



ASSESSMENT OF COMMUNITY AND PUBLIC TOILETS IN PERIYANAICKEN-PALAYAM AND NARASIMHANAICKEN-PALAYAM

April 2018



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For Citation: TNUSSP, 2018. Assessment of Community and Public Toilets in Periyanaicken-Palayam and Narasimhanaicken-Palayam.

DOI: <https://doi.org/10.24943/tnusspppn.20180403>

This document is produced as part of Tamil Nadu Urban Sanitation Support Programme (TNUSSP). TNUSSP supports the Government of Tamil Nadu (GoTN) and cities in making improvements along the entire urban sanitation chain. The TNUSSP is being implemented by a consortium of organisations led by the Indian Institute for Human Settlements (IIHS), in association with CDD Society, Gramalaya, and Keystone Foundation.

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2. BMGF funding acknowledgement: This Research / Work was supported by Bill & Melinda Gates Foundation.

3. Acknowledgement: We thank the Executive Officers of PNP and NNP Town Panchayat and their team of officers for their support and sharing relevant data.

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Abbreviations

BMGF	Bill and Melinda Gates Foundation
CBO	Community-Based Organisation
CPHEEO	Central Public Health and Environmental Engineering Organisation
CT/PT	Community Toilet/Public Toilet
FSTP	Fecal Sludge Treatment Plant
GoI	Government of India
GoTN	Government of Tamil Nadu
IHHL	Individual Household Latrine
MAWS	Municipal Administration and Water Supply
MBC	Most Backward Caste
MoUAE	Ministry of Urban Affairs and Employment
NDMC	New Delhi Municipal Corporation
NGO	Non Governmental Organisation
NNP	Narasimhanaicken-Palayam
O&M	Operation and Maintenance
OBC	Other backward Caste
OD	Open Defecation
ODF	Open Defecation Free
OSS	On-site Sanitation System
PCA	Principal Component Analysis
PNP	Periyanaicken-Palayam
PPE	Personal Protection Equipment
PSC	Public Sanitary Conveniences
RCC	Reinforced Cement Concrete
SBM	Swacch Bharat Mission
SC	Scheduled Caste
SSP	Slum Sanitation Programme
ST	Scheduled Tribe
STP	Sewage Treatment Plant
TNUSSP	Tamil Nadu Urban Sanitation Support Programme
TP	Town Panchayat
TSU	Technical Support Unit
ULB	Urban Local Body
USI	User Satisfaction Index

Executive Summary

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Executive Summary

Rapid urbanisation in Indian cities has been accompanied by increasing slum population, without adequate sanitation facilities. Community toilets (CTs) and public toilets (PTs) help increase access to sanitation for poor households and migrant/floating populations. The Swacch Bharat Mission (SBM) sees construction of CTs as one of the means to ending open defecation (OD) in urban slums. Having PTs in places where there is a considerable floating population, such as markets and train stations, is also seen as important to address sanitation needs of city dwellers.

E1.1 Study Context

The two contiguous Town Panchayats (TPs) of Periyanaicken-Palayam (PNP) and Narasimhanaicken-Palayam (NNP) in Coimbatore district of Tamil Nadu have a total of 23 CTs and two PTs. An average of 12 per cent of the population of PNP and NNP, mostly the urban poor, are estimated to use public conveniences – as opposed to nine per cent of people in all of Tamil Nadu. In this context, a CT and PT assessment at PNP and NNP was undertaken to assess the extent to which these facilities help reduce OD in these two towns. This study looks at the physical infrastructure and management of CTs/PTs, user satisfaction and usage timings to understand its impact on usage. Also, it aims to capture associated socio-economic and behavioural aspects of the community to see if they are contributing to the utilisation pattern of these CTs and PTs.

E2.1 Objective and Methods

A study was conducted to assess CTs and PTs in the two Urban Local Bodies (ULBs) with an aim to

1. Assess the condition of the existing facilities
2. Understand the functionality of the toilets
3. Analyse the operational models of the CT
4. Identify the areas of improvements to develop a plan for the CT

E2.1.1 Methods

The assessment study was conducted in all 25 CTs and PTs across two TPs during the period January to April 2017. Of the 25 facilities, 23 are CTs (of which two are exclusively for women and one for men), one is a PT and one is a urinal. Four CTs and one male urinal are not in use for various reasons – vandalism, community resistance due to misuse of the toilet, conflicts within community and local administration.

Various methods were used to obtain the required information

- A structured questionnaire to understand the performance of each facility in terms of physical infrastructure – super structure and substructure of the toilet blocks; water and electricity supply; waste disposal facilities, practices and drainage; and operation and maintenance (O&M) practices. Inputs from visual inspection and from caretakers were recorded.
- To understand the usage pattern of each facility, user tallies were kept for a day for men, women and children.
- Exit interviews were conducted among facility users to get their perspective on the facility, based on which a composite User Satisfaction Index (USI) was developed

- Interviews in communities adjacent to each CT were carried out to get the perspective of non-user households on the facility. Additionally, household interviews were carried out in non-slum areas where CT and OD spots co-exist
- Focus group discussions were held with sanitation workers in PNP and NNP.

E3.1 Key findings

Infrastructure: The public sanitary conveniences (PSCs) were spatially well distributed across the wards in the TP. Twenty-three CTs were studied, which together offer 244 toilet seats – 109 for men and 125 for women. However, with four CTs not in use – three in NNP and one in PNP, the effective number of seats available for use reduced by 19 per cent to 198 – 90 for men, 106 for women, and two for those with physical disabilities.

Twenty of the facilities had separate entrances for men and women, with 91 per cent showing signage. One CT, although not in use, had a separate seat for children and two facilities had separate seats for those with physical disabilities, although one of them was not in use. Steps were the main access mode to all CTs and those that had seats for persons with disabilities had both a ramp and steps. Just five of the 23 CTs had a waiting area for men and women. Squatting pan was the predominant type of toilet seat reported in 91 per cent of the facilities, except in CTs with seats for those with disabilities, which were equipped with a western closet. All the CTs had adequate provision for ventilation and 96 per cent of CTs had plenty of natural light within the enclosures. The average dimensions of the cubicles for men and women, and rear clearance, were above the recommended norm.

Despite the presence of toilets, one key issue was that 39 per cent of the facilities did not have doors for all cubicles. Further, locks were fully functional only in 44 per cent of the CTs with the rest having either broken locks (18 per cent) or partially lockable latches (39 per cent). Partition walls of adequate height separated the male and female sections in 85 per cent of the CTs, and the rest had separate premises for men and women. Four CTs had bathing arrangements and three CTs had washing arrangements, but separate bathing and washing facilities for men and women were present only in one CT.

None of the CTs had a washbasin or soap for hand washing, napkin dispenser, flies/vector control machine, or cleaning equipment during the study. Of the 19 CTs in use, four did not have mugs and buckets, and users were required to carry their own mug.

Water: All CTs were connected to panchayat water supply, with more than half of them reporting 24-hour water supply. Thirty per cent had restricted supply, and hence had a storage tank whose capacity covered all usage hours. Thirteen per cent of facilities had water supply for just 6 hours. All CTs had water storage tanks which were not necessarily adequate for the number of seats. Just one facility has a backup in case of water supply failure, and others would have to necessarily shut down if water supply is disrupted.

Power: Round-the clock power supply from the Government was available for all the facilities. In five (one in use and four not in use) of the 23 CTs, power supply was disrupted and only nine CTs (of which three are not in use) have provision for lighting in each cubicle.

Cleanliness: Just half the facilities had their entrance and front side clean, while toilet seats, urinals and cubicles were clean in just 25 per cent of the facilities. Water logging on the floor was observed in 40 per cent of the facilities, while in an equal percentage of the facilities, waste such as sanitary napkins, its packaging, etc were placed on the roof.

Containment: All the CTs had a septic tank, with manholes ranging from two to six in number in 91 per cent of the facilities. Complete dimensions of the septic tank could not be measured but they were not designed as per appropriate standards and lacked features such as a baffle wall and connection to a soak-pit. Although 83 per cent of CTs had a vent pipe, it was broken in nearly half of the facilities that had them. In 91 per cent of the 23 facilities, grey water was separated from black water and drained into stormwater drains or into open fields.

Waste disposal: Just three of the 19 functional CTs had a waste disposal bin. Incinerators for disposing of menstrual waste were found in three CTs (none were in the CTs exclusively meant for women), although all are currently out of order. Eventually, all menstrual waste was burnt in the open.

Maintenance: All CTs were managed by ULBs and did not have any fixed operating times, nor was there any fixed schedule for cleaning toilets. In PNP the reported cleaning schedule was everyday, while in NNP it was every alternate day in 73 per cent of the facilities and once a week in 27 per cent of the facilities. Municipal workers did not use personal protection equipment (PPE) and the common practice while cleaning waste-choked pipes was either to use bare hands or a stick. None of the TPs could provide the exact periodicity of the desludging of their containments. In PNP, both government and private cesspool vehicles were in use, but in NNP only private cesspool vehicles were used. All major and minor repairs were financed by the TPs, although cleaning in NNP was irregular. The sanitation inspector and supervisors in the TPs are the nodal persons for all complaints.

Performance: To quantify and compare the performance of the facilities, 30 indicators were listed and assigned marks (a facility could score a max of 30). For the purpose of analysis, indicators were grouped in five broad thematic areas – cleanliness, repair & maintenance, access & safety, wastewater management and water & hygiene. Nine of the 24 facilities scored over 20; three scored less than 10. Cleanliness was poorer in PNP than NNP, despite all the facilities in the former reporting to have been cleaned every day. The toilets in many facilities were also in urgent need of repair and maintenance. During the assessment many gaps were noted – electrical fittings were non-functional (42 per cent in PNP and 13 per cent in NNP), poor drainage and clogging was noted (25 per cent in PNP and 63 per cent in NNP), and water closets were broken (33 per cent in PNP and 50 per cent in NNP) across facilities. In general, more repairs were needed in NNP facilities as compared to those in PNP, although both need to improve. The CTs fared well in access and safety indicators, with reasonable working hours (16 hours), well-marked access and safety for women (75 per cent). Wastewater management needed immediate attention as a third of the containment structures were found to be damaged, with visual exfiltration indicating black water overflowing in more than a third of facilities with manhole covers open. In terms of hygiene, while water was available for cleaning and tanks were noted to be clean, the absence of soap for hand wash was a concern which could easily be addressed.

User tallies: A user tally was done to assess the toilet usage per day and to understand the footfall during peak hours. The average number of males using CTs was 110 (ranging from 63 to 201), while for females it averaged at 79 (ranging from 26 to 168). Peak usage time was typically between 6 a.m. and 10 a.m. and stabilised after that to peak again after 6 p.m., especially among child users. As per SBM norms for CTs, one seat is meant to serve 35 males and 25 females. In one of the 11 CTs in PNP, the

usage ratio was above the norm for males, while in NNP, in two of the eight CTs in NNP, for both men and women, the usage per seat was higher than the norm.

Exit interviews: Exit interviews were conducted at 19 facilities with 230 respondents, 55 per cent of whom were women. In the sample, 82 per cent of the respondents did not have an Individual Household Latrine (IHHL) while the rest had one but still used CTs. About 65 per cent of the households without IHHLs planned to construct one and 60 per cent of them were aware of SBM guidelines.

Half the households reported travelling for less than 50 metres (m) to reach the CT, while 30 per cent said they travelled between 50 to 100 m. Water scarcity (23 per cent), insufficient number of toilet seats (19 per cent), and travelling for work (21 per cent) were among the main reasons that people reported or using CTs despite having IHHLs, while 28 per cent offered no response. About 83 per cent of the CT users reported using the CT facility for 3-5 years and 77 per cent of the users reported paying Rs. 1–2 for using CTs.

Users were asked questions about maintenance, to which their responses could be 'fully agree', 'partially agree', 'disagree' or 'no response'. A majority of the NNP users agreed that the facility was easily accessible, while just 54 per cent of the PNP users fully agreed to the statement. On the safety of access, 83 per cent of the NNP and 44 per cent of PNP users partially agreed (which is in contrast to the high performance score on safety). While majority of the users (85 per cent) were satisfied with cleanliness in NNP, in PNP just 35 per cent of the users were satisfied fully with cleanliness. The majority of users in NNP (85 percent) and PNP (61 per cent) reported not having to wait long to use the toilet. User responses indicate that adequacy of water is an issue with a third of the users. Users were also not happy with the response of the sanitation workers to complaints raised.

User responses on the quality of services in CTs were compiled as a USI, which ranged from 60-97, with 14 of the 19 CTs scoring over 80 per cent. All CTs in NNP were rated over 70 by users, with the highest being 82. In contrast, in PNP there was wide disparity, with one facility receiving a rating of 50, which compared poorly against the highest rating of 81. The primary suggestion (from about a fourth of users) to improve CTs was to improve cleanliness, with nearly two-thirds not offering any suggestion.

E4.1 Perception of CTs held by the households near the facility

In the sample households in the catchment area, 91 per cent had access to water within their premises, while just 83 per cent of the households had a toilet, of which 85 per cent of the households reported being used by adults. Households with adults not using IHHLs reported using either CTs or engaging in OD. Poor hygiene and maintenance are the main reason people preferred OD to using CTs. Half the households without toilets prefer OD, about 10 per cent used CTs or PTs, and an equal percentage used shared toilets. Just a fifth of the households with toilets thought CTs were clean, while 44 per cent perceived them to be unhygienic with poor cleanliness, and a third had no opinion.

E4.2 Perception of CTs held by the households near the facility in non-slum areas

Purposive sampling of households without toilets near the CT in non-slum areas revealed that just 62 per cent had access to water on the premises, and 99 per cent did not have toilets, thereby resorting to OD (93 per cent). Members from these households travelled anywhere between 500 m to 1 kilometre (km) for OD, despite the fact that for the majority of them, the nearest CT was less than 300 m away. About half the households thought the nearby CT had poor standards of cleanliness, while 36 per cent

did not offer any comments. Lack of cleanliness (46 per cent), long queuing times (22 per cent) and lack of water (6 per cent) were the primary reasons why households preferred OD over CT. About half the households felt that increased cleanliness and proper repair and maintenance would improve CT usage, while 49 per cent offered no suggestions.

E4.3 PT: Condition assessment and user feedback

There is only one PT in PNP, which is located in the bus stand. It has separate signage and entrances for men and women, a bathing facility for women, and a toilet for physically challenged persons that was not usable at the time of the study. Although doors were provided in all cubicles, all doors had broken latches, with all basic features – soap, napkin/hand drier, fly control, and cleaning equipment – missing at the time of the study. Plastic mugs and buckets were available. Waste bins were available within the premises and menstrual waste was disposed of with municipal waste.

The septic tanks lacked standard features such as a baffle wall and a soak-pit, and although vent pipes were fitted, they did not have fly screens. Grey water was separated from black water and grey water flowed into the adjacent storm water drain. The facility had 24-hour water supply and continuous power supply was available, with provision for lighting in each cubicle.

The facility was managed by a contractor who operated it between 5 a.m. and 10 p.m. with separate user fees charged for urination, defecation and bathing, with accounts being maintained informally. Cleaning was done on a daily basis. Cleaners used PPE and choked toilets were cleared with a pump and string.

User perspective: In the sample, 42 per cent of the users were regular, 17 per cent were weekly users and 33 per cent used it rarely. About 58 per cent of the users paid on a daily basis, while 7 per cent paid on a weekly and 5 per cent on a monthly basis. Two thirds of the paying users felt the fee was nominal while 22 per cent did not think so. Just 20 per cent of the users reported being satisfied with current management, while 70 per cent felt unsatisfied. About a fifth of the users suggested improving cleanliness, while about half the respondents did not offer any suggestions.

E5.1 Conclusion and Way Forward

The existing network of CTs and PTs located within short distance of needy slum households has served to offer basic sanitation services to them and thereby reduced OD in the two TPs. User feedback points to lack of cleanliness, repair & maintenance as key barriers to further access to these facilities. Facility utilisation in terms of number of users per seat was well within norms in a majority of facilities, although peak-time queuing does occur. Location, quality of fittings and cost were not mentioned as barriers by users, although safety aspects had been highlighted as concerns. Further, wastewater management and solid waste management practices need to be reviewed and considerably improved.

