services provided by the ULBs

12.1 The 13th FC, recognizing the wide gap in service delivery, recommended that Nagar Palik Nigam. and Nagar Palika Parishad should notify service level bench marks in the beginning of the year and compare the achievement by the end of the year. The State Government has accordingly fixed up targeted standards for different urban bodies for different years. Though this could have been a good means for improve the standard of services delivery. The Commission is afraid that unless the practice of this pre-fixation of yardstick and actual evaluation of performance thereto is internalised, efforts will be unsustainable and this is already evident.

AMRUT Mission

12.2 The Ministry of Urban Development (MoUD), Government of India launched AMRUT mission in June 2015 to augment infrastructure in urban areas in order to improve the quality of life. Chhattisgarh State has 9 towns chosen for implementation of AMRUT initiatives with the thrust areas being- water supply, sewerage facilities and septage management, storm water drains to reduce flooding, reform management and capacity building.

The following table gives the list of the AMRUT cities chosen based on census 2011.

Table 12.1: AMRUT Mission cities

S.No	City	Population(in lakhs)
1	Raipur Nagar Palik Nigam	10.48
2	Bhilai Nagar Palik Nigam	6.25
3	Korba Nagar Palik Nigam	3.63
4	Bilaspur Nagar Palik Nigam	3.49
5	Durg Muicipal Corporation	2.67
6	Raigarh Nagar Palik Nigam	1.66
7	Rajnandgaon Nagar Palik Nigam	1.63
8	Ambikapur Nagar Palik Nigam	1.25
9	Jagdapur Nagar Palik Nigam	1.25

Source: SAAP Chhattisgarh

For AMRUT Mission in the state 2192.76 crore rupees has been sanctioned. Allocation for water supply is Rs. 1706.92 crore, for septage management allocation is Rs. 447.44 crore, for horticulture development allocation is Rs. 38.40 crore. The state is in receipt of Rs. 450 crore as first installment.(Table 12.2)

Table 12.2: Allocation under AMRUT Mission for year 2015-2020

(Rs. in Crore)

Component	Name of city									Total
	Bhilai	Korba	Ambikapur	Rajnandgaon	Bilaspur	Jagdarpur	Raipur	Durg	Raigarh	
Water Supply	242.73	229.99	106.98	223.68	304.37	119.42	186.75	145.00	148.00	1706.92
Septage Management	20.00	18.00	8.00	14.00	21.79	10.00	330.65	15.00	10.00	447.44
Horticulture Development	4.00	4.00	4.00	4.00	6.00	3.00	7.00	3.20	3.20	38.40
Total	266.73	251.99	118.98	241.68	332.16	132.42	524.40	163.20	161.20	2192.76

Source: UA & D Chhattisgarh Administrative report 2017-18.

Water Supply

12.3. As per the Census 2011, the percentage of urban households that have access to treated water supply is 44.21 and another 18.25 percent for un-treated water supply in their premises. The remaining 37.54 percent depends on other sources like tube wells, bore wells, etc. Of the total urban population 27.68 percent have treated water supply within the premises, 13.64 percent near the premises i.e., within 100 meters and the remaining 2.89 percent have to bring water from long distances. (Table 12.3) It is evident from the table that about 33 lakhs urban populations constituting about 56 percent depend on un-safe water. Though, 18.25 percent have access to water supply within their premises, the water is un-treated and therefore amenable for water borne diseases. There is a wide variation between cities in terms of access to water supply.

Table 12.3: Access to Water Supply

Water Sources		Households	Percent
Treated tap water	Within premises	3,42,844	27.67
	Near premises	1,68,953	13.64
	Away	35,800	2.89
Total		5,47,597	44.20
Un-treated tap water	Within premises	88,959	7.18
	Near premises	1,14,077	9.21
	Away	22,975	1.85
Total		2,26,011	18.25
From other Sources	Within premises	18,352	14.82
	Near premises	1,80,545	14.57
	Away	1,01,062	8.16
Total		4,65,130	37.55

Source: Census of India, 2011

12.4 Under AMRUT mission Rs. 1185 crore have been sanctioned for the period of 2015-2020 for ensuring 100 percent water supplies in the chosen nine cities. The SMART city plan for the state also aims to ensure a 24x7 water supply with metering mechanism to ensure that there is not only proper delivery but also recovery of user charges based on actual use, rather than a fixed

slab rate. Work however is progressing slowly in the sector with surveys being undertaken and detailed reports being prepared.

