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Editorial

Tackle Waste with Haste

One is tempted to take solace from the fact that Urban India generates about 0.5 Kg of MSW per capita per day. The figure looks comforting when compared to the per capita figure for OECD countries at about 2.1 Kgs and the world average of 1.19 Kgs. However when looking at the sheer numbers, the comfort evaporates soon. Indian cities are estimated, according to a CPCB report to generate about 1.30 lac tonnes of MSW every day. This number is limited by the fact that accurate numbers are not easy to come by for all regions. Further, of the total MSW generated, collection is limited to about 68% and treatment to just 15%. In addition, the projections for 2025 by a World Bank report paint a grim picture indeed. While generation in developed countries is expected to remain constant, it is expected to rise significantly in middle and lower income countries.

Swachh Bharat Mission is therefore most timely and a wakeup call. MSW management is handled almost entirely by ULBs in India. It is among the topmost challenges that urbanization poses today. MSW management is extremely visible and any dip in its efficacy is instantly experienced through piled up garbage on streets and foul odour all around, often making headlines as in New Delhi recently. Other than such noise, ineffective MSW management has serious implications for public health and the environment. Collection and disposal are receiving increased focus and funding support as they indeed should. Given that collection rates are low and treatment efforts even lower, this surely calls for focus. Treatment particularly is in the form of dumping and landfill. Incineration though widely practiced in advanced countries is sporadic in India. While landfill is adopted, what is widely practiced is dumping. As opposed to landfill, it is less scientific, less controlled, more random and unsafe posing serious environmental hazards.

While improvements in collection and disposal i.e., management of MSW would soon be visible, the discourse needs to shift focus to the supply side i.e., the generation of MSW. Citizens must imbibe new practices that mitigate the negative consequence of their new lifestyles. Urban local bodies need to engage actively with residents and seek their participation in community-wide programs that raise awareness, reduce the generation of waste and enable reuse/recycling of the waste which gets generated any way.

The drive to make India Open Defecation Free by 2019 is gathering momentum with each passing day. Urban sanitation is seen as a big challenge, one which requires collective concentrated push from different stakeholders. Government is thus creating a number of levers to help the efforts. One such effort is the Thematic Drives. A calendar of twenty four drives for the entire financial year has been drawn up. The first two were devoted to 'Slum Communities' and 'Heritage Places and Monuments'. Coordinated by an inter-ministerial committee led by the Ministry of Drinking Water and Sanitation, various other ministries are to pitch in. Rapid roll-out of individual, public and community toilets is happening with the support of large numbers of CSR funds, among others.

With nationwide efforts and competition among states (Kerala plans to be ODF by November this year) and cities to achieve the national mission, we are set to see a much cleaner India earlier than envisaged.

Research Training Programmes for 2016-2017

The Advisory Committee Meeting of the Regional Centre for Urban & Environmental Studies (RCUES), All India Institute of Local Self-Government (AIIILSG), Mumbai was held on 19th March, 2016 at Mantralaya, Mumbai under the chairmanship of Mrs. Manisha Mhaskar, IAS, Secretary, Urban Development Department, Government of

Maharashtra and also the Ex-officio Chairperson of the Advisory Committee of RCUES of AIIILSG, Mumbai. The AC selected following focussed areas for Capacity Building of Urban Local Bodies in the Western and North-East Regions. These capacity building programmes will be supported by Ministry of Urban Development, Government of India.

Regional Specialized Training Programmes

No.	Regional Training Programmes
1	Swachh Bharat Mission and Needed Measures at ULB Level.
2	Planning of ODF Cities.
3	Solid Waste Management in Cities & Swachh Bharat Mission (SBM).
4	Achieving Universal Sanitation in Urban Areas - Swachh Bharat Mission.
5	Innovative Interventions in Urban Management & Governance.
6	Orientation on Atal Mission for Rejuvenation & Urban Transformation.
7	Capacity Building for Municipal Elected Representatives.
8	Water Supply & Sanitation.
9	Communication Strategies, IEC Tools: Innovations for Good Urban Governance.
10	Septage Management for Cities and Towns.
11	Water Supply Management, 24X7 Water Supply, Leak Detection and Waste Water Management: Reuse and Recycling in Urban Areas.
12	Municipal Acts & Administration (for Municipal Secretaries).
13	Innovations and Best Practices in Urban Governance.
14	Water Supply Management, 24X7 Water Supply, Leak Detection and Waste Water Management: Reuse and Recycling in Urban Areas.
15	Solid Waste Management in Cities & Swachh Bharat Mission (SBM).
16	Augmentation of Resources at Municipal Level.

Selected Seminars / Workshops

No.	Seminars / Workshops
1	Solid Waste Management under Swachh Bharat Mission - Best Cities.
2	Municipal Service Delivery & Benchmarking at City Level.