E5.1.1 Recommendations

1. To improve access to sanitation, the primary focus should be on renovating current facilities to meet user expectations and also re-operationalising those that are not in use. While renovating, the opinions of non-users living close to the facility (and who are directly impacted by the facility) should also be taken, as evidence suggests that certain toilets are not in use because of opposition from them.

2. With cleanliness and maintenance being the major issue among users and key barrier to access, O&M mechanisms need to be reviewed and redefined. Fixed cleaning schedule, designated sanitation workers from the TP along with provision of appropriate equipment will enhance cleanliness. Use of PPE should be made mandatory.
3. If OD needs to be completely eradicated then along with cleanliness, the number of toilet seats has to be increased with special consideration for children and those with physical disabilities.
4. A minimum user fee could be charged for CT users as it will increase ownership among users and also contribute to its economic sustainability.
5. Containments in CTs need immediate attention with reconstruction to comply with the guidelines for septic tanks and prevent visible exfiltration. Grey water management is another area that needs proper planning and implementation. Solid waste/menstrual waste management needs to improve with provision of dustbins in all facilities and repair or replacement of non-working incinerators. Also, incinerators need to be installed in toilets which do not have one presently.
6. Guidelines on construction and management of CTs/PTs with the aim of assisting ULB officers and city planners in planning, design, implementation, and O&M of CTs and PTs will be useful.



Introduction

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1. Introduction

1.1. Tamil Nadu Urban Sanitation Support Programme (TNUSSP)

The Government of Tamil Nadu (GoTN) has prioritised the full sanitation chain, including the strengthening of septage management as an economical and sustainable complement to network-based sewerage systems. The Bill and Melinda Gates Foundation (BMGF) is supporting the GoTN to achieve the Sanitation Mission of Tamil Nadu through the Tamil Nadu Urban Sanitation Support Programme (TNUSSP). Towards this, a Technical Support Unit (TSU) has been setup within the Municipal Administration and Water Supply (MAWS) department. Funded by BMGF, TSU comprises of a consortium of organisations led by the Indian Institute for Human Settlements (IIHS), and includes Keystone Foundation, Gramalaya and Consortium for DEWATS Dissemination (CDD) Society.

TNUSSP was designed to support GoTN and selected cities in making improvements along the entire urban sanitation chain. The TSU provides support for improved sanitation via the following eight program components that will be implemented at the state level and in the demonstration sites: a) Improved Enabling Environment and Governance; b) Engineering and Planning; c) Implementation Support; d) Behaviour Change and Communication; e) Enterprise Development; f) Capacity Building and Training; g) Knowledge Management and h) Monitoring, Learning and Evaluation.

The city of Tiruchirappalli (Trichy) and the two TPs of PNP and NNP in Coimbatore were chosen for developing demonstration sites. Through the demonstration sites, TNUSSP aims to offer strategic support to the GoTN in developing workable approaches to addressing the sanitation situation at various levels, working alongside the existing network of institutions and stakeholders.

1.2. Town Panchayats of PNP and NNP

The TPs of PNP and NNP are in Tamil Nadu's Coimbatore district to the north of Coimbatore city, along Highway No. 67 going towards Mettupalayam town. NNP is situated 5 km ahead of PNP on the same road.

Table 1.1: Characteristics of PNP and NNP

Sl. No.		PNP	NNP
1	Classification	Class III town	Class IV town
2	No. of wards	18	15
3	Population	26,000	17,900
4	Households	7,400	5,023

Source: Census 2011

In 2011, in PNP, 83 per cent reported access to individual toilets, 14 per cent depended on PSCs, and 3 per cent had reported defecation in the open (Census, 2011). In 2011, in NNP, 75 per cent had access to individual toilets, 20 per cent depended on PSCs and 5 per cent defecated in the open (Census 2011).

Improving access to IHHLs through SBM-U is one of the priorities for the TPs in PNP-NNP. Using a community-led sanitation approach, the TPs have identified select wards with the most number of

households without toilets. A guidebook on how to construct a sanitary toilet with the correct sub-structure within the stipulated funds has been prepared for ULB officers.

As there are no underground sewer networks in the two TPS, on-site sanitation systems (OSSs), especially septic tanks, followed by pits, are widely used. However, many tanks have not been built as per Central Public Health and Environmental Engineering Organisation (CPHEEO) norms and lack typical features of a septic tank such as a vent pipe, baffle wall and watertight compartments. While the two TPS have private desludging operators registered with the TPS offering desludging services, a fecal sludge treatment plant (FSTP) as a part of TNUSSP is currently being built to promote safe disposal of fecal sludge.

1.3. Urban Sanitation in India

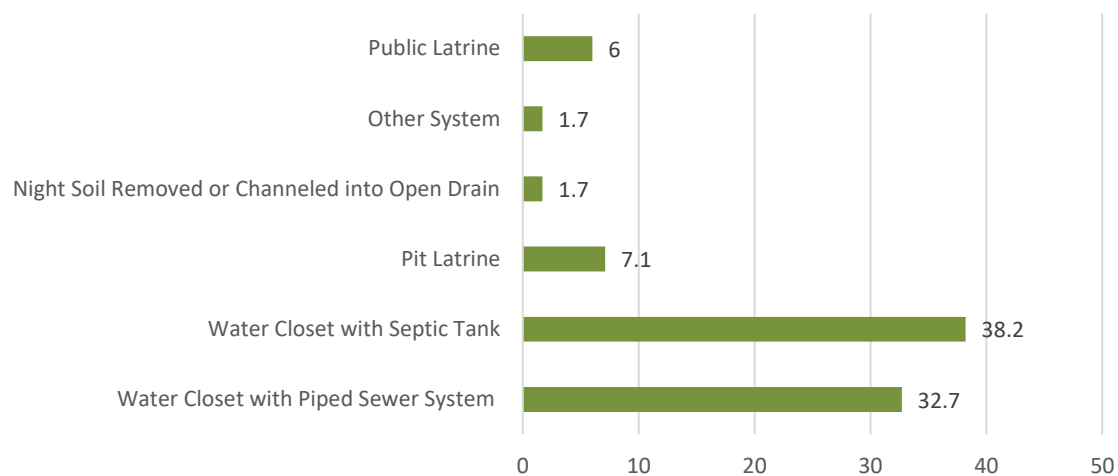
Urban sanitation in India faces deficits along the entire sanitation chain from access to toilets, containment, emptying, conveyance, treatment and reuse/disposal. About 19 per cent of urban households do not have access to household toilets and use either public latrines¹ (6 per cent) or defecate in the open (12.6 per cent), with this deficiency in access to safe sanitation being more pronounced in urban slumsⁱ (Census 2011a). Slums, which are typically overcrowded and lack quality shelter and access to basic amenities such as safe water and sanitation, account for 12 per cent of the urban population. At the national level, 34 per cent of slum households lack access to household toilets and use either PTs (15 per cent) or defecate in the open (19 per cent) (Census 2011a).

Beyond issues of household access, deficiencies in containment, conveyance and treatment go on to compound the urban sanitation problem. Septic tanks, which are the predominant household containment structures (38.2 per cent), are often poorly constructed, do not conform to CPHEEO norms and are not regularly cleaned (Figure 1.1). Collection and conveyance, which is typically handled by private sector operators using vacuum suction trucks, is not handled safely and fecal sludge is not disposed off safely.

Equally, severe shortfall in facilities for safe wastewater collection, conveyance and treatment exists in networked systems. Only 33 per cent of urban households are connected to a sewer system, and most of these households are located in large urban areas. In addition, the installed treatment capacity of metropolitan cities, Class I and Class II towns is 38 per cent of total estimated sewage generated, and utilisation of installed capacity is at 81 per cent (CPCB, 2015). Further, issues of O&M with sewerage networks as well as Sewage Treatment Plants (STPs) exists.

¹PTs have not been explicitly defined and is a latrine which is accessible to any member of the public either on payment basis or free.

Figure 1.1: Household Sanitation Arrangements (% of Households)

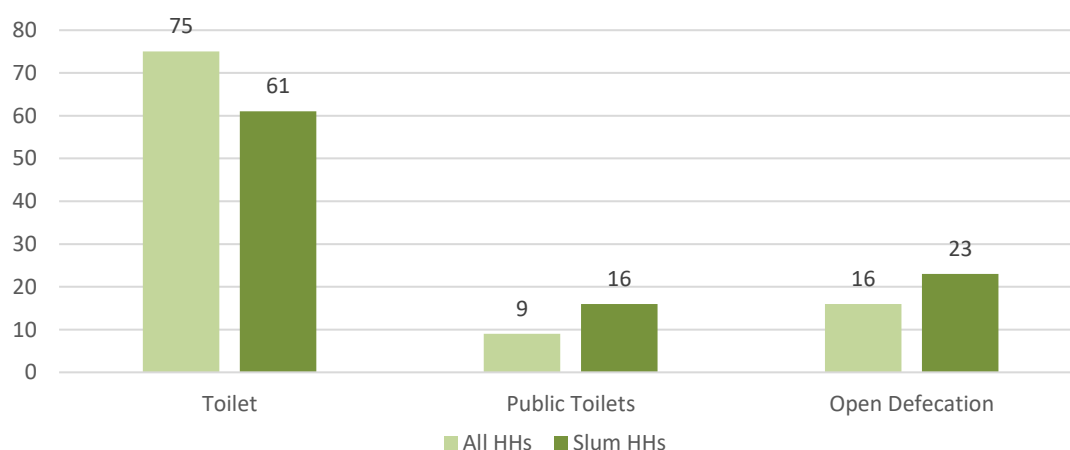


Source: Census, 2011a

1.4. Urban Sanitation in Tamil Nadu

Tamil Nadu is the most urbanised among the larger states in India. In 2011, about 75 per cent of urban households in Tamil Nadu had toilets within their premises, 9 per cent used PTs, and 16 per cent resorted to OD (Census, 2011a) (Figure 1.2). The toilet access in slums is particularly poor, with 39 per cent of the households not having access to toilets – 16 per cent use CTs while 23 per cent defecate in the open.

Figure 1.2: Household Sanitation Arrangements in Tamil Nadu (% of Households)



Source: Census, 2011a

Of the households that have toilets, 58 per cent are connected to septic tanks and improved pits, 40 per cent have sewer connections, and 2 per cent have unimproved toilets (Census, 2011a). While OSSs are the predominant household arrangement, often their construction does not conform to CPHEEO norms. Typically, septic tanks are oversized and lack features of safe containment such as soak-away pits, baffle walls, air vents or manhole covers. Further, OSSs are not regularly cleaned by households, and cleaning is often triggered only by visual exfiltration or smell from septic tanks (TNUSSP, 2016). In Tamil Nadu, septage collection and transportation is mostly done by private vehicle operators (some ULBs have their own vehicles), using good quality purpose-built vehicles. Amidst growing pressures of urbanisation, the existing sewage treatment capacity is less than the actual sewage generated in Tamil Nadu (Reddy, 2015). While there is inadequate treatment capacities for networked sewers, the conditions were even worse for septage. The septage is often disposed of into natural stormwater drainage systems or into a nearby surface water body.

Over the years, GoTN has focussed on construction of CTs as an alternative to address the sanitation needs of slum households. A major thrust towards this was provided by the Integrated Sanitation Programme, implemented in Tamil Nadu between 1999-2004 using a community demand-driven approach with the O&M of the sanitary complex being the responsibility of Community-Based Organisations (CBO). Under this, 525 sanitary complexes have been constructed by the ULB and 720 toilets for women and children have been constructed (MSSW, 2004). This programme provided a package of public sanitation services including separate toilets, separate bathing and washing areas, with additional facilities like water supply, lighting, garbage collection, sewerage and approach roads for the urban poor.

With an aim to make the state Open Defecation Free (ODF) by 2015, GoTN had undertaken toilet construction since 2012. Towards this end, the focus has been on construction and improvement of toilet infrastructure across the state by renovating old toilet structures, building new individual toilets and CTs/PTs. Under SBM, 13,285 CT seats and 1,220 PT seats have been constructed in urban areas² (SBM Urban 2017). The state has also introduced low-cost O&M toilets – ‘Namma Toilets’ – in urban locations.

1.5. Community Toilets and Public Toilets

1.5.1. National Policy

Sanitation in India is a state subject and with the enactment of the 74th Constitutional Amendment, sanitation provisioning falls under the purview of the ULBs within the state. In reality, the Government of India (GoI) has played a significant role in development of the sector by means of significant investments, setting standards, and formulating various policy guidelines.

CTs and PTs are seen as central to promote sanitation access to the under-served and poor population. The Ministry of Urban Affairs and Employment (MoUAE) in 1995 issued the first set of guidelines for implementing agencies on issues related to user preferences, designs, construction, and O&M of CTs. In 2005, urban infrastructure, including water and sanitation, got a fillip with the GoI flagship urban development programme: the Jawaharlal Nehru National Urban Renewal Mission and Urban Infrastructure Development Scheme for Small and Medium Towns. The two programmes had a substantial portion of the investments in select 65 urban centres. The Rajiv Awas Yojana launched in 2009 envisaged a ‘slum-free India’ and focussed on improving and provisioning of basic civic infrastructure and social amenities in the slums.

²A total of 2,73,628 IHHLs

The National Urban Sanitation Policy, 2008, clearly sought to address the issue of community services in non-notified slums. The policy recommends delinking the issue of provision of basic services including sanitation from those of land tenure, and upholds the right of every urban dweller to minimum levels of sanitation, irrespective of legal status of land, while clearly stating that provision of basic services to the poor does not entail the dweller to any rights on land.

SBM Urban (SBMU), a GoI flagship programme launched in 2015 with the aim of eliminating OD, promotes construction of individual toilets wherever feasible and CTs and PTs in other places.

Box 1.1: Difference between a CT and PT

CTs are typically located in slums or near them and have a set of core users who are slum residents, while the facility could also be used by a floating population. Usage is either free or on payment basis and the facility could be managed by community groups, non-governmental organisations (NGOs), ULBs or private agencies.

PTs usually are located in urban commercial spaces such as markets, trains and bus stations, and serve a high number of people from the floating population. Residents of the neighbouring areas can also use the facility. Usage is either free or on payment basis, and management varies from ULBs, NGOs to private organisations.

Source: TNUSSP and WSP (2016)

1.5.2 Relevance and Challenges in Managing CTs and PTs

To address the immediate sanitation needs of the urban poor and make an impact on public health, ULBs (and NGOs) have constructed CTs for local slum residents and PTs for the floating population in crowded public spaces.

CTs have played an important role in enhancing access to sanitation, especially where individual IHHL toilets may not be feasible on account of space, tenancy issues, tenure issues and cost constraints. In keeping with the constitutional obligation, many ULBs have constructed CTs and also undertaken their O&M.

ULB-managed toilets are poorly maintained for lack of: ownership among users; dedicated staff for maintenance and supervision, and payment for service rendered. Community groups or users are seldom enrolled in the design and planning stage in toilets constructed by ULBs, and their inputs in terms of preference for location, design and safety are never factored in. In the absence of their participation in these crucial stages, there is no accountability to the ultimate users, nor do they demonstrate ownership of the facility. Secondly, ULBs have been building and managing public sanitary complexes without the necessary institutional capacity for service provision. CTs constructed by ULBs are also maintained by conservancy workers in wards, in addition to their other responsibilities and work under the supervision of sanitation officers. However, in practice the workers do not maintain them and local communities are unable to demand any accountability from them. Thirdly, high footfall CTs in dense urban settlements require continuous maintenance, which has cost implications for both material and manpower. With facilities maintained by ULBs not being operated on a pay-and-use basis, these costs are left to be covered by the ULBs. In the absence of adequate financial and human resources

for maintenance and lack of community ownership, these facilities fall in to disrepair within months of operation, forcing people to defecate in the open (WSP (2016); Burra, S, Patel, S and Kerr, T(2003)).