12.5 The Bhagirathi Nal Jal Yojana is a novel initiative that was started in the State to provide a water connection to all households. Under this scheme, Rs. 7712.79 Lakhs has been sanctioned out of which Rs. 4197.67 lakhs has been spent to complete the work on 1,61,617 water connections out of a total target of 2,57,093 connections. There is however only a 34.34% coverage of water supply across the State. Upon discussing with officials under the Bhagirathi Nal Jal Yojana scheme, it was found that there are discrepancies in the number of connections provided and actual connections receiving water supply, because in many locations there are no main pipelines that exist to which the household connections may be provided. This has led to a drop in demand from people applying for connections under the scheme. To rectify this scenario, surveys are being undertaken to identify properties that are eligible for these connections and also work is being undertaken to bring in a main pipeline that can be connected to the individual household connections. The overall scenario of water supply as per the current figures is really low.

12.6 As per Government of Chhattisgarh notification under SLB, access to water supply in their premises, in the Nagar Palik Nigam is 48.10 percent, in the Nagar Palika Parishad it is 37.56 percent and in the Nagar Panchayat it is 31.45 percent. There are wide variations, however, between ULBs; maximum access is in Gaurella NP with 99 percent and the minimum is less than one percent in Takhatpur MC and Bhatgaon-Surguja NP. The SLB notification however indicates that quality of treated water is almost a 100 percent in most cases with an average of 80 percent treated supply. This shows a difference in the figures based on 2011 census data, indicating that improvements have taken place.

12.7 The SLB notification also brings out several disturbing features of water supply delivery in Nagar Palik Nigam and Nagar Palika Parishad (table 12.4). The significant features are:

- i) ULBs supply about an average of 68.35 Litter Per Capita Per Day (LPCD) – less than half of the norm of 135 LPCD;
- ii) Metering practically do not exist;
- iii) Non-revenue water is very high at more than 50 percent in most places, as against the norm of 20 percent.
- iv) Water supply is largely limited to, between 3hrs to 4hrs per day with all its public health hazards as against the benchmark of 24X7 i.e., continuous supply; Jagdalpur has the highest 8 hours of supply.
- v) Recovery of O&M costs is about 37 percent, resulting a very high subsidy from the general funds of the ULB; and
- vi) Collection efficiency of water tariff is only about 51.74 percent.

Table 12.4: Water Supply - Service Level benchmark (year 2016-17)

Indicators	Benchmark	Unit	Current Level (Average)	Deficit (Average)
Coverage	100	percent	34.34	65.66
Per capita water supply	135	LPCD	68.35	31.65
Metering	100	percent	0.10	99.90
Non-revenue water	20	percent	47.40	- 27.40
Hours of supply	24x7	hrs	2.70	21.30
Quality	100	percent	85.19	14.81
Cost recovery	100	percent	36.95	63.05
Collection efficiency	100	percent	51.74	48.26

Source: SLB Notification by the Government of Chhattisgarh.

12.8 The current levels indicated in table 12.4 are averages of all ULBs and it is clear that there is a wide gap between the benchmarks and actual performance of ULBs on different indicators. This underpins the need for substantial performance improvement to provide efficient and sustainable water supply.

Sewerage

12.9 As per SLB notification only one ULB- Bilaspur having 5.7 percent coverage. Between these ULBs there are wide variations in coverage. The wastewater, however, is not treated and there is no reuse and recycling and cost recovery is also insignificant with a mere 5.7 percent. The table 12.5 gives the performance of the ULBs in sewerage sector on different indicators against benchmarks.

Table 12.5: Sewerage - Service Level benchmark (year 2016-17)

Indicators	Benchmark	Unit	Current Levels	Deficit
Coverage of toilets	100.00	percent	82.72	17.28
Coverage of network	100.00	percent	0.03	99.97
Efficiency in collection of wastewater	100.00	percent	0.00	100.00
Adequacy of treatment	100.00	percent	0.00	100.00
Quality	100.00	percent	0.00	100.00
Reuse and Recycle	20.00	percent	0.00	100.00
Redressal	100.00	percent	78.39	21.61
Cost recovery	100.00	percent	5.72	94.28

Source: SLB Notification by the Government of Chhattisgarh.

Under the AMRUT scheme however, funds have been provided to undertake works related to sewerage and septage management. Alternative methods such as decentralized treatment mechanism are to be explored under this umbrella. Considering the state of current affairs in this sector, table 12.2 gives us the figures of the funds allotted under different sectors to the mission cities. The following table 12.6 gives the progress made under the Sewerage & Septage management.