Gender concerns in the Union Budget 2016-17

Prof. Vibhuti Patel,
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The Railway Budget and the Union Budget for financial year 2016-17 were presented on 25-2-2016 and 29-2-2016 respectively. The Union Budget 2016-17 has allocated Rs. 90625 crores for gender concerns in different ministries. But it does not show any increase in the "Gender budget" i.e. financial allocation that directly benefits women and girls with budget allocation of 4.58% of the total. The revised estimate in the Union Budget for 2015-16 is 4.55 per cent of the total allocations and the financial allocations to the Ministry of Women and Child Development (MWCD) were slashed from Rs. 21194 crores to Rs. 10382 crores. Due to pressure from the MWCD, the revised budget was increased to Rs. 17352 crores. The current budget has made financial allocation of Rs. 17408 crores to MWCD.

Cooking Gas

The Union Budget allocates Rs. 2000 crores to provide the BPL families with a cooking gas connection at a subsidized rate so that poor women will not have to use Chulha for cooking resulting into inhalation of

carbon monoxide, major cause of their respiratory tract infections. Gender economists have demanded that the LPG connection must be in the name of women members of poor households. The timeline given by the FM states that during 2016-17, crore 50 lakh BPL (Below Poverty Line) households. The budget also promises to continue the Scheme for at least two more years to cover a total of 5 crore BPL households. This scheme may be a boon to 'neo-middle class' but majority of the toiling poor women cannot afford to buy 'subsidized' cooking gas @ Rs. 6000/- per cylinder.

Predicament of Women Farmers

Women farmers and cultivators are the backbone of agricultural production in India. Majority of agricultural labourers are women. In agricultural sector also the allocation at Rs 20400 crores is lower as compared to the 2014-15 in which the allocation was Rs 22309 crores. The current budget makes a non-plan allocation of Rs.15000 crores to the Ministry of Agriculture to transfer funds to compensate commercial banks for providing subsidised credit to agriculture.

The budget permits 100 per cent FDI in rural markets. This will women small and marginal farmers hard. Entry of corporate sector into agrarian marketing has already made condition of farmers precarious as a result of their monopsonistic control where large number of poor sellers face handful of buyers. Desperate farmers will have to distress selling of their products to the multinational corporations.

Several states in our country are facing severe drought resulting into agrarian unemployment. In this context, increase of MGNAREGA allocation by 7.7% is highly inadequate.

Stand Up India Scheme

The Union Budget has provided an outlay of Rs. 500 crores to promote entrepreneurship among SC/ST and women. Each nationlised bank will have to facilitate at least two projects per bank branch, one for SC/ST and one for women entrepreneur. This schemes claims to benefit at least 2.5 lakh SC/ST/ women entrepreneurs. Quarterly social audit is a must for this scheme or else like 'Nirbhaya fund', this allocation will also remain unspent.

Railway Budget

In the Railway Budget has promised a 33% sub-quota for women under all reserved categories, was provided. Looking at increasing attacks on women commuters, the railways need to allocate more funds for security and safety of women on the railway platforms and in the trains.

National Mission for Empowerment of Women (NMEW)

The Gender Budget Statement has increased MNEW's allocation to 50 crores which is double as compared to previous year. The budget has not taken serous consideration with respect to violence against women that has escalated many fold. While schemes to

combat trafficking and empowering adolescent girls have received increased funds, the schemes meant for implementation of PCPNDT act, the Protection of Women from Domestic Violence Act have not received much allocation. Corpus of Rs. 3000 crores under Nirbhaya Fund has largely remained unutilized. On March 8, 2016, the Union Budget 2015-16 had allocated Rs. 653 for Scheme for Safety of Women in Public Road Transport with an objective to ensure safety of women and girl child in public transport by monitoring location of public road transport vehicles to provide immediate assistance in minimum response time to the victims in distress. The proposed scheme under the "Nirbhaya Fund" envisages setting up of a National Emergency Response System with a control room under the overall control of Ministry of Home Affairs, which will receive alerts from distressed women and take action on it. Under the scheme for giving grants to states for setting up driving schools, preference is given to proposals for driving school for women. Similarly, 'Beti Padhao, Beti Bachao' scheme was announced with the goal of improving efficiency in delivery services for women. Proposal submitted by different ministries, local self government bodies and state governments under these schemes are gathering dust and funds have remained largely unutilized.

Social Sector

Subsidised education and health are most beneficial to women and girls. The Union Budget, 2016-17 provides Rs. 40000 crores for school education which is slightly higher than last year's allocation of Rs. 39039 crores and higher education has received Rs 16500 crores this year as compared to from Rs. 15855 crores. Both are grossly inadequate. This will result into intensification of privatisation and commercialization of school and higher education.

The same is happening with respect to health sector- withdrawal of the state from public health to promotion of private health sector. Except for 3000

stores for distribution of subsidized medicine, the budget subsidizes private insurance companies and pharmaceutical industries in the name of public-private partnership.