Institutional structure and organisational arrangements also contribute to poor service delivery. For instance, in Chennai, the problem with ULB-managed toilets is that they have to coordinate across various departments to operate the toilets. While the ULB is responsible for PTs, construction is done by the Building Department, electricity by the Tamil Nadu Electricity Board, Water Supply is provided by the Chennai Metropolitan Water Supply and Sewerage Board, while cleaning, again, is the responsibility of the Chennai Municipal Corporation. Coordinating across all these departments to run one facility has implications on service quality (Padmanabhan and Shekhar, 2012). Further, despite the guidelines on CTs promoting usage on payment basis, the facilities are free to use, which adds to the strain on ULB resources.

The following key deficiencies in CTs have been identified: lack of cleanliness and poor up-keep, particularly in the case of 'no-pay' toilets; insufficient water supply and lighting; inappropriate location; poor construction standards; insecurity, especially of female users; and inadequate funds for O&M (MoUAE1995).

The right operational and management models are central to making CTs functioning and sustainable. To address this, MoUAE issued detailed guidelines on all stages of CT development – planning, design, construction, and O&M of CTs (Annexure 1). The guidelines recommend that CTs be maintained by user communities as the first option, followed by the NGO/private player-operated model. Equally, they recommend a pay-and-use model for CT operation, subject to willingness to pay for and participate in O&M.

1.5.3 Models of CT Management

Increasing provision of CTs across the country has been accompanied by innovative models of CT and PT management. Provision of PSCs is the responsibility of ULBs and there they have been leading the initiative in constructing and maintaining such facilities through public funding. However, alternative models of financing such as private funding of public infrastructure also exist along with operational models. The broad characteristics of CT and PT management options are presented in Table 1.2.

Well-established models of private management exist across the country, with an emphasis on community engagement from the design stage till maintenance and on a pay-and-use basis.

The **Mumbai Slum Sanitation Programme (SSP)** is a case in point, where project implementation was done while also fostering partnerships between contractors, NGOs and communities (WSP, 2005). The design of the toilet was developed by the contractor and inputs were taken from communities in terms of design and location. In the initial stage, communities contributed a token amount towards construction, which also aimed to foster their ownership of the project. After completion, CBOs were responsible for maintenance and operated the facility on a pay-and-use basis. The CBO could either maintain the toilet themselves or hire a caretaker or a private firm and supervise the work. In some cases, provision of a room for caretaker has reduced the cost of operations while enhancing security of the facility (details in Annexure 2).

Samagra in Pune works with the municipal corporation to redesign CT facilities which can act as both a community centre and a one-stop shop for slum residents. Through a reward programme, the NGO promotes regular toilet use, timely payment and hygienic behaviour, which has been effective in getting

more users and retaining them while also being profitable (Dasra 2017). Rewards could include discounts on sanitary products, mobile and television top-ups, among others.

Table 1.2: Characteristics of Models of CT and PT Management

Sl. No.	Type	Built by	Operation	Payment	Details
1	ULB managed	ULB through contracts to private companies	ULB will be responsible for day-to-day management, major and minor repairs, power and electricity. They could recruit caretakers, old employees on a payment basis to work as cleaners and caretakers	No formal payment, although the cleaner/caretaker may charge a token fee	
2	Private management	ULB funds and builds through contracts to private companies and/or NGOs. This could also include community involvement in design, location and oversight	Operation will be managed by CBO/NGO/private operators identified through tenders/individual caretakers. The ULB covers for structural repair and may or may not pay for power and water, while minor repairs will be borne by the operating agency	Pay per-use or monthly. (In case it's managed by individuals, they may not be paid a salary, but could be allowed to use the revenue to cover their salary and maintenance expenses)	The operating NGO/CBO could use the facility to stock complementary products such as sanitation and hygiene products or revenue earning items such as mobiles phones recharge.
3	Private sector developed facilities	Private operator will fund and build the facility on ULB land	Private company will be leased out the facility for operations	Pay per-use	The private operator will transfer ownership to ULB upon expiry of contract. The facility can be used to generate advertisement revenue.

Source: TNUSSP, 2017; WSP 2007

Shelter Associates (SA) - led CTs in Pune are an example of increasing community engagement through advocacy with the government (Shelter Associates, 2001). Pune Municipal Corporation was primarily interested in quickly increasing access to CTs through NGO involvement. While starting work as a government-initiated, NGO-managed activity, SA worked towards mainstreaming the role of communities in management of these facilities. This stemmed from SA's belief that effective maintenance requires users to take ownership of the facility and only they are in a position to offer a suitable solution. Overtime, community involvement (Baandhani, Collectives) has been acknowledged, and they are seen as partners in toilet management.

With each situation and community being different, the project has chosen to foster specific and localised solutions to toilet management. For instance, with few users for a toilet block in one locality, toilets were kept under lock and key and a designated group of families could access it and were expected to maintain it. The caretaker's room was converted to a community asset. In another situation, a group of boys have undertaken to manage the facility while getting to use the caretaker's room as gym in exchange. When managed by the caretaker, the Baandhani collectives help her/him in collections when required, especially from difficult customers.

Gramalaya in Trichy has empowered women to manage the facility through self-help groups (SHGs) and ensured community perspectives are factored into decision making (TNUSSP, 2018 and WSP 2016). SHG groups manage the facility on a pay-and-use basis and have a bank account, undertake minor repairs, supervise staff and the facilities and promote sanitation in the neighbourhood. Sale of hygiene and personal care products is also undertaken in the toilet premises. Lessons from Gramalaya were transferred to the Integrated Sanitation Programme (ISP) under the Tamil Nadu Urban Development Project (TNUDP). Under this 1,245 units of PSCs were constructed in corporations, municipalities and TPs through a community demand-driven approach. Overtime, with the success of the Gramalaya model, Tiruchirappalli City Municipal Corporation (TCC) has engaged more with SHGs to manage CTs and PTs rather than private operators contracted through tenders.

Sulabh International Social Service Organisation offers model construction and O&M of PTs and CTs. Pay-and-use toilets are open 24 hours and are manned by trained attendants (UNDP). The Sulabh twin-pit pour flush toilet system is cheap, hygienic and environmentally sustainable as the contents of the pit can be used as manure after two years. Also, toilets have been designed to be cleaned with just 2litres (l) of water as opposed to 10 l in other systems.

New Delhi Municipal Corporation's (NDMC) build, operate and transfer model for PTs chose to leverage private financing for creating public infrastructure (WSP, 2007). Land was leased out to the contractor who constructs, operates and maintains PTs for the first five to seven years. Land and utilities were provided by NDMC, while maintenance costs are covered by user charges and advertising revenues on the walls. Eventually, with revenue gaining precedence over user needs, toilets were constructed in commercially viable places rather than where they were needed. Oversight of maintenance and contractual obligation is important to this model.

There is a great deal of variability in payment for utilities based on the ground realities of each facility. While municipalities undertake responsibility for structural repairs, minor repairs will be handled by the operating agency, and payment for utilities, especially power, varies. For instance, in Trichy, initially the TCC paid for power, but subsequently passed it on to the community organisations. In facilities where revenues were limited, special appeal was made to the corporation to bear this cost, which has been accepted on a case-to-case basis. In the case of Mumbai SSP, the cost of electricity is borne by the CBOs.

1.6. Study Context

The two contiguous TPs of PNP and NNP in Coimbatore district of Tamil Nadu have a total of 23 CTs and two PTs, which were constructed before the SBM was introduced. A CT and PT assessment at PNP and NNP was undertaken to assess the extent to which these CTs and PTs are utilised and help reduce OD in these two towns.

Chapter 2 presents the Objectives, Sample and Methods used to capture various aspects of CT management and usage; Chapter 3 presents the findings from the study; and Chapter 4 presents the Discussion and Recommendation.



Objective, Sample and Methods

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2. Objective, Sample and Methods

2.1. Background

An average 12 per cent of the population of PNP and NNP, mostly urban poor, are estimated to use PSCs³ as opposed to 9 per cent in Tamil Nadu. A primary study conducted by ULB officers indicate that in the two TPs, around 1,200 households do not have access to IHHLs. Census 2011 suggests that around 500-600 households practice OD, and that around 1,900–2,000 households depend on CTs and PTs. A total of 251 seats (112 for men and 127 for women) in these CTs and PTs can cater to more than 7,000 persons as per the SBM norm for urban areas (one seat per 35 men and 25 women). Thus, the existing capacity in these two TPs is enough to cater to the sanitation needs of households identified under the SBM without toilets (Source: TP offices, 2015).

2.2. Objective

The overall objective of this assessment study is to understand at what potential the existing PSCs across two TPs are being used, along with all contributing factors responsible for their under- or over-utilisation. It will also give an idea about the scope of renovation and retrofitting in certain PSCs.

A comprehensive study was undertaken in the PNP and NNP CTs and PTs with the specific objective of:

1. Assessing the condition of the existing facilities
2. Understanding the functionality of the toilets
3. Analysing the operational models of the community toilet CT
4. Identifying the areas of improvements to develop a plan for the CT

2.3. Methods

The assessment study was conducted in all 25 PSCs across two TPs during the period January to April 2017. To get a composite picture of the CTs and PTs, five different study instruments were used:

2.3.1. CT and PT Condition Assessment

In all the 25 facilities, a condition assessment study was done using a structured questionnaire to understand various aspects of their physical infrastructure: super structure and sub-structure of the toilet blocks; water and electricity supply; solid waste, wastewater disposal facilities and drainage; management and maintenance arrangements & practices. Inputs from visual inspection and from caretakers were also recorded.

2.3.2. Exit Interviews

To get the user perspective on the condition of the facility, exit interviews were conducted at 20 facilities— 19 CTs in PNP and NNP and one PT in PNP. At each facility, exit interviews were conducted by two enumerators (one male and one female). Data collection was carried out between 6 a.m. and 10.00 a.m. and between 4 p.m. and 8 p.m., and all users over 12 years of age were eligible to participate in the study.

³The term public sanitary conveniences and facility have been used interchangeably across the report.

Both male and female toilet users were approached using timeslots based on simple random sampling. The first user to exit the facility was asked if she/he was willing to participate in the study. In the event of a refusal, the next user was asked until a volunteer was found, and the same exercise would be repeated with the next user until the total required sample of a minimum of 12 (6 males and 6 females) interviews were completed in each facility. Additional user interviews were conducted for adjustment in case of incompleteness. In case of PTs, a total of 40 users (20 males and 20 females) were interviewed and additional people were interviewed for an adjustment sample. A total of 288 user interviews were carried out – 231 in CTs and 56 in one PT. Users were profiled for various aspects such as their demographic characteristics, reason for using the facility, and their satisfaction with the facility.

Table 2.1: Sample Details of Exit Interviews				
Sl. No.		Male	Female	Others
CTs(19)				
		Male	Female	Others
1	NNP	33	62	0
2	PNP	70	65	1
PT (1)				
1	PNP	25	31	0
<i>Source: Source: TNUSSP CT and PT Assessment, 2017</i>				

2.3.3. User Satisfaction Index

A composite USI was developed as a robust weighted satisfaction benchmarking method and measure of accessibility, safety, cleanliness, waiting time, behaviour of the janitor (sanitation workers), adequacy of water and overall satisfaction. Except for overall satisfaction – which was measured on a 5-point Likert Scale (“5” being the best and “1” being the poorest) – the rest of the aforementioned parameters were measured on a 3-point Likert Scale with the options of “No response”, “Fully agreed” which was assigned “1” mark, “Partially agreed” was assigned “0.5” marks, and “Don’t agree” was assigned “0” marks. All the scores were finally added to get the Composite Index Score (CIS).

2.3.4. User Tallies

Further, to understand the usage pattern of each facility, user tallies were kept for a day from 6 p.m. to 8 p.m. for men, women and children (persons less than 12 years of age) all taken between Monday and Friday. The total number of users by time slot and by gender was recorded for each facility.

2.3.5. Household Interviews

Non-User Households Near CTs

Household interviews were conducted to cover a sample of non-users (either having IHHL or still practicing OD) from the community surrounding each facility. Eight households were selected at random from an area within a radius of 200 m surrounding each CT. Two households formed a cluster for each direction i.e. north, south, east and west (wherever possible). Two households from each cluster were located at different distances from the CT (within 200 m) to avoid bias due to proximity. If a randomly identified house declined, then the next house was chosen. In this fashion, a total of 150 households would be interviewed against a target of 152 households, as in some catchment areas fewer households were interviewed, which was offset by higher household interviews in other areas. The sampled

households were profiled on various socio-economic characteristics, sanitation practices, plans for toilet construction, and opinion on CTs, among other things.

Non-User Households in Non-Slum Areas

CTs were identified in the non-slum areas in both the TPs, where the practice of OD was also observed. To understand the underlying factors leading to this situation, the household study was specifically carried out in non-slum areas where CTs and OD spots co-exist. Purposive sampling of 72 households – having no household toilet and all members practicing OD, or households having a toilet but adult members still practicing OD – was carried out. The sampled households were profiled on various socio-economic characteristics, sanitation practices, plans for toilet construction and opinion on CTs.

2.3.6. Focus Group Discussions

In addition, focus group discussions with sanitation workers were also undertaken in both PNP and NNP to understand their perspective of maintaining the CTs and PTs.

2.4. Facility Sample

Table 1 presents the break-up of facilities by type. Of the 25 facilities, 23 are CTs, one is a male urinal and one is a PT. Twelve of the facilities are located in NNP, of which one is a male urinal and the rest are CTs for both men and women. In PNP, of the 13 public sanitation facilities, just one is a PT and the rest are CTs – one exclusively for men, two exclusively for women and the rest open to both for use.

Table 2.2: Sample Details of CTs and PTs by Type					
Sl. No.		CT	Male Urinal	PT	Total
1	NNP	11	1		12
2	PNP	12*		1	13
*One CT is for men and two for women					
<i>Source: TNUSSP CT and PT Assessment, 2017</i>					

Study Findings: Community Toilets

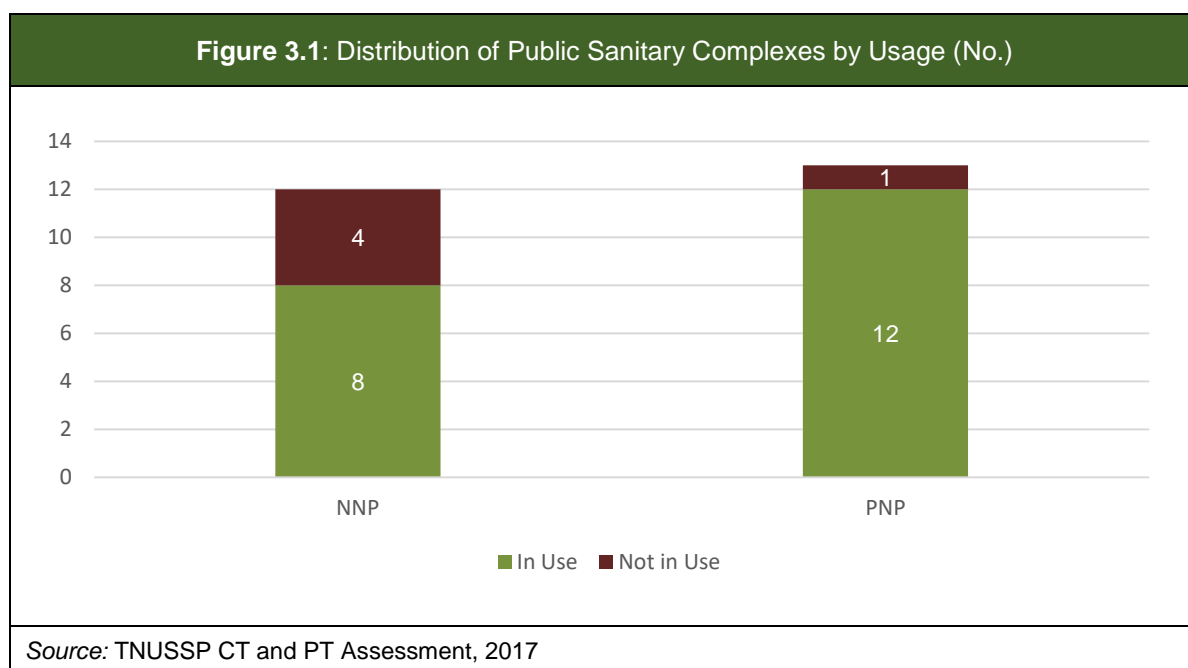
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3. Study Findings: Community Toilets

3.1. Infrastructure

3.1.1. Current Operational Status

Of the 25 PSCs in NNP and PNP, five were not in use – four were in NNP and one was in PNP (Figure 3.1). Of the facilities not in use in NNP, three were CTs used by both men and women, and one was a male urinal. The one facility not in use in PNP was a CT used by both men and women.