Table 12.6: Sewerage & Septage management – Progress under AMRUT: year 2016-17

S. No	ULB	Approved SAAP		DPR (Y/N)	SLTC (Y/N)	Work order (Y/N)	Implementation progress		Amount disbursed (Cr. rupees)
		Project name	Amount (Cr. rupees)				Physical (%)	Financial (%)	
1	Bhilai	Septage Mgmt.	18.44	N	N	N	NA	NA	3.20
		Procurement of Septage Mgmt. equip.	1.56	Y	Y	Y	45	40	
2	Korba	Septage Mgmt.	17.00	N	N	N	NA	NA	2.88
		Procurement of Septage Mgmt. equip.	1.00	Y	Y	Y	55	50	
3	Bilaspur	Septage Mgmt.	20.44	N	N	N	NA	NA	3.49
		Procurement of Septage Mgmt. equip.	1.35	Y	Y	Y	55	50	
4	Rajnandgaon	Septage Mgmt.	11.78	Y	Y	N	NA	NA	1.92
		Procurement of Septage Mgmt. equip.	0.77	Y	Y	Y	40	40	
5	Raipur	Sewerage	320.65	Y	Y	Y	39	30	48.49
		Septage Mgmt.	7.99	N	N	N	NA	NA	
		Procurement of Septage Mgmt. equip.	2.01	N	N	N	NA	NA	
6	Jagdalpur	Septage Mgmt.	9.34	N	N	N	NA	NA	1.60
		Procurement of Septage Mgmt. equip.	0.66	Y	Y	Y	41	35	
7	Ambikapur	Septage Mgmt.	5.80	N	N	N	NA	NA	0.96
		Procurement of Septage Mgmt. equip.	0.20	Y	Y	Y	60	52	
8	Durg	Septage Mgmt.	14.80	N	N	N	NA	NA	2.40
		Procurement of Septage Mgmt. equip.	0.20	Y	Y	Y	39	30	
9	Raigarh	Septage Mgmt.	9.34	N	N	N	NA	NA	1.60
		Procurement of Septage Mgmt. equip.	0.66	Y	Y	Y	36	30	
TOTAL			443.99						66.54

Source: SAAP Chhattisgarh 2017-20.

Toilets

Access to toilets is a basic necessity and is an important component of safe sanitation and public health. Various steps have been taken by the authorities to curb open defecation. Under schemes such as SBM, the ULBs have taken proactive measures to introduce the masses to the use of and construction of toilets.

In urban Chhattisgarh, as per Census 2011, only 60.2 percent of households had access to toilet facility within their premises. 5.4 percent depend on public or community latrines. The remaining 34.4 percent did not have access to toilets and obviously resort to open defecation with all the hazards that come along with it.

Under the SBM, official surveys conducted have shown that there were 2,41,000 households that lacked access to toilets. Under this initiative, funds are allocated to build private toilets at a cost of Rs. 20,000 per seat- with Rs. 4000 to be spent by the State Government and the remaining to be given by the Centre. It is to be noted that under the SBM, the Chhattisgarh Government has taken up the construction of toilets- public and community, and private toilets on priority basis. Out of the target 2,41,000 households, approximately 20 percent of the population do not have provision to construct a private toilet (due to various reasons- lack of space, no water connection, etc). To cater to them, Community/ Public toilets were to be built.

It must be noted that Chhattisgarh has shown immense initiative to achieve this target and hence got the status of ODF. Majority of the State's population has been provided with access to toilets – private and community toilets. Renovation works have been undertaken on existing public toilets as well as to bring them up to standards.

12.10 Though access to toilet facilities have increased greatly, the lack of a sewerage system still poses major issues. Methods of scientific disposal are not being used at present. This also compares unfavorably with national trends where 72 percent have safe disposal practices. From the urban population with latrine facilities in premises, only 15 percent are connected to sewerage system. Under AMRUT this topic has been brought into focus. Sewerage and Septage management has been highlighted as one of the thrust areas of the scheme in Chhattisgarh.

Table 12.7: SLB indicators for Sewerage: year 2016-17

Indicators	Benchmark	Unit	Current Levels	Deficit
Coverage of toilets	100	percent	82.72	17.28
Coverage of network	100	percent	0.03	99.97
Efficiency in collection of wastewater	100	percent	0.00	100.00
Adequacy of treatment	100	percent	0.00	100.00
Quality	100	percent	0.00	100.00
Reuse and Recycle	20	percent	0.00	100.00
Redressal	80	percent	78.39	21.61
Cost recovery	100	percent	5.72	94.28

Source: SLB Notification by the Government of Chhattisgarh.