Flagship programme such as Integrated Child Development centre (ICDS), like last year, has faced cuts in allocations. In 2015-16 the budgetary allocation was merely Rs 8000 crores but the actual disbursement of funds was Rs. 15394 crores. Nutrition of pregnant mothers and children in 0-6 age group will suffer as the Union Budget 2016-17 allocates only Rs.14000 crores. Even the Mid Day Meal Programme will also face financial crunch as the allocation is merely Rs. 9700 crores, while inflationary prices of food items have increased drastically. In spite of increase in workload, the foot soldiers of ICDS and National Rural Health Mission (NRHM) don't even get minimum wages; leave aside pension, social security benefits and health insurance.

Public Distribution System

Instead of direct distribution of food grains and essential items, the budget paves way for cash transfer in PDS through provision of automation facilities for 3 lakh Fair Price Shops, ATMs and mini-ATMs in rural linked to Adhar. The budget does not promise of price control for essential commodities to ease poor women's woes.

Trend analysis of allocation to social sector in the pre (before 1991) and post (after 1991) structural Adjustment Programme (SAP) phase has revealed that poor women have suffered the most due to drastic budgetary cuts in Public Distribution System and public health, safe public transport & child care facilities, food security, drinking water and sanitation. There is no gender mainstreaming with respect to safety of women in the budgets of Local Self Government Bodies.

Digital India Scheme

The Union Budget promises a lot thro' digital India scheme but there is no financial allocation for specific programmes and schemes for digital empowerment of girls and women.

Smart Cities

The Union Budget, 2016-17 has given priority to formation of 100 smart cities in terms of high allocation for physical infrastructure, IT based and cyber technology based governance. Smart cities have to be Safe cities. Town planners, policy makers and budget experts need to do gender budgeting to ensure women-friendly civic infrastructure- water, sanitation, health care, safe transport, public toilets, help lines, skill development for crisis management and, safety at work place. While making budgets for social defense services, consideration must be given to safety of girls and women in schools and colleges in terms of prevention of child sexual abuse through public education and counseling facilities, separate toilets for girls and boys in schools, legal literacy on POCSO Act, 2012 and Prevention of Sexual Harassment Workplace Act, 2013.

Provision must be made to have special cells in the police department to take action against display of pornographic images, SMS messages, cybercrimes that victimize young girls at public places or in public transport- buses, local trains, rickshaws and taxis.

There is need to integrate safety of women as a major concern in flagship centrally sponsored schemes such as Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Pradhan Mantri Swasthya Suraksha Yojana (PMSSY), National Urban Health Mission (NUHM) are supposed to have 30% of funds as Women's Component.

Revenue Generation

Several state governments have sent GR regarding allocation of 5% of total revenues for women and children. This should be increased to 10%. Kerala has done this. Moreover, urban local self-government (LSGs) bodies can raise revenues by heavy taxes on Tobacco, alcohol, private vehicles and entertainment industry. Some amount of fine collected for causing damage to environment (introduction of Green Tax), high speed driving, wrong parking and breaking rules can also be used for welfare of women and children. Surcharge, earmarked charge for specific purpose such as Education Cess-2 % of salary, income tax for disaster management has raised revenues for urban LSG. In Maharashtra, transport cess at the time of Bangladesh war in 1971, later on was diverted to EGS kitty.

The Centrally Sponsored Schemes are meant to have national focus on poverty alleviation or welfare. Fund sharing pattern between centre and state has changed from 75:25 from 60:40 and many poor states are not able to contribute their share, as a result most of the anti-poverty programmes and flagship schemes are not fully implemented or are totally non-implemented. By putting the onus on state governments to provide for social sector, the Centre is washing off its hands with respect to needs of SC, ST, women and minorities.

Gender sensitive budget demands re-prioratisation of financial allocations by urban and rural local self government bodies in favour of -

- Working women's hostels, crèches, cheap eating facilities, public toilets.
- Women friendly and SAFE public transport- local trains, Metro, buses.
- Housing- Subsidized housing for single/ deserted/ divorced/ widowed women.
- Nutrition- Strengthening PDS and nutritional mid-day meals.
- Health- Abolition of user fees for BPL population, one stop crisis centre in public hospital for women/girls survivors of violence linked with shelter homes.
- Skill training centres for women and tailor made courses.
- Safe, efficient and cheap public Transport-bus, train, metro.
- Water- Safe drinking water in the community centres .
- Waste Management- Technological upgradation - Occupational health & safety of recycling workers/rag pickers.
- Proper electrification in the communities.
- Multipurpose Community centres, half way homes for elderly and mentally disturbed women.



Construction and Demolition Waste Rules Notified

The Ministry of Environment, Forests and Climate Change, Government of India, notified the Construction and Demolition Waste Management Rules, 2015 on 29th March, 2016. Shri Prakash Javdekar, Union Minister for Environment said that “construction and demolition waste is not a waste but a resource.” These rules will have to be implemented by the State Governments with the help of the urban local bodies. According to the press release, dust contributes about 20% of pollution in big cities and about 530 billion tonnes of construction and demolition waste (C&D waste) is generated annually in India. This waste is a major contributor of particulate matter PM 10, which is a health hazard. Broad features of these rules are as under.