Further details of the reasons certain PSCs were not operational are presented in Table 3.1. Five facilities were not in use for various management reasons – poor maintenance (Sakti Nagar), vandalism (Pudu Palayam Road and Mettupalayam Main Road), conflicts between the community and the local administration (Balavinayaga Nagar). One CT in Murugan Nagar was not in use as a new CT had come up nearby and people were using that instead.

Table 3.1: Reasons for PSC Not Being Operational

Sl. No.	Location	Type	Total Seat	Reason
1	NNP – Murugan Nagar	CT – Male & Female	6	New toilets had come up nearby and so the existing old toilet was no longer in use
2	NNP –Balavinayaga Nagar	CT – Male & Female	8	Local issues
3	NNP –PuduPalayam Road	CT – Male & Female	16	Vandalism

Table 3.1: Reasons for PSC Not Being Operational				
Sl. No.	Location	Type	Total Seat	Reason
4	NNP – Mettupalayam Main Road	PT – Male Urinal	3	Vandalism and no usage
5	PNP – Sakti Nagar	CT – Male & Female	8	The toilet was closed on request of the locals as the containment was exfiltrating and being a nuisance to the public

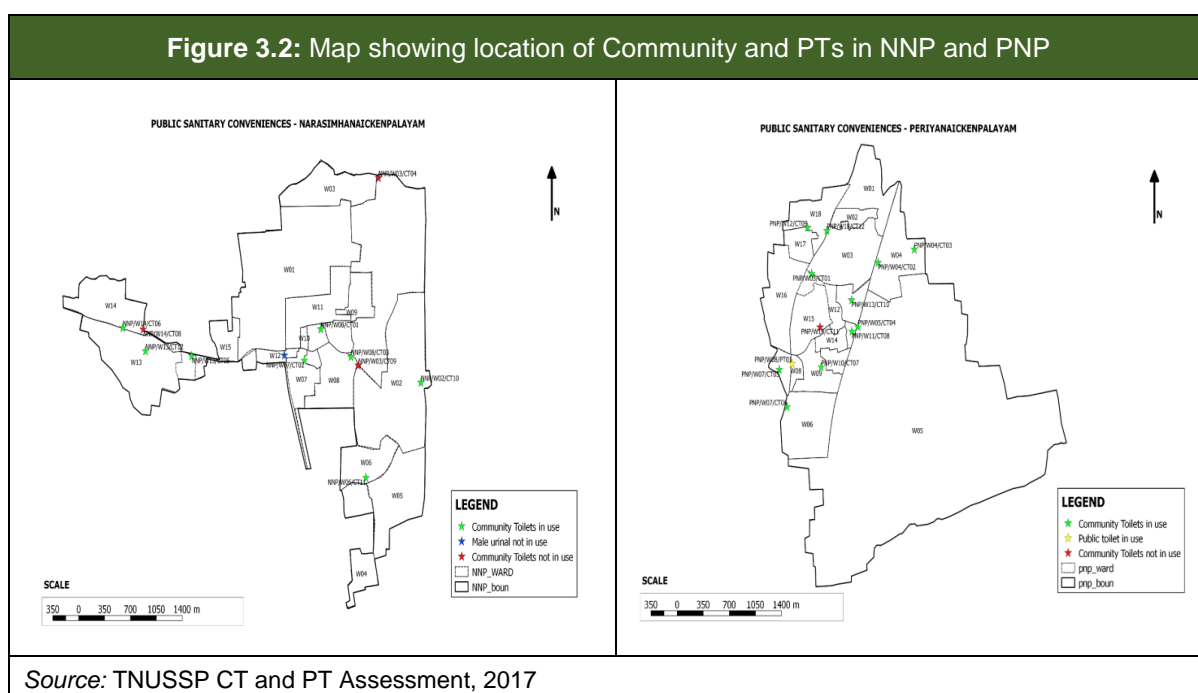
Source: TNUSSP CT and PT Assessment, 2017

3.1.2. Date of Construction/Renovation

Details of renovation available for all PSCs in PNP indicate that all were renovated as recently as 2012/13. Year of construction details available for PSCs in NNP indicate that three facilities were constructed prior to 2000, five were constructed between 2000 and 2010 and four were constructed post-2010, based on funding available under various schemes. Of the four facilities constructed post-2010, three are already in disuse, while one facility constructed before 2000 is in disuse. This includes one male urinal and three common-use CTs.

3.1.3. Spatial Distribution

Details of the locations of PSCs presented in Figure 3.2 show that all PSCs are spatially well distributed across the wards in the TPs. In NNP, of the three CTs not operational, two are on the outskirts of the TP, while one CT and male urinal are in the centre of the two panchayats. Field interviews reveal that these facilities are located close to the slum communities with minimum walking distance (discussed later).



3.1.4. Total Area of the Facility

All the 23 CTs were single-storeyed buildings with a carpet area ranging from 10.95 square metres (sq m) to 203.4 sq m, with an average area of 75 sq m ($\sigma = 57.54$). Having a waiting area was particularly relevant during peak hours, when the people needed enough space to stand/queue to use the facility. Fourteen facilities had waiting areas, of which five facilities had them for both men and women. The mean waiting area for women was 26.48 sq m, while that for men was 18.31 sq m. The distribution of waiting area by gender is presented in Table 3.2 and actual image in Figure 3.3.

Table 3.2: Number of Facilities by the Waiting Area and by Gender			
Sl. No.	Area	Male	Female
1	60-90 sq.m	2	3
2	90-120 sq.m	1	0
3	120-150 sq.m	2	2
4	180-210 sq.m	2	2
Total		7	7

Source: TNUSSP CT and PT Assessment, 2017

3.1.5. Roofing and Ventilation

All CTs were built with a Reinforced Cement Concrete (RCC) roof, tiled floors in 74 per cent of the facilities, and in 95 per cent of cases, tiles were used up to 4 feet dado level. *As per the SBM norm, an adequate circulating area should be provided – usually 2-3 m wide, depending upon the land area available.* The circulating area should be kept open to the sky as far as possible to allow for fresh air and sunlight. All the CTs were given provisions for adequate ventilation and 96 percent of CTs had plenty of natural light within the enclosures.



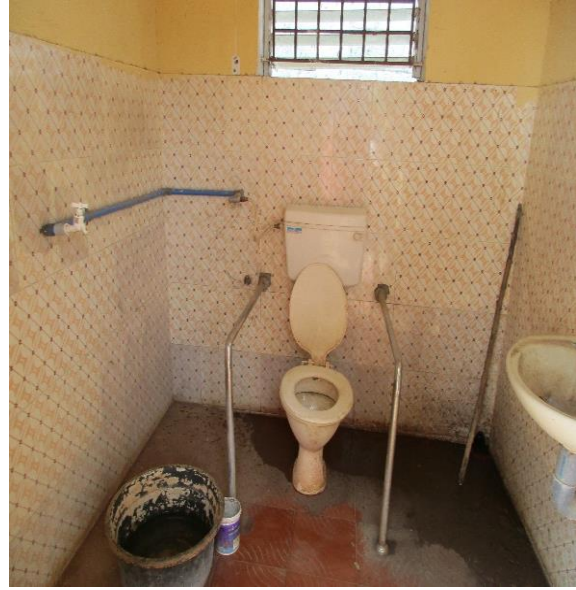
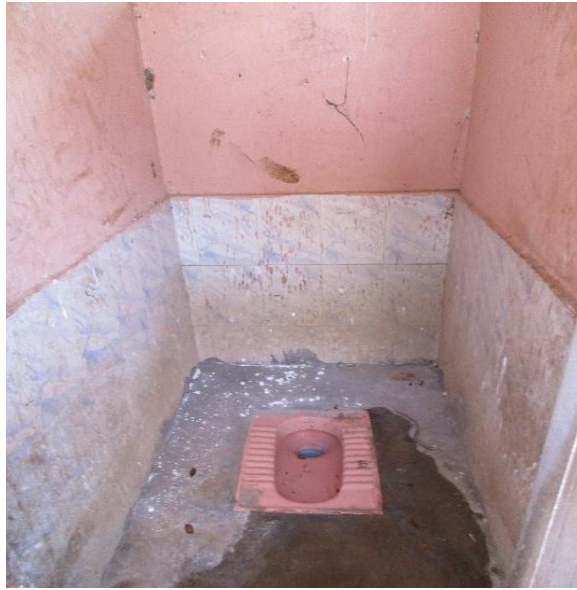
3.1.6. Number of Seats

In the 23 CT facilities, there were a total of 244 seats (in Table 3.3), 46 of which were in the four non-operational CTs (38 of which are in NNP). Of the existing seats, 44 per cent were for men, 51 per cent were for women, and the rest were for children (2 percent) and those with physical disabilities (one per cent). Pour flush was the main type of toilet in all the facilities, with squatting pans being the predominant arrangement (Figure 3.4). The only facility to have dedicated seats for children was in NNP, which was, however, non-operational. Access to toilets in most cases was through steps, except in the case of facilities with toilet seats for persons with disabilities, where both a ramp and steps were available. The mean plinth height of the toilet block from ground level was 410 mm, which is within the recommended range of 300 mm to 600 mm.

Table 3.3: Details of Number of Seats by Location, Usage and User Segments					
Sl.No.		Male	Female	Children	Physically Challenged
NNP					
1	In use	45	40		2
2	Not in use	15	15	6	2
	Total	60	55	6	4
PNP					
1	In use	45	66		
2	Not in use	4	4		
	Total	49	70		
All					
1	In use	90	106		2
2	Not in use	10	19	6	2
	Total	109	125	6	4
<i>Source: TNUSSP CT and PT Assessment, 2017</i>					

There were more seats for women than men (the ratio is 1.42 in favour of women), while in NNP it was marginally in favour of men (nine seats for women for every ten seats for men). This difference can be explained by the two CTs dedicated to women in PNP.

Figure 3.4: Push Flush Toilets in PNP and NNP



Source: TNUSSP, 2017

According to the SBM norms for planning CTs, there should be one seat for every 35 men and one seat for every 25 women. The TP estimates suggest that 1,200 households did not have access to toilets. Assuming a family size of five, this accounted for 6,000 persons. Applying the SBM norm for seat-to-person ratio, a total of 6,940 persons could be served with the existing CT infrastructure, which was more than adequate to fill the gap in access to sanitation. However, with four CTs not in use, three in NNP and one in PNP, the effective number of seats available for use reduced by 19 per cent to 198 – 90 for men, 106 for women and two for people with disabilities.

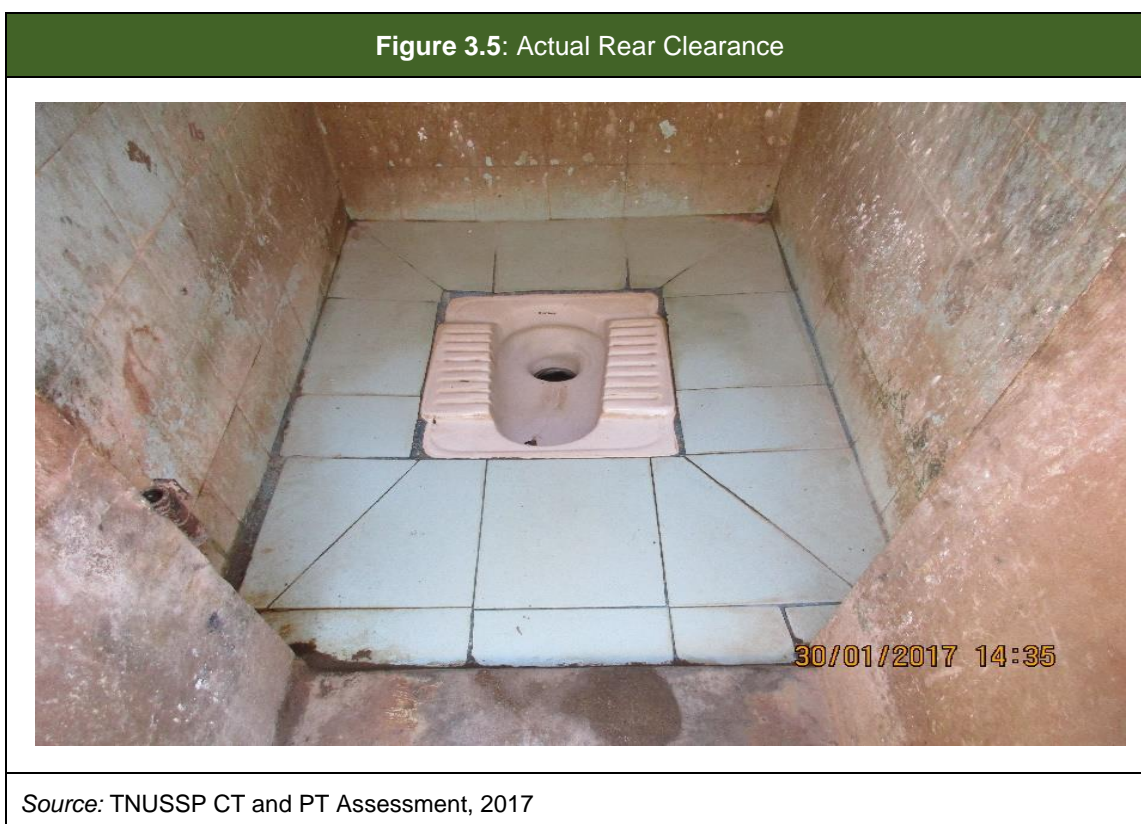
3.1.7. Toilet Sizing

As per SBM guidelines, the optimum size of the cubicle should be 900* 1,200sq mm and minimum size should be 750 * 900 sq mm if there are space constraints. In PNP and NNP, the mean size of the cubicle for men was 1220 * 930 sq mm and for women it was 1,240 * 990 sq mm, both of which were in compliance with the norm. Table 5 presents the mean dimensions of cubicles by gender (Table 3.4).

Table 3.4: Details of Size of Cubicles by Gender						
Sl. No.	Cubicle for male		σ	Cubicle for female		σ
1	Mean height (m)	2.38	1.5	Mean height (m)	2.02	.26
2	Mean length (m)	1.22	.21	Mean length (m)	1.24	.21
3	Mean breadth(m)	.93	.18	Mean breadth(m)	.99	.27

Source: TNUSSP CT and PT Assessment, 2017

Squatting pans made of porcelain with footrests were found in all the CTs. For the comfort of the users, a minimum clearance of 200mm is recommended from the rear edge of the pan to the back wall of the super structure of 200 mm. This rear clearance requirement was met in all female toilets and all male toilets except one (Figure 3.5). Pan traps were also found in all the CTs.