As can be seen from the table 12.7, there is a 100 percent deficit in efficiency of collection and treatment of sewage and septage. It is also to be noted that as per GOI rules, the practice of employing humans to clean night soil has been done away entirely. From onsite visits to the sample ULBs it has been understood that in the current situation, septage is collected from septic tanks and carried outside the town/city limits and dumped in open lands or water bodies. The problem with this method of disposal is hazardous to health.

Under the AMRUT mission, selected ULBs have started moving along the direction of Faecal Sludge and Septage Management (FSSM) policies using decentralized mechanism. Ambikapur M.corp has invested funds under this mission into preparation of a project report for setting up of a decentralized faecal sludge treatment plant of 20 kilo litter per day (kld) capacity. Funds of Rs. 1.20 crore have been approved for the project out of which Rs 60 lakhs has been sanctioned for the first phase. Using these technologies on a replicable basis, the State can aim to alleviate the status of sewage treatment as per standards. This will also help to achieve the aims under SBM- providing toilets and scientific disposal and treatment of the waste.

As a start, the 9 mission cities under AMRUT mission are being targeted for implementation of decentralized FSSM practices. For this in the year 2015-16 Rs. 122.79 crore and in the year 2016-17 Rs. 320.65 crore was sanctioned. For the overall AMRUT mission period of 2015-2020 approximately Rs. 764.08 crore has been sanctioned to improve the service level delivery in sewerage and septage management sector.

Drainage

12.11 The SLB notification states that there is approximately 21.74 percent of drain coverage in all 168 ULBs.

Solid Waste Management

12.12 Under the Swachh Bharat Mission and the initiative of Mission Clean City (State Govt.) immense efforts are being made in achieving better SLB standards. The M.Corp, Ambikapur has been hailed as a role model town in this sector. Of the 168 ULBs in the State, 165 are implementing the same approach as taken by Ambikapur. Under the Swachh Bharat mission, funds have been allocated to the tune of Rs. 131.53 crore out of which Rs. 57.79 crore has been released till date.

Under this model, by the first week of December 2017, all 165 ULBs have been provided two sets of dustbins- one for dry waste and other for wet waste; to be distributed to every house hold. Women self help groups (SHGs) have been formed in many ULBs that will take up the task of collecting segregated waste from the houses (door to door collection). Approximately Rs. 75.14 crore has been sanctioned for the procurement of essential equipments like uniforms, gloves, and cycle-rickshaws.

The collected waste will be brought into the Solid Liquid Resource Management (SLRM) center for further segregation as per norms. Post segregation (primary, secondary and tertiary) the organic waste is to be composted in special composting pits to make organic fertilizer. The inorganic waste is to be disposed off in a scientific manner. Funding for this initiative has been received from SBM under the title of Mission Clean City.

12.13 Effective SWM – collection, segregation, transport and disposal – is a very important function of ULBs. As per SLB notification there is current household coverage of only 27 percent, but with a collection efficiency of 85.04 percent can be seen from table 12.8. This indicates fairly good collection efficiency; however efforts must be made to ensure maximum coverage of such facility across all ULBs. Segregation of waste right from source is being given a lot of importance in most ULBs with door to door collection being initiated. Construction of SLRM centers gives the effort another push facilitating the basic infrastructure to the SHG members to carry out further segregation.

Table 12.8: Solid Waste Management Year 2016-17

Indicator	Benchmark	Units	Current Level	Deficit
Household coverage of door-to-door	100	percent	27.10	72.90
Efficiency of MSW collection	100	percent	85.00	15.00
Extent of Segregation	100	percent	0.77	99.23
Extent of MWS recovered	80	percent	1.05	98.95
Scientific Disposal	100	percent	0.34	99.65
Cost recovery	100	percent	23.41	76.59

Source: SLB Notification by Government of Chhattisgarh.

12.14 There is however wide variations between ULBs on all other indicators as can be seen from the table below. Scientific disposal and composting practices will help in generating fertilizer for own use. In future with improvement in efficiency, production of fertilizer can be increased to make it a source of Own Revenue through commercial channels as is seen in the case of Ambikapur. The “Swachh Ambikapur Mission” was recognized and awarded at the national level.