1. Duties of the Generators of Construction and Demolition Waste: Every waste generator shall segregate construction and demolition waste and deposit it at collection centre of handover to the authorized processing facilities. The generator includes builders, construction firms, individuals etc. Large generators have been defined as those who generate more than 20 tonnes or more in a day or 300 tonnes per project in a month. They will have to get approval for their waste management plans, do segregation of this waste and pay relevant charges for collection, transportation, processing and disposal.

2. The State Governments are mandated to-

- i) The Urban Development Department is required to prepare their policy with respect to management of construction and demolition waste within one year of the date of notification of the rules.
- ii) The Department of the State Government concerned with land matters shall have to

provide suitable sites for setting up storage, processing and recycling facilities for C&D waste within one and a half year from the notification of these rules.

- iii) The Department dealing with Town and Country Planning shall incorporate the site in the approved land use plan so that there is no disturbance to the processing facility on long-term basis.
- iv) The Departments of the State Government shall be required to utilize 10-20% materials made from C&D waste in Government contracts.

3. Local Authorities: Following duties are cast on the Local Authorities under the rules, namely-

- i) Shall place appropriate containers for collection of C&D waste, removal at regular intervals, transportation to appropriate for processing and disposal.
- ii) Seek assistance from concerned authorities for safe disposal of C&D waste contaminated with industrial hazardous or toxic material or nuclear waste, if any.
- iii) Shall give appropriate incentives to generator for salvaging, processing and or recycling preferably in-situ.
- iv) Shall establish a data base.
- v) Different time limits have been prescribed for setting up processing and disposal facilities according to the categories of the cities. Million-plus cities will have to do it within 18 months, cities with a population between 0.5

million and 1 million within 2 years, whereas other smaller cities have to set up such facility within 3 years.

4. Pollution Control Boards

- i) The Central Pollution Control Board is required to prepare operational guidelines related to environmental management of C&D waste.

- ii) State Pollution Control Boards shall be responsible for granting authorization to C&D waste processing facility, monitor the implementation of the rules by the concerned local bodies and submit annual report to the CPCB and the State Government.



Support to Sinner to become Open Defecation Free

Sinnar is a C class council located in Nashik district of Maharashtra with a population of 65,299 (Census 2011). The city population has more than doubled in size since 2001 mainly due to expansion of city boundaries and an industrial and manufacturing boom in nearby Nashik. The town lies on the northern banks of Saraswati river and is located on the 'golden triangle' of Mumbai-Pune-Nashik.

PAS is supporting Sinnar to achieve its goal in making it an ODF city. For this PAS team conducts various activities, field visits, meetings with the city officials. Presently, OD spot monitoring and awareness generation activities were kept in focus. To undertake

these activities, 5 team members from PAS visited Sinnar. For awareness generation various activities like display of instruction boards and banner at all the strategic locations, conducting meeting with local people at ward and community level was undertaken along with Sanitary Inspector and Health Dept team. Location-wise survey of OD spots and Community Toilets were carried out along with discussion of the issues in each area.

The main activity conducted during the visit was 'Good Morning Pathak' - Squad, which daily started at morning 6:00am. All the ULB staff including Sanitary Inspector Ravi Deshmukh of Health Department, Mr. Vijay Waje of Property tax department, Mr. Sunil Shinde of Atikraman Department and other staff members participated in this 'Good Morning Pathak'. They visited OD spots of 6 areas Gondeshwar temple, Vaiduwadi, I.T.I road (Devi road), Shirdi highway (Sangamner Naka), Pimpri Naka and market yard. Questions regarding the reasons for defecating in the open, why community or public toilet are not used, whether the people have applied under SBM for toilet construction or not, were asked. People who were defecating in open were given a rose by these officials and were told to use Community Toilet/Public Toilet in



the vicinity or to apply under the SBM scheme, if they have enough space for toilet construction. Pas Team was involved during these surveys with the city officials. The major support in implementing this activity was formation of Good Morning Pathak team, preparation of Time table of the OD spot survey and Record keeping of people found defecating in open.



For Awareness Generation activities, PAS team conducted daily evening drills in localities from where least number of toilet applications were received, mostly slums. In this, individual toilet awareness videos were shown to the people and discussions were triggered to know the issues in their locality.



Service Level Benchmarking - Water & Sanitation Services in Urban Maharashtra

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The aim of the PAS Project is to develop better information on water and sanitation performance at the local level. This in turn will be used by the state and local governments for extending services to all strive for financial viability and improve reliability and quality of services. The research will focus on the use of performance indicators and benchmarks to facilitate consistent reporting, monitoring, planning, budgeting, and investing in water and sanitation services in all urban areas of Maharashtra state.

This report is based on data collected from 258 ULBs (excluding Greater Mumbai) in Maharashtra from FY 2010-11 to 2014-15. As per 13th Finance commission and MoUD requirements, the collected SLB information along with the targets is submitted to the GoM which are published under SLB Gazette. The data recorded here is as per the information given by the ULBs.