3.1.8. Doors and Locks

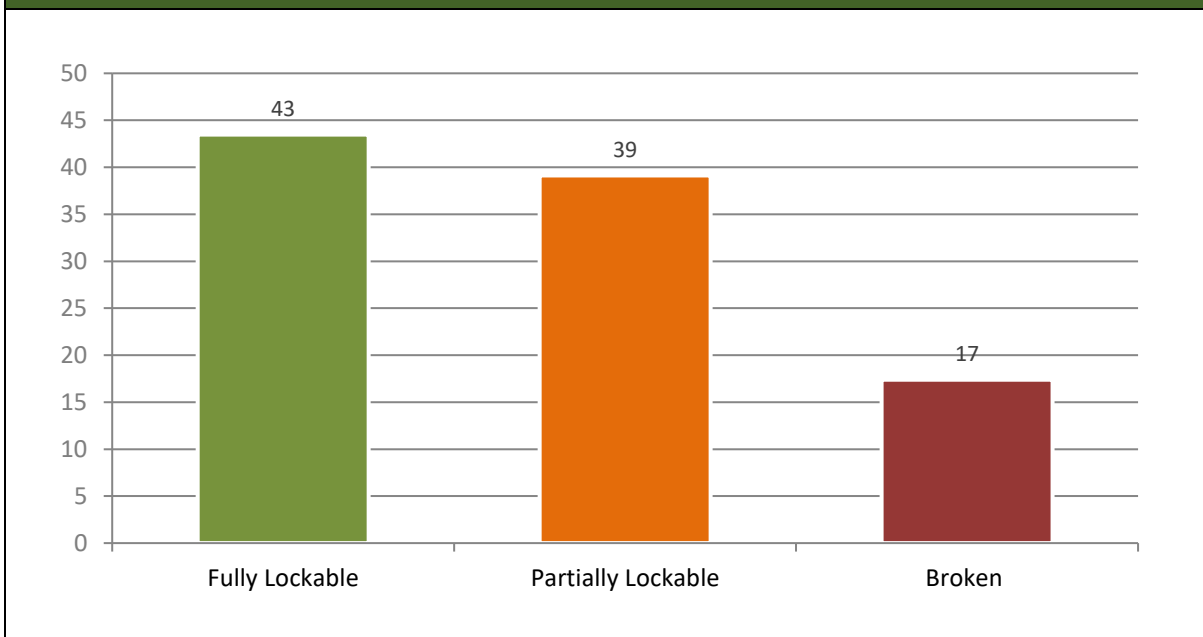
User privacy, which is central to comfortable use of the facility, was an issue, with 39 per cent of the CTs not having doors for individual cubicles (Figure 3.6). Wherever doors were available, PVC was the main material (61 per cent) used, followed by steel (23 per cent), while in some facilities a mix of materials was used. Further, even if the doors were present, latches were fully lockable in just 43 per cent of facilities, while in 39 per cent of the cases they were partially lockable and in 17 per cent they were all broken (Figure 3.7).

Figure 3.6: Cubicles with Missing Doors and Broken Latches



Source: TNUSSP CT and PT Assessment, 2017

Figure 3.7: Condition of Locks on Toilet Cubicle Doors (%)



Source: TNUSSP CT and PT Assessment, 2017

3.1.9. Gender Responsiveness

Separate entrances for men and women were noted in all the 20 facilities where relevant⁴ (Figure 3.8), while signages were present only in 90 per cent of the facilities. The mean height of the partition wall was 2.14 m and width was 2.74 m, which was adequate for privacy. Around 61 percent of CTs had a compound wall with a mean height of 1.09 m, while three of them reported different heights of compound wall for the women's section (1.77 m mean height).

Figure 3.8: Signage for Male and Female Sections in PNP



Source: TNUSSP CT and PT Assessment, 2017

In addition to toilet facilities, additional features such as washing and bathing provisions enhanced the utility of the facility for the community at large and are recommended. Four of the 23 facilities had provisions for a bathing area, with one facility having separate spaces for men and women, although the facility was not in use. Three of the 23 facilities had a washing arrangement, while one facility had a separate space for men and women. However, except in one case, the washing area was less than the 1.8 sqm recommended under SBM.

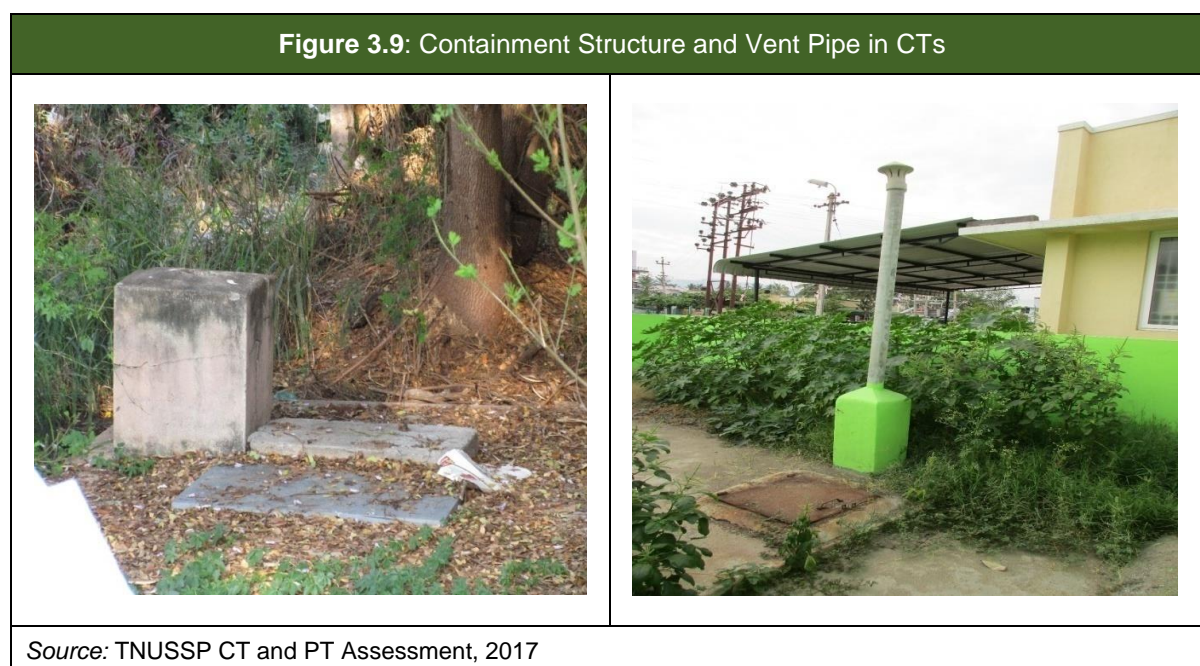
As per the norms for CTs, every community should have a separate storeroom and users should be provided a teaspoon of soap powder for hand washing. However, none of the 23 facilities had provisions for washbasins, mirrors, soap for hand washing, hand driers, napkin dispensers, fly/vector control machines. Cleaning equipment was absent in all facilities. One facility had a room for a janitor.

⁴Of the 23 CTS, one is only for men and two only for women

3.2. Waste Management

3.2.1. Wastewater Management

All the CTs had a septic tank, located mainly in front of the toilet (43 per cent), behind the toilet (34 per cent) and on the side of the toilet (22 per cent). In 61 per cent of the CTs, septic tanks were completely below ground level, and in the rest of the cases they were partially below ground level (Figure 3.9). Manholes ranging from two to six in number were noted in 91 per cent of the facilities.



The average distance of the containment from the toilet is 1.98 m (range: 0.51 m to 8.55 m). Complete dimensions of the septic tanks could not be measured because of the lack of information on depth. Tanks were, however, not designed as per standards and lacked features such as baffle walls or connection to a soak-pit. Although 83 per cent of CTs had a vent pipe, it was broken in nearly half of the facilities that had them. The mean height of the vent pipe was 2.69 m and two facilities did not have a fly screen. One facility in Sakti Nagar in PNP had been closed because the visual exfiltration had inconvenienced the neighbours. In 91 per cent of the 23 facilities, grey water was separated from black water – in 57 per cent of the cases it was drained into stormwater drains while in rest of the cases, it was let out into open fields.

3.2.2. Solid Waste Management

Just three of the 23 facilities had a waste bin, although without signage. Incinerators were found in three facilities, but not in those CTs exclusively for women (Figure 3.10). Further, the incinerators in these facilities were not in working condition. Menstrual waste was often found dumped on window sills or on the roof, rather than disposed off properly and safely.

Figure 3.10: Arrangements for Menstrual Waste Disposal

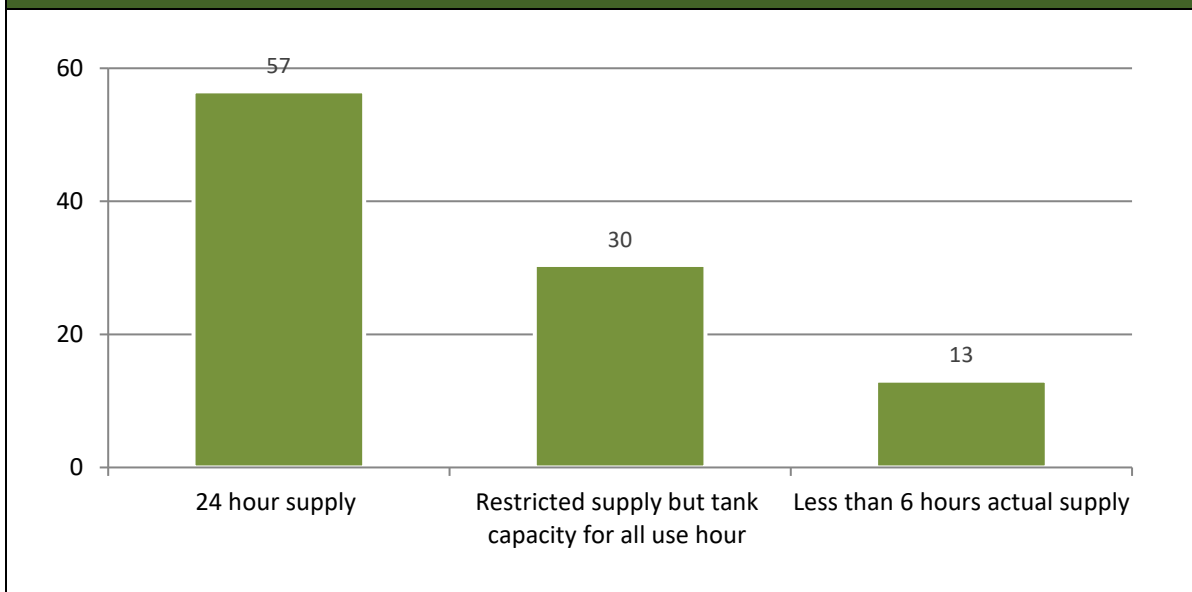


3.3. Water Supply and Power

3.3.1. Water Supply

Continuous water supply is critical to both personal hygiene and CT maintenance. All the CTs were connected to TP water supply, with 57 per cent reporting 24 hour water supply, predominantly in NNP (Figure 3.11). Thirty percent of the facilities had restricted supply, but had tank capacity to cover for use hours, while 13 per cent reported water supply for less than 6 hours. Just one facility reported having a back-up (borewell) in case water supply failed and the rest were forced to shut down in the event of water supply failure.

Figure 3.11: Water Supply by Duration in CTs



Source: TNUSSP CT and PT Assessment, 2017

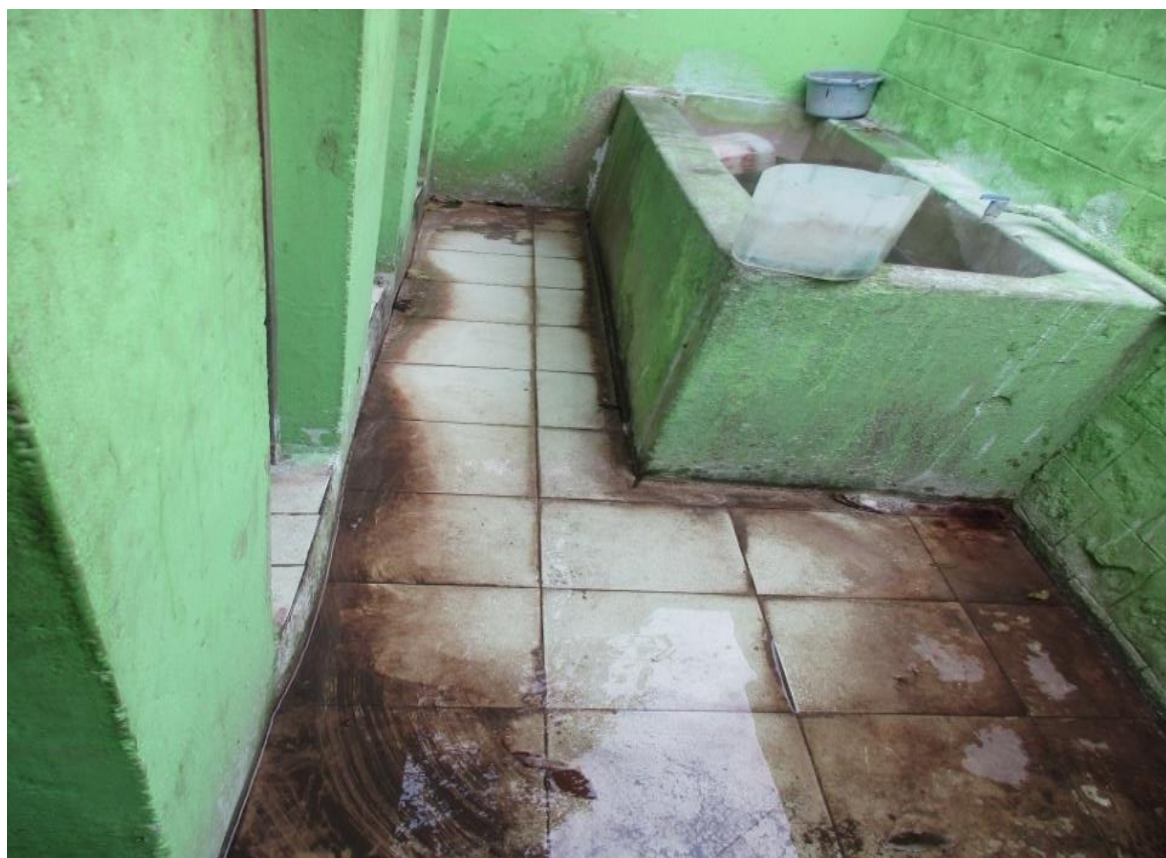
As per the norm, if water is to be drawn from the municipal supply, an underground reservoir of half a day's capacity and an overhead tank with half a day's capacity and pumping arrangement with a standby pump have to be provided. Of all the facilities, 23 had storage tanks and two facilities had overhead tanks. The mean size of storage tanks was found to be 1,900 l (ranging from 540 l to 5,033 l) for men's sections and 2,560 l (ranging from 440l to 9,460 l) for female sections. However, there was no correlation between the storage capacity and the number of seats. In a majority of the facilities, the tank was filled up more than once.

Only five of the 23 CTs were fitted with overhead tanks, out of that only one was currently in use, which was filled using an electrical pump (Figure 3.12). Cubicles in CTs with overhead tanks also had ablution taps fitted. Of the 19 CTs currently in use, four did not have provision for mugs and buckets, and users carried their own mugs and buckets, which could be plastic jars or paint tubs.

3.3.2. Power Supply

As per the norm, CTs should be well-lit both inside and outside, and one common light point may be provided for each pair of toilet cubicles. Government power supply was the single leading source of power for all the CTs which is continuous, although power supply was disconnected in five CTs. Nine CTs (of which three are not in use) had provisions for lighting in all cubicles.