Infrastructure in Raipur Nagar Palik Nigam

12.15 Raipur, the capital city of Chhattisgarh and the only million plus city in the state, has a significant place both as a political and administrative center. Based on the gazette notification by the Government of Chhattisgarh, a comparative analysis of the infrastructure status on selected indicators is made with Raipur Nagar Palik Nigam and state average is in table 12.9.

Table 12.9: Infrastructure in RMC on Selected Indicators

Indicator	Benchmark	Raipur (2016-17)	State (2016-17)
Water supply			
Coverage connections	100 percent	43.70	34.34
Per capita supply	135 lpcd	76.40	68.00
Metering of connections	100 percent	10.80	0.10
NRW	20 percent	53.10	65.00
Continuity of supply	24 Hours	3.00	2.72
Cost recovery	100 percent	94.50	36.95
Collection efficiency	90 percent	74.90	51.74
Sewerage			
Coverage of toilets	100 percent	92.90	82.72
Coverage of sewage network	100 percent	0	0.03
Reuse and recycling	20 percent	0	0
Collection efficiency	90 percent	0	0
Solid waste management			
Door to door Collection	100 percent	71.20	27.00
Collection efficiency	100 percent	97.31	85.04
Extent of segregation	100 percent	0.41	0.77
Extent of MSW recovered	80 percent	0	1.05
Extent of scientific disposal	100 percent	0	0.34
Cost recovery	100 percent	43.77	23.41
Collection efficiency	90 percent	94.37	52.57
Storm Water Drains			
Coverage	100percent	37.58	21.74

Source: SLB Notification by Government of Chhattisgarh– 2016-17

12.16 Smart City Programme

Smart Cities Mission is an urban renewal and retrofitting programme by the Government of India with the mission to develop 100 cities across the country making them citizen friendly and sustainable. The Union Ministry of Urban Development is responsible for implementing the mission in collaboration with the state governments of the respective cities.

Smart Cities Mission envisions developing an area within 100 cities in the country as model areas based on an area development plan, which is expected to have a rub-off effect on other parts of the city, and nearby cities and towns. Cities were selected based on the Smart Cities challenge, where cities have competed in a countrywide competition to obtain the benefits from this mission. Financial aid will be given by the Central and State Governments for the year 2017 to 2022 to these cities, and the mission is expected to start showing results from the year 2022 onwards.

In Chhattisgarh Naya Raipur, Raipur and Bilaspur have been declared as smart cities. The areas/ sectors that the cities aim to work on under the initiative are diverse with projects ranging from upgraded monitoring of solid waste management, water supply; improve public transport

system and e-governance activities. Each of the cities has projects planned on area based development perspective as well as from a pan-city perspective.

Naya Raipur

Naya Raipur is India's first smart ecofriendly city. It is being developed in accordance with the provisions of Development Plan-2031 which is being finalized after a series of consultation at different levels. Naya Raipur has over 100 kms. of state-of-the-art four-lane and six-lane roads with 53 kms of Non Motorized Transportation (NMT) network. Clean potable water is supplied 24X7 via a fully pressurized hydro pneumatic pumping system sourced through a 52 Million Liters per Day (MLD) Water Treatment Plant. It is a zero discharge city with four decentralized Sewerage Treatment Plant (STPs). The recycled water is used for watering the greens of the city.

The project includes city surveillance using CCTV cameras, intelligent transport system having speed and incident detection. It also includes Supervisory Control And Data Acquisition (SCADA) for Electrical Distribution System, Water Distribution, and Sewerage System. Naya Raipur now included as Smart Cities Mission, it will help in channelizing new projects like community schools, up gradation of schools, affordable housing, green compliance on existing buildings, vertical gardens for public building, parks etc, aimed towards community on one side and infrastructure reinforcing projects like micro grid and solar energy, smart metering, rain water harvesting, real time water quality monitoring on the other side.

Since the announcement of Naya Raipur as a smart city, a Special Purpose Vehicle (SPV) is being set up to help streamline the financial aspects for the proposed projects. For the Naya Raipur, SPV will be single point of contact for all project developments, infrastructure improvements, operation of utilities and services and to carry out regulatory works like approval of building plans, advertisement and property taxation etc.

The most important aspect in the development and sustenance of Naya Raipur is based on continuous citizen engagement. The citizens are engaged with the State authorities through various channels that include social media apps, MyGov App, Survey Forms and direct citizen engagements.

Naya Raipur has already invested in the Digital City Platform (DCP), Smart Governance, Smart Utilities, Network, and Surveillance & Traffic Management as Pilot Project. The overall plan is to make it #1 Digital City that will deliver services to its citizens & Athithi's that's Cashless-Faceless-Paperless.