Maharashtra spreads over an area of 3.08 lakh sq.km, is the second most populous State in India, with a population of 112.37 million as per 2011 Census. It is one of the most urbanized States in the country, with about 45.23 percent of its population residing in urban areas, as against the national average of 31.16 per

cent. It constitutes about 9.29 percent of total country's population. The urban population in Maharashtra is spread over 259 Urban Local Bodies (ULBs) as of 2014-15, comprising 26 Municipal Corporations (MCs), 218 Municipal Councils (MCIs) and 15 Nagar Panchayats (NPs). Municipal Councils are further classified into A, B and C classes according to their sizes and population. (Note: For analysis, Greater Mumbai Corporation is not considered.) The table below gives the classification of ULBs with the range of population in each class.

The population as reported by ULBs (excluding Greater Mumbai) in 2014-15 is 38.13 million as compared to 34.1 million in 2011. The average annual growth rate of population is 3 percent. The population in NPs has increased at highest annual growth rate of average 16 percent as the number of NPs has increased from 7 in 2010-11 to 15 in 2014-15. The area under urban Maharashtra was 6069 Sq Km in 2010-11 which has increased by 9 percent to 6632 Sq Km in 2014-15. The total properties have increased by 19 percent from 7.05 million in 2010-11 to 8.37 million in 2014-15. However, the number of households has increased by 16 percent in the same period. MCs contribute to 69 percent of total properties in urban areas. There are total 4499 election wards as reported by ULBs in 2014-15.

Classification	Number of ULBs				Range of Population
	2010-11	2011-12	2012-13	2013-14 & 2014-15	
State*	248	251	251	258	
MCs	22	22	25	25	> 3,00,000
Class A MCIs	15	15	12	12	> 1,00,000 < 3,00,000
Class B MCIs	59	59	59	59	> 40,000 < 1,00,000
Class C MCIs	145	146	146	147	< 40,000
NPs	7	9	9	15	As Notified
*For analysis, Greater Mumbai Corporation is not considered					

There are 5152 slum settlements/ pockets in urban Maharashtra as reported by ULBs in 2014-15 with 1.62 million households in 2010-11 to 1.83 million households in 2014-15. In 2010-11, 35 cities had reported no slums in their cities which have increased to 40 cities in 2014-15.

Water Supply:

Water is a natural resource, fundamental to life, livelihood, and food security and for sustainable development. To serve the increased population, an average of 7071 MLD of water is produced from various sources in urban Maharashtra as reported by ULBs in 2014-15. 97 percent of water is produced through surface sources, in which 20 percent is through ULB's own water sources, 64 percent is through bulk raw water purchase and 13 percent through bulk treated water purchase. In all the years, maximum losses were reported in distribution network in water supply from water distribution system to the consumer end at 21 percent in 2014-15, followed by losses in transmission mains at 9 percent and then 2 percent in trunk main in 2014-15.

The state level status in terms of data availability, applicability of performance indicators and their weighted average values are discussed as follows:

Average 7 out of every 10 households in urban Maharashtra have individual water supply connection. As the water connection is sometimes shared by more than one household either through domestic or bulk connections, the average dependency ratio is 1.3 household on per connection at state level (here only

households served are considered and not the total households in the city). The minimum coverage is as low as 12 percent reported by Ardhapur while 2 cities (Vaijapur & Karad) have 100 percent coverage.

The per capita availability of treated water at WTP is average 181 lpcd at state level but on an average only 120 lpcd of water is received at consumer end. Average 71 percent of treated water is billed at state level and remaining goes in real and apparent losses. The minimum availability of municipal water is just 8 lpcd as reported by Jat while maximum is 303 lpcd as reported by Lonavala. The lowest percent of losses is 2.5 percent as reported by Rahta as they majorly depend on ground water sources with less pipeline network within the city. However, a city (Purna) has reported highest losses at 75 percent due to old and leaky water distribution network.

The water meters are installed and are functional on average 3 out of every 10 water supply connection (31 percent) which has increased compared to 25 percent in 2010-11. These connections are generally charged on volumetric rates (Rs/KL) based on the volume of water consumed. Remaining water connections are charged on flat rate basis (Rs/Month) irrespective of the volume of water consumed. Only 107 ULBs out of 258 have reported to have water meters with varying extent. Of these, five ULBs (Sawantwadi, Rahimatpur, Tiroda, Malakapur-NP and Panhala) have reported to have functional meters at all the water supply connections while four ULBs (Jalgaon, Parbhani, Mangalwedhe and Dhule) have reported lowest at 0.001 percent as meters are installed on few non-domestic connections.

Year	Source	Water Treatment Plant	Water Distribution System	Water at consumer end	
				Billed	Free
2011	6342	6127	5694	4276	230
2012	6808	6344	5686	4342	229
2013	6789	6574	5614	4378	269
2014	6991	6831	6167	4626	275
2015	7071	6913	6267	4768	280

The average continuity of water supply at state level is 3 hours a day which is almost same throughout the years under consideration. Only one city (Malakapur –NP) has reported to have achieved benchmark of 24 hours of water supply a day. However few ULBs have reported to have supplied water only once a week which gives an average of just a few minutes a day. The lowest supply is reported as average 6 minutes of water supply a day by Malkapur –Class B.