Figure 3.12: Water Storage Tank in a CT



Source: TNUSSP CT and PT Assessment, 2017

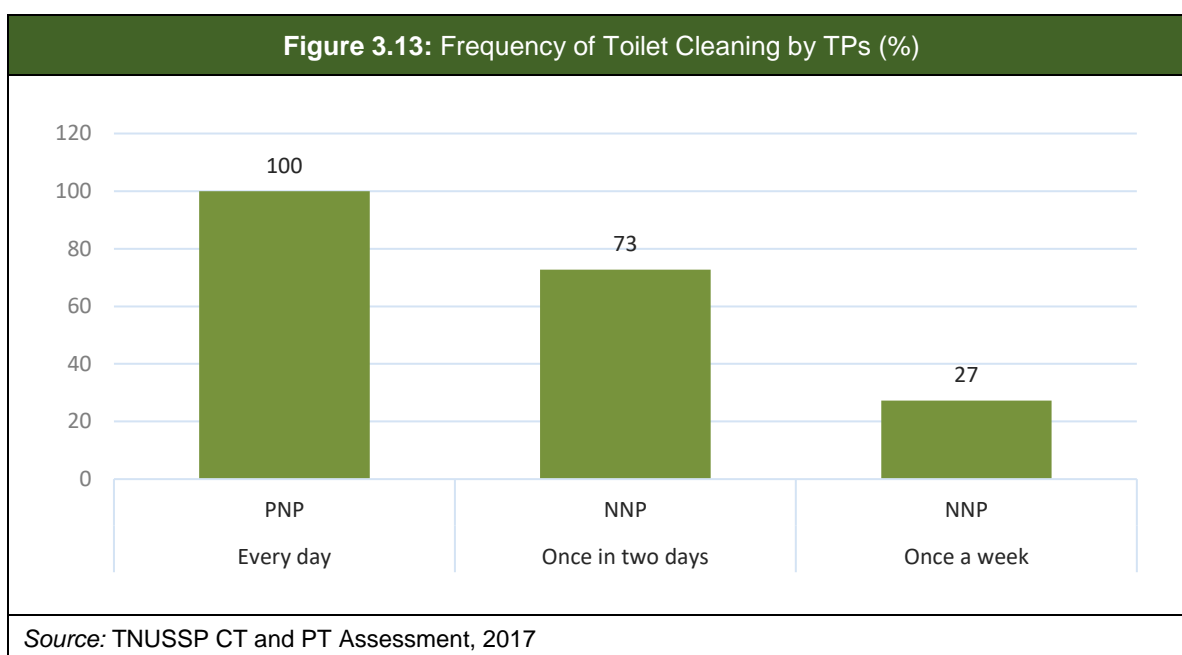
3.4. Operations and Maintenance

3.4.1. Maintenance

All the CTs were managed by the TP, and sanitation workers who were responsible for cleaning did not follow any specific schedule. Cleaning was done every day in PNP, while in eight of the 11 facilities (73 per cent) in NNP, cleaning took place once in two days, and in three facilities it took place once a week (Figure 3.13). In none of the facilities, PPE was used by the sanitation workers. Storage tanks were cleaned every month in all NNP facilities, and every week in PNP. All major and minor repairs were undertaken by the TP.

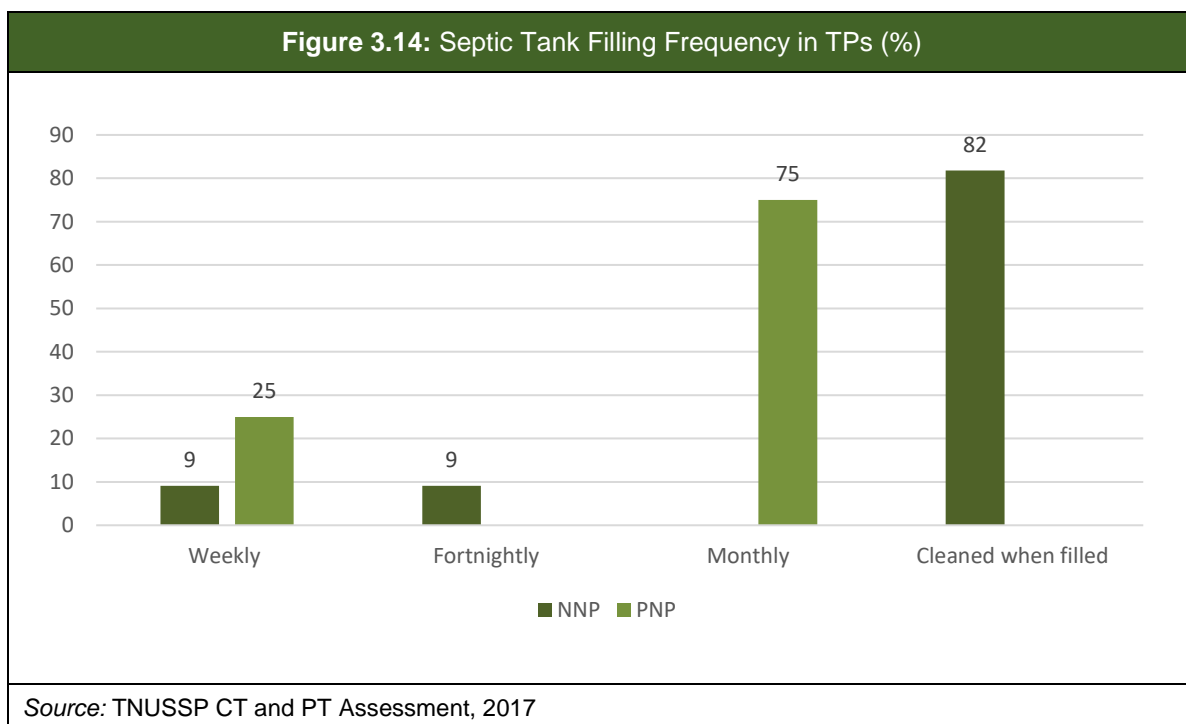
Monthly maintenance expenditure was less than Rs.3,000 for all PNP facilities, while in NNP, in over 80 per cent of the facilities costs were over Rs.3,000 and in the rest it was less than Rs.3,000.

Waste bins were cleaned daily in PNP, while in NNP they were cleaned on a weekly basis and waste was dumped along with solid waste. In all facilities, sanitary napkins were burnt outside the facility. Three CTs were fitted with incinerators, however none of them were in working condition. To clean choked CTs, the common practice was to use either a stick or bare hands, and no PPE was used even during this activity.



The periodicity of filling septic tank was not specific in 82 percent toilets in use in NNP, whereas 75 per cent of CTs in PNP got filled monthly and the remaining got filled weekly (Figure 3.14). Cleaning was done by the government cesspool vehicle, private vehicles or a combination thereof. Payment to private vehicles was around Rs. 1,200 per cleaning. The last cleaning period was reported by all PNP facilities to be between two weeks and two months, while in NNP, eight of the 11 facilities did not know when the last cleaning was done.

'We are provided with personal protection equipment such as masks, shoes, gloves and caps by the town panchayat. However, we do not use it because of sweating and discomfort.'
– Sanitation Worker, NNP



Although there were no fixed operating times, usage was free for all users and accounts were not maintained. Eleven of the 12 facilities in PNP had records of users, while none of the facilities in NNP had them. User complaints were typically addressed to the sanitation inspectors.

3.4.2. Discussions with Sanitation Workers in NNP

All CTs in NNP were managed by sanitation workers of the TP. Four workers per toilet had been assigned for cleaning CTs, all of whom were male. All the cleaning materials were provided by the NNP TP and the materials were stored near the water tank near Perumal Kovil. These materials, which included acid, phenol, bleaching powder, nylon brushes, coconut brushes, broom sticks, ditch cleaning equipment (PPE), and hose pipe cleaner, were used once a week. Ditch cleaning and hose cleaning equipment were only used for choked toilets. Water tanks were cleaned once a month using bleaching powder and a hand brush. No cleaning schedule existed, and toilets were cleaned as per the instructions of sanitation workers.

Since no separate or common dustbins were provided, waste, especially sanitary waste, was fixed or thrown onto window sills, on top of the doors or outside toilet corners, and these were cleaned only once a week. The Om Sakthi Nagar toilet was the only one to have an incinerator. The septic tank filled up every 15 to 20 days and was cleaned by private operators. People directed their complaints to the sanitation officer. No user charge was collected, and an account of users was not maintained.

Figure 3.15: Discussions with Sanitation Workers in NNP



Source: TNUSSP CT and PT Assessment, 2017

3.4.3. Discussions with Sanitation Workers in PNP

For PNP CTs, two common issues raised by the community were crowding and lack of cleanliness. In case of the former, an insufficient number of toilets to serve the population caused long queues in the morning. This was exacerbated in PNP, with those who had individual toilets also preferring to use CTs.

In terms of cleanliness, not all toilets were provided with proper dustbins, so women placed the used sanitary napkins on the cubicle walls. All sanitary napkins collected were burnt on nearby barren land on a weekly basis. Also, mugs, bucket and dustbins were either missing or damaged, in some cases the toilet doors and windows were not in good condition, seats of the toilet were broken, and flushes did not work.

At the time of the study, PNP TP had a total of 95 sanitation workers in place, of which 25 were permanent and 70 were temporary. Of the 70 temporary workers, 40 were allocated for collection of solid waste and maintenance of all 12 CTs. The other 30 workers were appointed at the Recovery Park. The permanent workers were designated for all work in and around the TP.

All CTs were managed by the sanitation workers from the TP. Two sanitation workers were allocated to each toilet, and were supposed to regularly spend a few hours in the morning to clean the toilets. The Sanitation Supervisor is expected to do a quality check. The sanitation workers said that all the 12 CTs were cleaned by a single temporary worker. In addition, a caretaker was appointed to the busiest toilet.

One temporary worker and four caretakers were appointed for the maintenance and cleaning of the CTs. If the temporary worker was on leave, then other temporary workers were designated as alternatives on a rotational basis. Typically, temporary workers cleaned the toilet between 5 a.m. and 11 a.m. and sometimes between 2 p.m. till 5 p.m., depending on tasks assigned, and earned Rs. 1,500 per month. Caretakers worked between 5 a.m. and 11 am and earned Rs. 300 per month. Both caretakers and temporary workers charged an unofficial user fee of Rs. 2- 5 per person and earned up to Rs.50-60 in a day.

All cleaning products, accessories and PPE were provided by the ULB. Except for the broom, all other products were carried with the respective sanitation workers and brought back when required. If the products were about to finish, more was requested from the sanitation inspector and refills were obtained.

3.5. Loading and Usage Times

User tallies were conducted in all operational CTs to understand the toilet loading patterns. Table 3.5 presents the usage per seat for men and women in PNP. The number of male users ranged from 38 in Kasthuripalayam to 137 in KK Nagar. Similarly, the number of female users ranged from 12 in Kasthuripalayam to 124 in Vivekanadhapuram. Daily loading based on observed footfalls on a working day indicated that usage in female toilets was as per recommended norms in all CTs, while in the men's section it was within norms in all but one facility. In the Ooty Road facility, the 134 male users were recorded for just three toilet seats, leading to a usage of 45 men per seat.

Of the seven facilities where children were noted using CTs on the day of the study in PNP, in two toilets there were less than 10 child users, in five facilities there were between 10 to 20 child users, while in one there were over 60. One facility which had a child-friendly seat was not in use at the time of the study.

Table 3.5: Users, Seats and Users Per Seat in Operational PNP CTs							
Sl. No.	CTs (n=11)	Users per day		Seat		Male per seat	Female per seat
		M	W	M	W	S:M	S:F
1	Anna Nagar	122	88	4	6	31	15
2	Ganguvar Street	129	105	6	5	22	21
3	Vivekanandhapuram	128	124	6	11	21	11
4	Erwin Road	93	27	3	3	31	9
5	Vambay (Female CT)	0	90	0	13	0	7
6	Union tank (Female CT)	0	92	0	6	0	15
7	KK Nagar (Male Urinal)	137	0	6	0	23	0
8	Ooty Road	134	56	3	3	45	19
9	Jothipuram	94	26	5	5	19	5
10	Sathya Nagar	135	89	6	6	23	15
11	Kasthuripalayam	38	12	6	8	6	2
12	Bus Stand (PT)	371	73	3	2	124	37

Source: TNUSSP CT and PT Assessment, 2017

Figure 3.16 presents the usage by time slots in PNP for all users combined. Peak usage time was typically between 6 a.m. and 10 a.m., and stabilised after that to peak post 6 p.m., especially among child users. The one facility that did not conform to this pattern was the bus stand, which was a PT and hence was typically crowded through the day.

Figure 3.16: CT and PT Usage by Time Slots in PNP

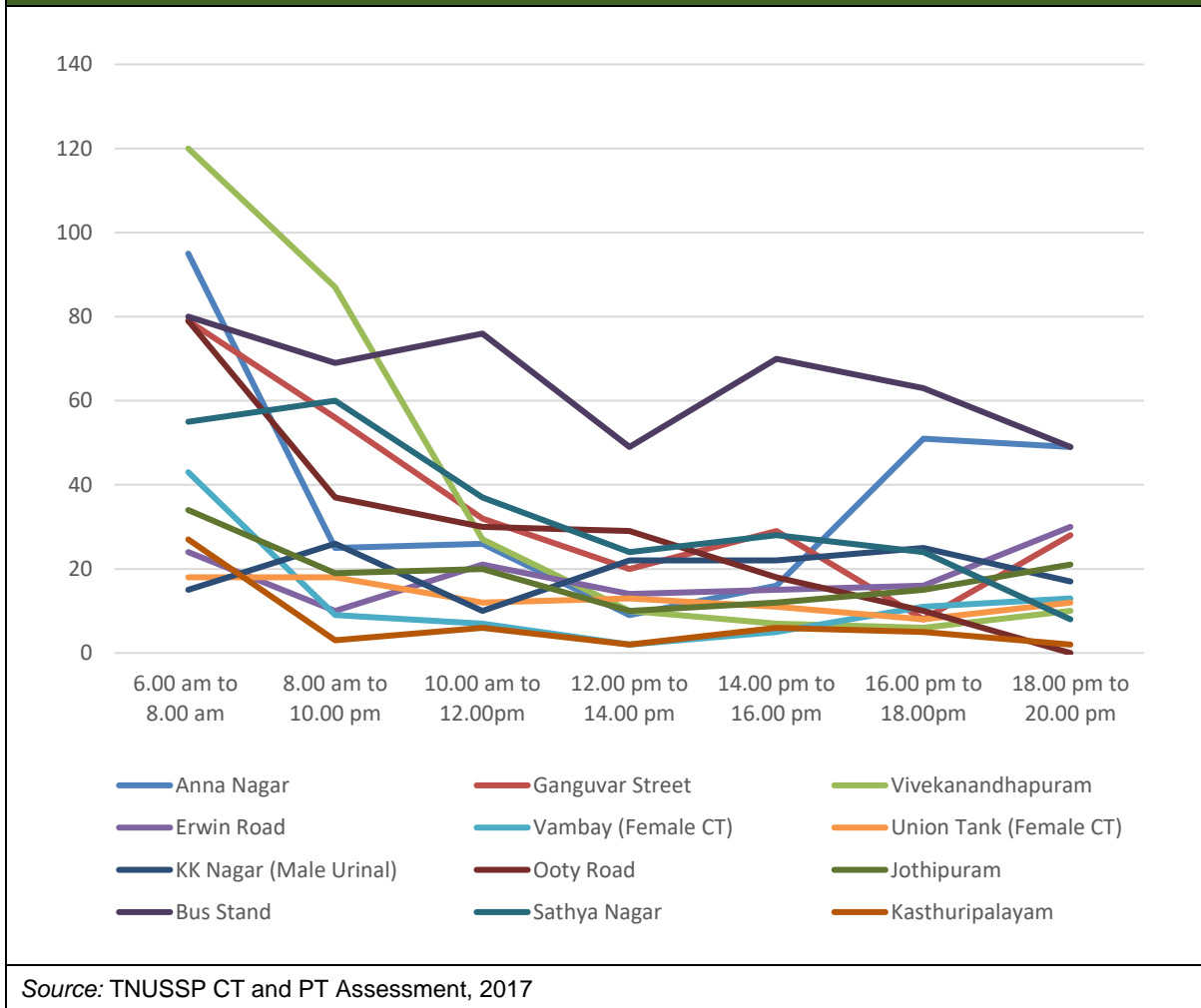


Table 3.6 presents details of users, seats and user per seat in NNP gathered from footfall recorded on a working day in the eight functional toilets. The minimum number of users stood at 63 in Chenamannaiknur and peaked at 201 users per day in Rakkipalayam. Usage per seat in six facilities was within the norms set by SBM, but in two facilities – AD Colony and Murugan Nagar – the usage was well beyond recommended norms. In Murugan Nagar, there were 51 male users per seat against the recommended 35, and 50 users per female seat against the recommended 25. Similarly, in AD Colony, overuse per seat was noted, with 38 male users per seat and 34 female users per seat.

Of the eight facilities where children were noted using CTs on the day of the study in NNP, there were less than 10 child users in two toilets, between 10 and 20 child users in two facilities, between 20 to 60 in two facilities, and in two others there were over 60 (max 138).