Pan City Information & Communication Technology idea is to roll-out of the following components, Surveillance, Traffic Management and Public Wi-Fi and implementation of remaining

modules -solid waste management, healthcare, events management and common card for payments. Apart from these, city would also undertake the following projects that are aimed at making city more inclusive, social and environment friendly and thereby providing a better quality of life to its residents and Athithi's. The total cost for project is ABD - 1262.92 Cr. and Pan City - 415.70 Cr.

Raipur

The capital city of the State has under the umbrella of Smart city mission identified certain focus areas of intervention based on area based development and pan city initiatives. It covers areas from cleanliness activities to cashless transactions.

Total project cost envisaged under Area Based Development Projects and Pan City projects is Rs. 3,939.42 crore. Broadly, the Area Based Development plan has identified 18 interventions and the pan city proposal has identified 3 interventions for developing Raipur as a smart city. The projects identified under these interventions are packaged into different modules so as to facilitate their timely implementation. The estimated project capital cost for ABD plan and Pan-City plan is Rs. 3,654.52 crore and Rs. 284.90 crore respectively.

Bilaspur

Bilaspur has also been included in Centre's 'Smart City Mission'. The State Urban Administration and Development Department will also soon take up the integrated solid waste management project planned for the city.

The project would be taken up and operated under Public Private Partnership (PPP) model. The total cost of Bilaspur Smart City Project comes to Rs. 3966.32 crore. It is 1041 acres Retrofit and Redevelopment model which is located in the heart of the city. Based on the extensive citizen engagement exercise, the strategy of the overall city infrastructure development and the projects for the city were finalized. Accordingly, the Area Based Development plan has identified 55 projects/ interventions and the Pan City proposal has identified 15 projects for developing Bilaspur as a smart city. The estimated project cost for ABD plan and Pan-City plan is Rs.3662.82 crore and Rs. 303.50 crore respectively.

12.17 Matter of Concern

For a better understanding of the status of infrastructure in different M. Corps and Nagar Palika Parishad in the state, they are ranked into four groups viz., A, B, C, and D where A indicates better status and D indicates poor status needing immediate attention and B and C intermediate levels also needs improvement. The criteria for categorization are given in **Annexure 12.1** and the number of ULBs under each category is given in **Annexure 12.2**.

It can be seen from the latest SLB notification that there has been improvement in some of the areas such as water supply, door to door collection and segregation of waste as well as an increase in cost recovery.

However, there are certain areas of concern such as scientific disposal and treatment of sewerage re-use and recycle of solid waste. Metering of water supply network is of prime importance since there is tremendous amount of financial losses that have to be borne by the ULBs. It has been learnt that in Raipur, meters have been set up in certain locations but even they have not been used to charge users as per volumetric basis. Rates are still based on a flat charge. Non- Revenue Water is another area of concern. NRW is facing a wide gap with respect to the set norms.

To improve infrastructure, service delivery, to provide cheap public transport, efficiency of the overall mechanism should be optimal utilized, the Commission observed that in fast growing major cities of Chhattisgarh i.e. Raipur, Bilaspur, Bhilai-Durg, Jagdalpur, Raigarh and Ambikapur existence of high-rise buildings are very less. The high cost of the land is not economically viable.

The Commission recommends that in the major cities floor area ratio should be increased for all purposes.

Investments for Urban Infrastructure

12.18 2nd SFC in its report, mentioned the infrastructure and its maintenance cost Rs. 54556 crore for next 20 years from the year 2012-13 to 2030-31 based on the report of High Power Expert Committee Report on Indian Urban Infrastructure service, 2011 (HPEC). It has also reiterated that to fill up the gap of infrastructure considering the requirement of the growing population ample fund should be invested.

Table 12.10: Investment Requirements during the Award Period

(Rs. in crore)

Sl.No.	Year	Capital Expenditure	O&M	Total
1	2017-18	1098.62	510.42	1609.04
2	2018-19	1230.45	555.34	1785.79
3	2019-20	1378.10	604.21	1982.31
4	2020-21	1543.48	657.38	2200.86
5	2021-22	1728.69	715.23	2443.92
	Total	6979.33	3042.58	10021.91

Source: HPEC Report, 2011

12.19 From the above table considering the period 2017-18 to 2021-22 capital investment and operation and maintenance cost amounting Rs.10021.91 crore including the growth rate of 12% and 8.8% in capital investment and in O&M respectively and inflation rate is calculated as 8.8%, common in both.