Efficiency in redressal of customer complaints is the only KPI in water supply to have achieved benchmark with state level average at 84 percent. 53 ULBs have reported 100 percent redressal of complaints in 24 hours. The lowest efficiency in redressal as reported by Sindi is 8 percent.

The average quality of water supplied at state level is 96 percent. 99 ULBs have achieved the benchmark of 100 percent quality while the lowest quality reported by Devrukh is 30 percent.

The cost recovery of water related charges has decreased in this period of five years to 76 percent in 2014-15 from 82 percent in 2010-11, out of which only 65 percent is actually collected in 2014-15. 36 ULBs have reported to have recovered the water related cost with more than 100 percent cost recovery. The highest cost recovery is 300 percent as reported by Mahadula which is operated by MJP while the lowest is 6 percent only as reported by Majalgaon. However, only one ULB (Panhala) has reported to have collected 100 percent of the demand raise in water supply charges.

Waste Water & Sanitation:

Urban sanitation in Indian cities has been given low priority and poor awareness for a long period. However, the last decade has seen increased awareness and implementation of sanitation related projects and schemes. Significant facts to be noticed from the state level scenario of 2014-15 are:

Average 9 out of 10 households in urban Maharashtra have access to toilet. The access is calculated through dependency on individual/ shared/ group toilets and community toilets. The average state level dependency on community toilets is 10 households per community toilet seat which is higher than the norm of 7-8 households per community toilet seat. This dependency is even higher in NPs at 13 households/ seat and in MCs at 12 households/ seat. Class A and Class B have reported average 7-8 households/ seat. In 2014-15, 15 ULBs have reported to have 100 percent coverage of toilets, while lowest coverage is 29 percent reported by Maindargi. The coverage has remained in the same range during the last five years, but with the launch of 'Swachh Bharat Mission (SBM)' in 2014 the construction and access to individual toilets are getting increased momentum.

The volume of waste water generated has increased with the increased volume of water supplied in the last five years. The volume has gradually increased from 4079 MLD in 2010-11 to 4667 MLD in 2014-15. As most of the cities are dependent on on-site sanitation in Maharashtra, only 38 percent of waste water was collected through sewerage network and 36 percent was treated in 2014-15. Only 8 percent of total volume of waste water generated was reused in 2014-15.

Year	WW Generated	WW Collected		WW Treated		WW Reused	
	MLD	MLD	Percent	MLD	Percent	MLD	Percent
2010-11	4079	1460	36%	1347	33%	77	2%
2011-12	4088	1539	38%	1426	35%	76	2%
2012-13	4345	1606	37%	1508	35%	121	3%
2013-14	4586	1655	36%	1609	35%	341	7%
2014-15	4667	1793	38%	1679	36%	359	8%

In Maharashtra, toilets in most of the cities are connected to onsite disposal systems such as septic tanks and/or soak pits. In 2014-15, the total number of properties connected to septic tanks in the state is 3.02 million out of which only 4 percent was cleaned against the norm of 33 percent as mentioned in MoUD guidelines. In 2014-15, out of 258 only 33 ULBs have reported to have partial sewerage network in their cities with varying extent of coverage. At state level, 38 percent of properties with toilets are connected to sewerage system out of this 97 percent of properties are from MCs. The highest coverage of waste water network services reported is 92 percent by Navi Mumbai while lowest coverage reported by Amravati is 1 percent.

In 2014-15, out of the 33 ULBs having partial sewerage network in their cities, only 24 ULBs have reported to have efficiency in collection of waste water network. Therefore state level weighted average of only 25 percent of waste water generated is collected and conveyed to treatment and disposal facilities through sewerage system. The highest and lowest efficiency in collection as reported by ULBs is 89 percent (Nanded) and 8 percent (Kalyan Dombivali). In cities with onsite sanitation, waste from toilets is stored in septic tank and/or soak pits which are emptied by suction emptier as and when required. The collected septage is either taken to the nearby Sewage Treatment Plant (STP) or disposed off in the open dump in the city. There are 383 Septage sucking machines available with ULB and private agencies.

In 2014-15, out of 24 ULBs having efficiency in collection of waste water network, 21 ULBs have reported to have secondary sewage treatment plant with adequacy of waste water treatment capacity as high as 249 percent and as low as only 8 percent as reported by Nanded & Aurangabad respectively. The collection efficiency of waste water network and adequacy of waste water treatment plant have gradually increased from 2010-11 with the construction and implementation of sewerage systems in many cities under various centrally and state sponsored schemes and grants.

Only 11 ULBs with sewerage and STP have reported to reuse and recycle treated waste water in 2014-15. Only 8 percent of waste water generated is reused and recycled after treatment. 2 ULBs (Nashik & Pandharpur) have reported to have reused and recycled 100 percent of treated waste water while the lowest extent of reuse and recycling as reported by Navi Mumbai was only 1 percent. However the quality of treated waste water is only 50 percent at state level in 2014-15. Out of 21 ULBs with secondary sewage treatment plants, 17 have reported 100 percent quality; the lowest quality reported by a ULB is 34 percent while 2 ULBs have not tested the samples of treated water.