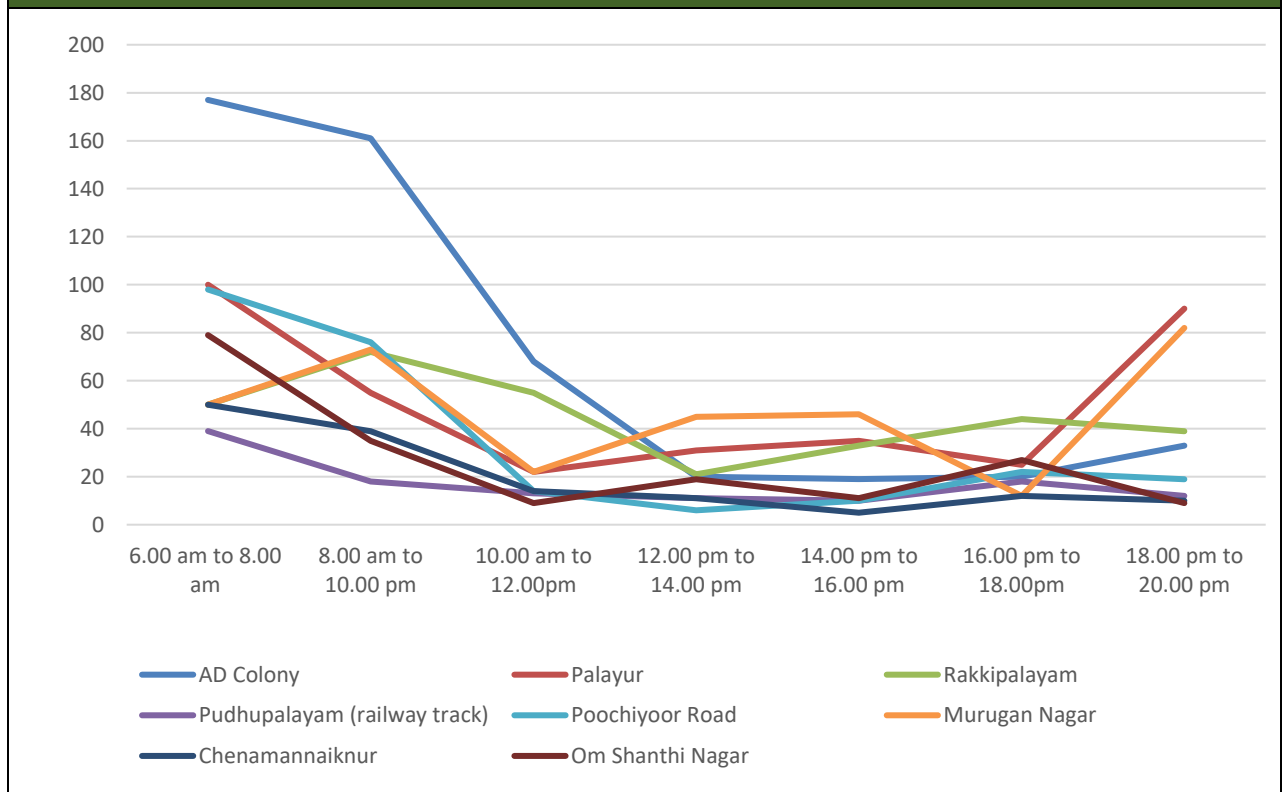
Table 3.6: Users, Seats and Users Per Seat in Operational NNP CTs

Sl. No.	CTs (n=8)	Users per day		Seat		Male per seat	Female per seat
		M	W	M	W	S:M	S:F
1	AD Colony	192	168	5	5	38	34
2	Palayur	169	121	5	5	34	24
3	Rakkipalayam	201	91	12	6	17	15
4	Pudhupalayam (railway track)	86	25	6	8	14	3
5	Poochiyoor Road	144	95	5	5	29	19
6	MuruganNagar	153	149	3	3	51	50
7	Chenamannaiknur	63	62	3	3	21	21
8	Om Shanthi Nagar	90	84	6	5	15	17

Source: TNUSSP CT and PT Assessment, 2017

Usage timings in NNP are shown in Figure 3.17. Peak timings are between 6a.m. and 8 a.m., which then stabilises by noon.

Figure 3.17: CT and PT Usage By Time Slots in NNP



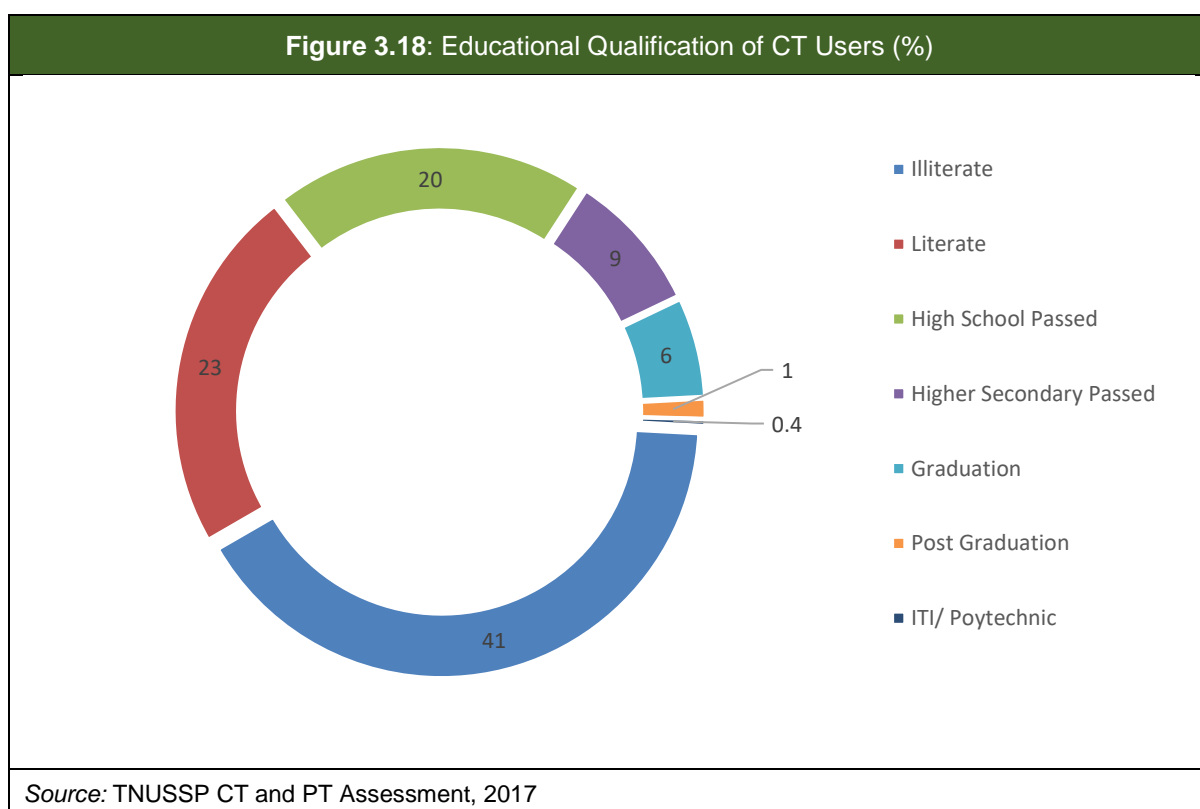
Source: TNUSSP CT and PT Assessment, 2017

3.6. Exit Interviews

3.6.1. User Profile

Gender, Age, Caste and Education

Exit interviews with facility users were carried out in all 19 operational CTs, with 54 per cent of respondents being women. In the sample, 18 per cent were between 21-30 years, 56 per cent of the respondents were between 31-50, 16 per cent between 51-60, and 9 per cent were over 60 years of age. Of the respondents, 58 per cent did not disclose their caste, while 28 per cent belonged to the Scheduled Castes and 9 per cent to the 'Other Backward Caste' category, 3 per cent each belonged to Scheduled Tribes and General Category. Among the sample users, 41 per cent were illiterate, 23 per cent were literate, 20 per cent were high school passouts, and 9 per cent had passed higher secondary school (Figure 3.18).



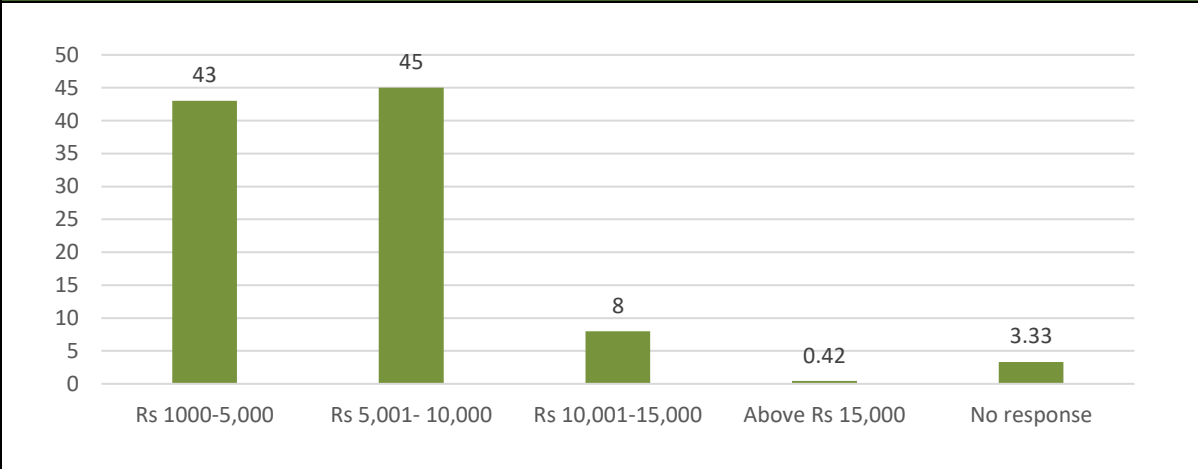
Occupation

A large proportion of the respondents (45 per cent) did not reveal their occupation, 20 per cent worked for the private sector, and the rest reported working in informal occupations such as street vendor, watchman, construction worker, auto driver and domestic worker.

Monthly income

Forty-three per cent of the respondents earned less than Rs. 5,000 per month, and 45 per cent of the respondents earned between Rs.5,000 and Rs.10,000 (Figure 3.19). The majority (85 per cent) of the users had been at their current residence anywhere between 3 or more years, while 11 per cent had been resident between 1-3 years.

Figure 3.19: Monthly Income Range of Respondents (%)



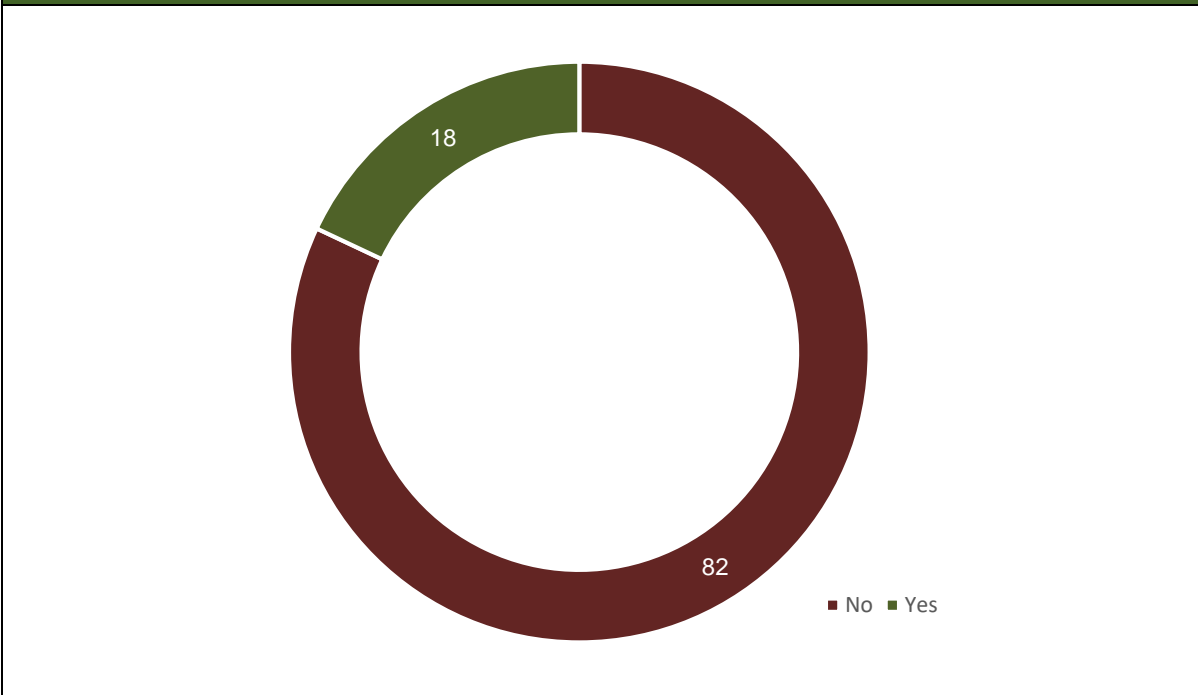
Source: TNUSSP CT and PT Assessment, 2017

3.6.2. Access to Individual Toilets, CT Usage Pattern and Distance

Access to household toilet and plans for construction

In the sample, 82 per cent of the residents did not have an IHHL (Figure 3.20). Of those who did not have IHHLs, 65 per cent were planning to construct one, while 26 per cent were not planning to construct a latrine and the rest did not respond. Of the households without toilets, 61 per cent were aware of SBM norms for toilet construction.

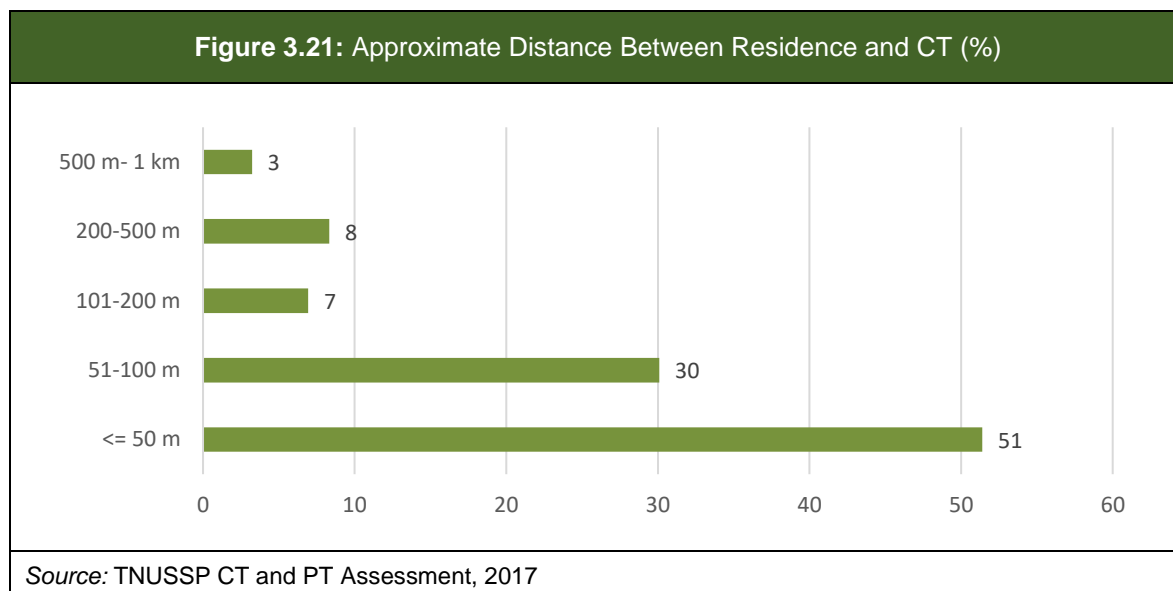
Figure 3.20: Existence of Individual Household Toilet Among CT Users (%)



Source: TNUSSP CT and PT Assessment, 2017

Distance to facility

Distance to the facility was often reported to be either an enabler or a barrier to access. Over half the users sampled resided within 50 m of the facility, while 30 per cent resided between 50-100 m and 7 per cent between 100-200 m. About 3 per cent travelled up to 1 km to reach the facility.