At state level, only 75 percent of operating expenses in waste water is recovered through the revenue income in waste water management in 2014-15. This has improved from 63 percent in 2010-11. 70 ULBs have reported no cost recovery against the expenses incurred. 50 ULBs have reported to levy waste water related charges in 2014-15. The highest and lowest extent of cost recovery is 388 percent by Kalyan Dombivali and 1 percent by 34 ULBs respectively. But in 2014-15, only 50 percent of the demand raised was actually collected. 3 ULBs (Kamtee, Shirampur and Katol) have reported highest efficiency in collection of waste water related charges at 100 percent, while the lowest was report by 2 ULBs (Amravati & Kolhapur) at 1 percent of the raised demand.

In 2014-15, the coverage of storm water drainage in the state is 43 percent with highest coverage as reported by Mira Bhayandar at 123 percent and lowest as reported by 7 ULBs at 1 percent. 110 ULBs have reported zero coverage by pucca covered drains along the roads. These cities either don't have any drains for storm water or have open drains along the road. However the coverage of storm water drainage has seen improvement in the last 5 years from 34 percent in 2010-11 to 43 percent in 2014-15.

At state level, the average frequency of incidences of water logging/ flooding has decreased

in the last 5 years from 24 in 2010-11 to 11 in 2014-15. The highest number reported by Aurangabad is 90 while the lowest is 1 as reported by 19 ULBs.

Solid Waste Management:

Effective management of solid waste has become a major challenge faced by the ULBs/ city managers in order to make their cities clean and liveable. Appropriate solid waste management of a city is crucial for public health and aesthetic surroundings.

The total urban population in Maharashtra has increased by 12 percent in last 5 years and the number of cities has increased from 248 in 2010-11 to 258 in 2014-15. However, the total volume of solid waste generated in 2014-15 is 4.32 lakhs MT per month which has increased from 3.66 lakhs MT per month in 2010-11 by 18 percent in last 5 years. The average per capita solid waste generation has increased from 358 grams per day in 2010-11 to 422 grams per day.

Of the total 4.32 lakhs MT waste generated in 2014-15, average 4.07 lakhs MT (94 percent) waste by mass is collected per month. Of the total waste collected, average 0.53 lakhs MT (13 percent) waste by mass is segregated per month, 0.93 lakhs MT (23 percent) waste by mass is processed and 0.42 lakhs MT (10 percent) waste by mass is disposed in scientific landfill while remaining waste that was collected is disposed in open dumps.

Significant facts to be noticed from the state level scenario of 2014-15 are:

Average 8 out of 10 households/ establishments in urban Maharashtra are served with household level coverage of solid waste management services in 2014-15, which has increased from 7 households/ establishments in 2010-11. In 2014-15, 8 ULBs have reported to have achieved benchmark of 100 percent coverage of household level coverage of solid waste management services; while minimum coverage is reported by a ULB is 0.02 percent as only markets in this city is served with SWM services. 8 ULBs have reported no door to door collection of municipal solid waste in their cities.

At state level weighted average, the efficiency of collection of municipal solid waste is 92 percent in 2014-15 which has remained in the same range during the period under consideration. However, when the solid waste collected in these cities is calculated by mass in Metric Tons (MT) then 94 percent of total waste generated is collected in 2014-15 compared to 86 percent in 2010-11.

The extent of segregation of MSW, which includes segregation into dry and wet waste as well as waste taken away by recyclers, has increased in these 5 years from 12 percent to 17 percent. The segregated waste has increased from 0.09 lakhs MT to 0.53 lakhs MT and waste taken by recyclers from 0.11 lakhs MT to 0.15 lakhs MT in 2010-11 and 2014-15 respectively. Out of 258 ULBs, 130 ULBs have reported to have segregated waste in 2014-15 with maximum of 100 percent segregation by Dahanu and minimum of 0.01 percent by Ashta and Jalgaon-Jamod.

Year	MSW Generated		MSW Collected		MSW Segregated		MSW taken by recyclers		MSW processed		MSW Scientific Landfill	
	Lakhs MT		Lakhs MT	%	Lakhs MT	%	Lakhs MT	%	Lakhs MT	%	Lakhs MT	%
2010-11	3.66		3.14	86	0.09	3	0.11	3	0.81	26	0.41	13
2011-12	3.67		3.21	87	0.1	3	0.08	3	0.88	28	0.44	14
2012-13	3.99		3.66	92	0.39	11	0.09	2	1.22	33	0.37	10
2013-14	4.06		3.71	91	0.46	12	0.14	4	1.32	36	0.35	9
2014-15	4.32		4.07	94	0.53	13	0.15	4	0.93	23	0.42	10

The extent of municipal solid waste recovered, which includes processing of solid waste in treatment plant as well as waste taken away by recyclers, has increased in 2012-13 and 2013-14 to 34 percent from 25 percent in 2011-12. The increase is observed as the number of ULBs reported to have recovered MSW has increased from 122 to 131. In 2014-15, though the number of ULBs reported to have recovered MSW has increased to 136, but the state level weighted average has decreased from 34 percent to 23 percent as the 2 ULBs with major MSW recovered, Jalgaon and Ichalkaranji, have reported that their treatment plant was not functional this year. The amount of MSW actually processed in treatment plant has increased from 0.81 lakhs MT in 2010-11 to 1.32 lakhs MT in 2013-14 and has decreased to 0.93 lakhs MT in 2014-15.

Only 6 ULBs (Nagpur, Navi Mumbai, Nashik, Pune, Pimpri Chinchwad and Panvel) in the state have reported to have scientific disposal landfill sites in their cities. The state level weighted average for the extent of scientific disposal of MSW has increased from 9 percent in 2010-11 to 25 percent in 2014-15, with the amount of waste disposed in these sites as 0.42 lakhs MT.

The cost recovery in SWM services has decreased in last 5 years however the collection efficiency of these SWM charges has increased during the same period. In 2014-15, 183 ULBs have reported no revenue income against the cost incurred in solid waste management services. The highest extent of cost recovery reported by Solapur is 72 percent while lowest reported is 0.1 percent by Ashta. The collection efficiency of SWM charges is reported highest as 100 percent by 2 ULBs while lowest reported is 0.98 percent by Kagal in 2014-15.

Observations and Way Forward:

The analysis of the state's UWSS sector throws up areas of improvement that need to be addressed immediately by the state. The areas that the PAS

project will focus upon include improvements to be carried out in UWSS database systems, process/policy systems, existing infrastructure system and creation of new infrastructure.

1. Improvements in UWSS database systems:

- Linking Service Level Benchmarking information with e-governance system.
- Developing an integrated database on demographics and services in slum settlements.
- Developing a comprehensive water quality monitoring system linked to the complaint redressal system.
- Database on on-site sanitation system.
- Introduce automated systems for billing and collection processes.

2. Enhancing process/policy systems:

- Introduce measures to identify and regularize illegal connections where possible.
- Introduce adequate monitoring in quality of services especially in frequency and duration of water supply.
- Initiate reforms in the municipal recruitment system.
- Introduce policies to provide water and sanitation services in slum settlements at more affordable rates as well as simplify connection procedures.

3. Improvements in existing infrastructure systems:

- Institute asset management plans for existing and newly created infrastructure especially in sewerage and SWM sectors.

4. Creation of new infrastructure:

- Create septage treatment facilities to address the high dependence on onsite sanitation systems.



Support to Wai to become Open Defecation Free

Wai is a C Class municipal council located in Satara District. As per Census 2011, the population of the town is 36,025 which comprises of 7580 households. Of these households 5145 (68%) households had access to individual toilets and rest 2435 (32%) households did not have access to individual toilets out of which 2300(30%) used community toilet and around 135(2%) defecated in open. Under the Swachh Bharat Mission / Swachh Maharashtra Abhiyan the city had launched a city level toilet demand based scheme of 'own toilets'.

With effort of Wai Municipal Council (WMC) and technical support from PAS project team of CEPT University, Ahmedabad and All India Institute of Local Self Government, Mumbai, Wai was declared as Open Defecation Free city on October 2, 2015. After achieving the ODF status, the city now aims to increase the coverage of individual toilets. Till the month of May, WMC had received around 292 applications. Work order for toilet construction was distributed to around 132 applications out of which 102 had finished construction.

During study of PAS project in Wai, it was observed that 'lack of finance' is one of the reasons which keep people away from constructing their own toilet. Thus, besides the subsidy, people might need to borrow loan to overcome the financial constraints. Initially, PAS project team conducted an assessment to

gauge households' willingness and capacities to take "toilet loans" and on the other hand, lenders' willingness to levy "toilet loans". Possibility in terms of mobilizing such loans by women through Self Help Groups (SHGs) formed under WMC was done for a few SHGs. Based on the affirmative result of this study, it was decided to further work with the SHGs and help them in constructing their own toilets. Thus, in the month of March, an organization was appointed as consultant to help the SHGs in articulating their demands of loan and in choosing appropriate option of borrowing the loan. Few key outcomes expected from the consultants are to assess the SHG details, assess the lenders in the city, generate awareness about toilets to SHGs and facilitate them to borrow sanitation loans. They visit the SHGs in Wai to assess their sanitation and financial condition, willingness to borrow loans, availability of documents etc. SHGs are motivated to apply for the scheme and construct their own toilet. Consultant also guides the SHGs in this entire process and is also exploring the various options from where loan can be borrowed.

A meeting of CEPT University and AILSG with WMC was conducted on 19th May in Mumbai to review the on-going activities as well as talk over those which needs to be undertaken in the city. Technical issues faced by the city to improve its sanitation condition were discussed during the meeting. A detailed plan of activities to be undertaken was drafted towards the end of the meeting to guide the further work in the city.

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