Reason for using the facility

A fourth of the respondents did not state the primary reason for using the facility. For others, the primary reason for using the facility included – water scarcity (23 per cent), being out of home for work (21 per cent), insufficient number of seats at home, and toilets being under construction (5 per cent). Other reasons included smaller septic tanks (2.3 per cent) and toilets being used as storerooms (2.3 per cent).

Household usage pattern of the facility

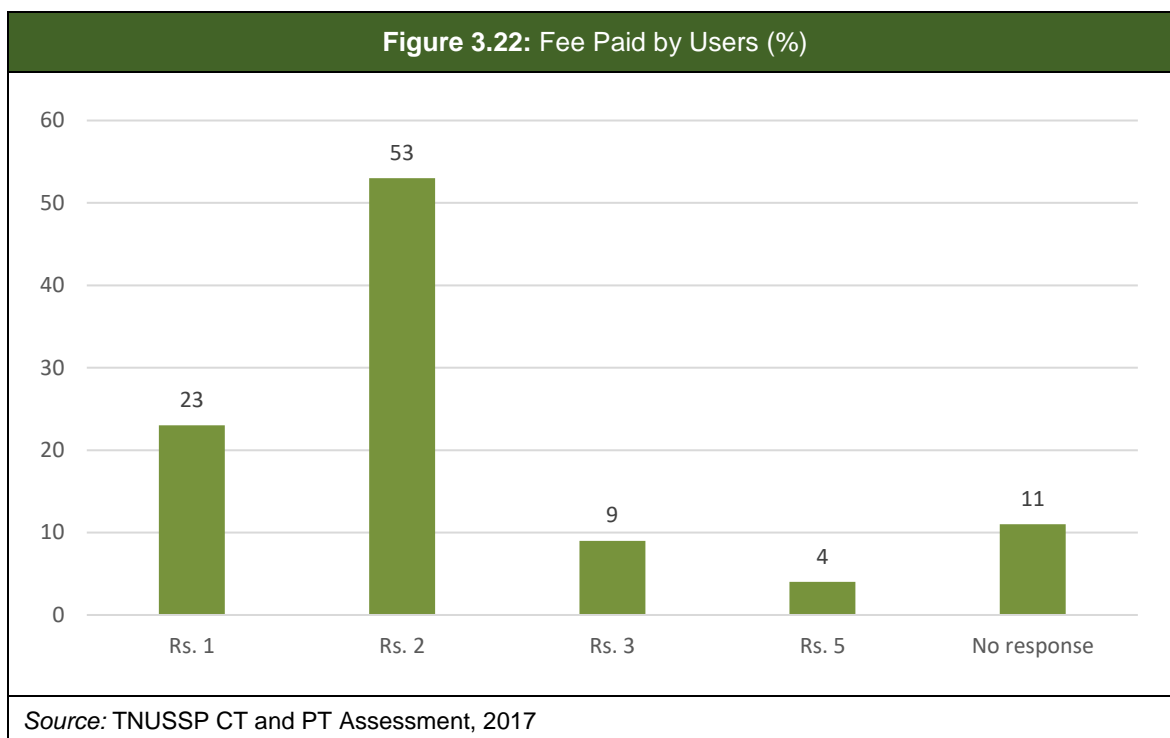
Nearly three-fourths of the facility users reported other household members using it, while in a quarter of the cases users reported them not using it. Those reported not using the CT were reported to defecate in the open (29 per cent), use shared toilets (11 per cent), use neighbour's houses (4 per cent) or use other means which were not reported.

Users reported that 60 per cent of children also used the facility, 33 per cent reported children not using the facility, and the rest did not respond. Children not using the facility resorted to OD (27 per cent), using shared toilets (6 per cent) and using a neighbour's house (3 per cent).

3.6.3. User Fee and Payments

User fee and payments

Of the users, 77 per cent of the users reported not paying any fee, while 23 per cent did report paying. Among those who reported making payments (Figure 3.22), about half report paying Rs.2 per use, 23 per cent paid Rs. 1 per use, while 9 per cent paid Rs. 3 per use and 4 per cent report paying Rs.5 per use. About 14 per cent of the respondents reported being approached by the TP which proposed a user fee, 75 per cent respond in the negative and 11 per cent did not respond.



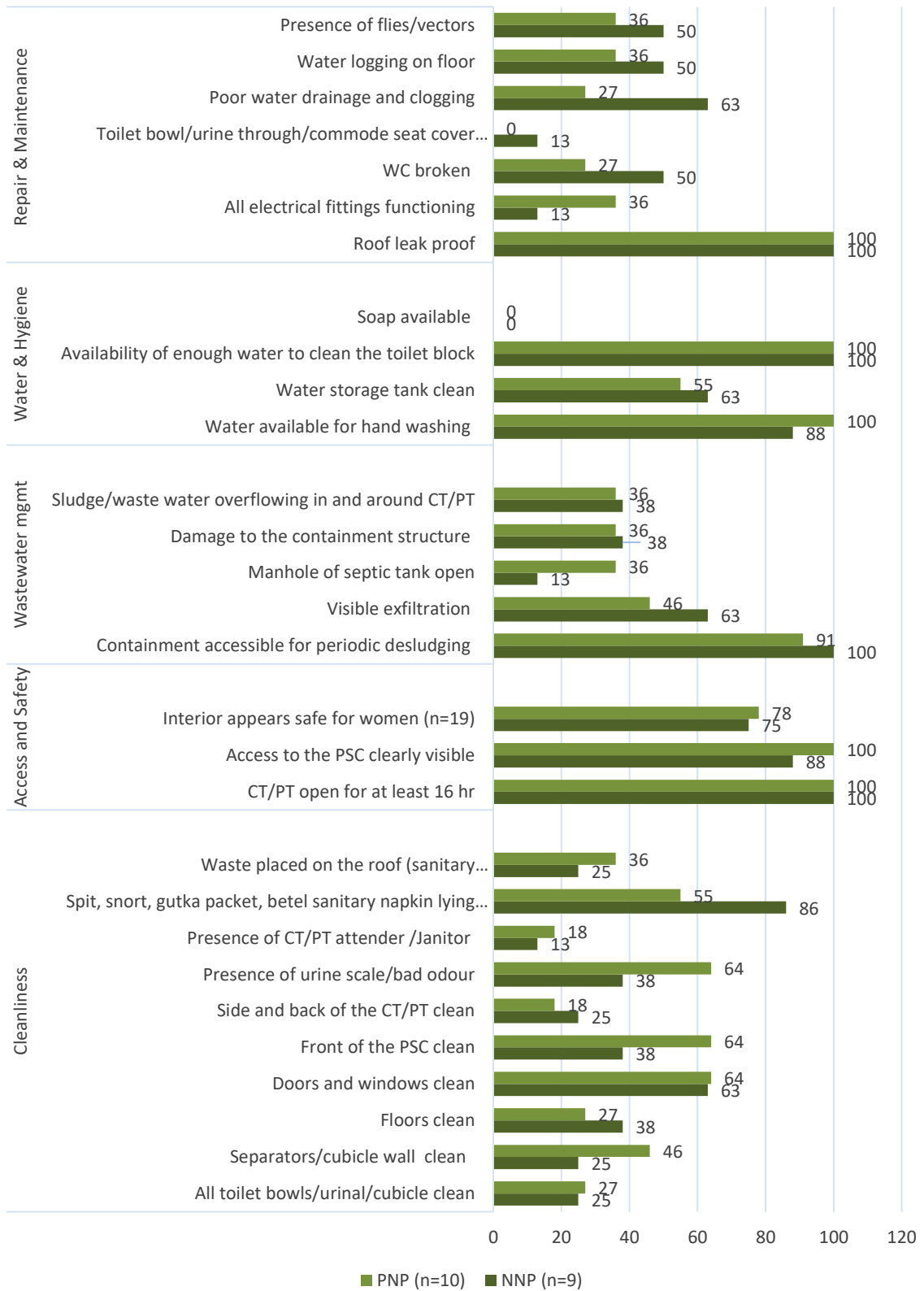
When asked if a user tariff should be imposed for CTs, around 47 percent did not offer any suggestion, 25 percent of users proposed a fee of Re. 1 per use, whereas 11 percent of users proposed Rs. 2 per use. Monthly user charges were also proposed by around 8 percent of users, while another 8 percent suggested that access should be free, as it was at the time.

3.7. Performance and User Satisfaction Index

3.7.1. Performance

In the sample, 24 facilities were evaluated consistently on the basis of 30 indicators identified as being central to the functioning of a CT/PT facility (one urinal was not studied). For each indicator, the existence or lack of a provision was recorded and the findings were presented in Figure 3.23 under different thematic areas. Cleanliness was a key issue in both TPs, with cubicles, wall, floors, frontage, observed to be unclean along with stain marks and foul odour among operational CTs and PTs. Gaps in the cleanliness indicator were higher in PNP as opposed to NNP, despite all the facilities being cleaned on a daily basis. For instance, odour in toilets was noted in 67 per cent of the PNP facilities as opposed to 38 per cent in NNP, and waste was found on the roof in 33 per cent of the PNP facilities, as opposed to 25 per cent of NNP facilities on the day of the study.

Figure 3.23: Management Indicators of Operational Community and PTs in TPs (%)



Source: TNUSSP CT and PT Assessment, 2017

Equally, the toilets were in urgent need of repair and maintenance. For instance, electrical fittings were non-functional (42 per cent in PNP and 13 per cent in NNP), poor drainage and clogging was noted (25 per cent in PNP and 63 per cent in NNP), and water closets were broken (33 per cent in PNP and 50 per cent in NNP) across facilities. In general, more repair was needed in NNP facilities as compared to PNP, although both need to improve.

CTs fared well in access and safety parameters, with reasonable working hours (16 hours), well-marked access and safety for women, although the latter could be improved from the current average of 75 per cent.

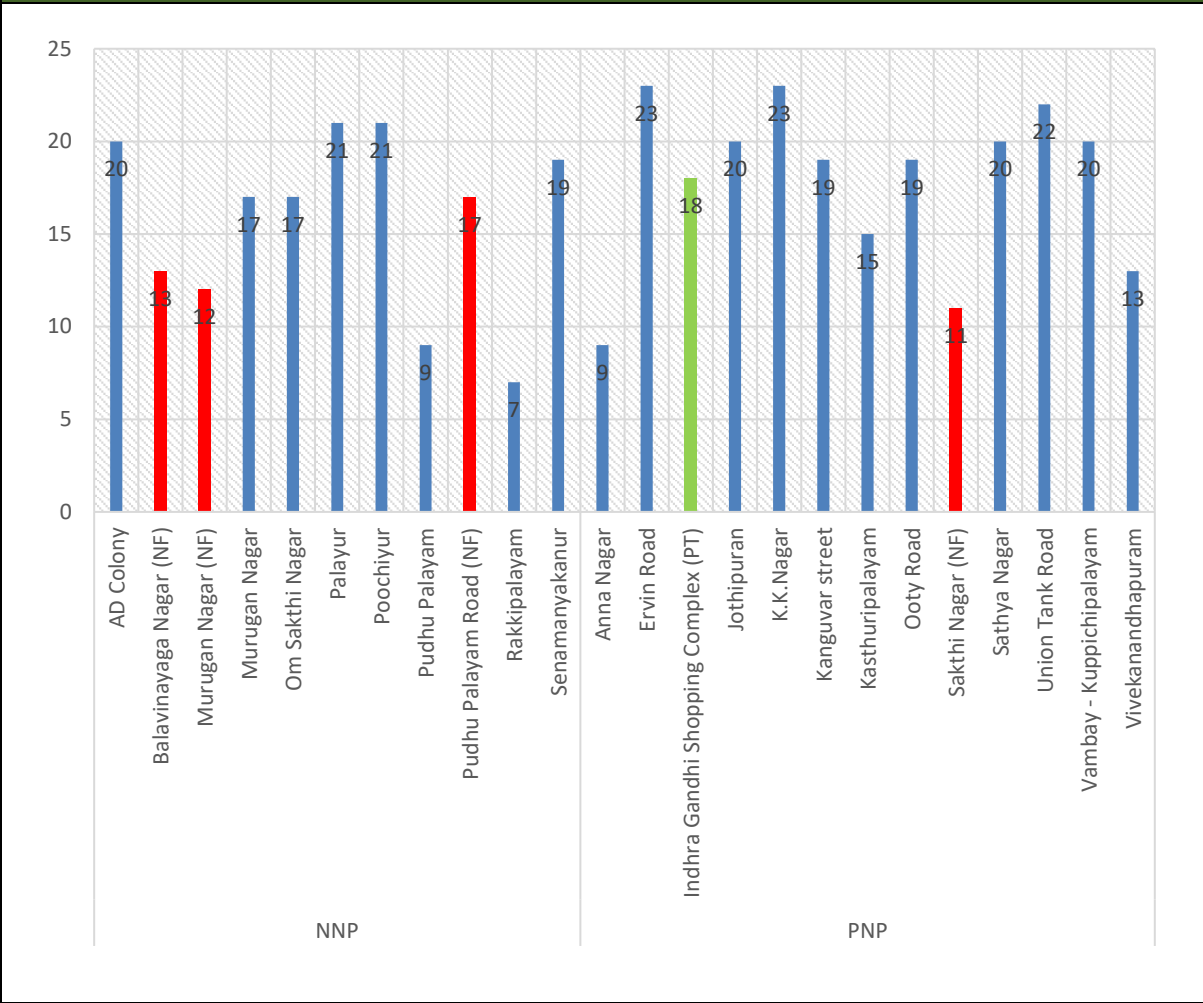
While water was available for cleaning, and tanks were noted to be clean in about 60 per cent of facilities, the absence of soap for washing hands was a serious concern which could be easily addressed. Wastewater management needed immediate attention as a third of the containment structures were found to be damaged, with visual exfiltration noted (NNP 63 per cent and PNP 42 per cent) and black water overflowing in more than a third of facilities with manhole covers open.

3.7.2. Performance Ranking

To further understand the status by facility, each indicator in a facility was scored (score of one for each indicator) for 24 facilities (one urinal was not included). For 18 indicators the expected outcome was “yes” and 1 mark was allotted for each ‘yes’, while for the remaining 12 indicators the expected outcome was “no” and 1 mark was allotted for each “no”. Scores were aggregated by each CT/PT to arrive at the facility performance score, with each indicator being given equal weightage. The results are presented in Figure 3.24.

The aggregate performance scores present a picture at the facility level and indicate the extent of the gap between facilities, which needs to be addressed for them to be totally user-friendly, safe and well maintained. Twelve of the 24 facilities had scores over 19 on various performance indicators. While eight (62 per cent) of the facilities in PNP fell in this category, just 36 per cent of the facilities in NNP fell under this category.

Figure 3.24: Performance Scores of Community Toilets



Source: TNUSSP CT and PT Assessment, 2017, * NF refers to non-functional

3.7.3. User Satisfaction Index

Table 3.7 presents responses of the users to questions about maintenance to which they could answer 'fully agree', 'partially agree', 'disagree' or 'no response'. The majority of NNP users agreed that the facility was easily accessible, while just 54 per cent of those in PNP fully agreed with the statement. More male users (76 per cent) fully agreed with the statement than female users (64 per cent).

Table 3.7: User Responses to Issues of Maintenance

Sl. No.		NNP		PNP	
		Fully Agree	Partially Agree	Fully Agree	Partially Agree
1	Do you feel this toilet is easy to access?	91		54	41
2	Do you feel this toilet is safe to use?	16	83	47	44
3	Do you feel satisfied with the cleanliness of the toilet?	80	18	35	52

Table 3.7: User Responses to Issues of Maintenance					
		NNP		PNP	
Sl. No.		Fully Agree	Partially Agree	Fully Agree	Partially Agree
4	You do not usually have to wait for a long to use this toilet	85	14	61	29
5	The sanitation worker respond well to complaints	26	72	48	39
6	You get adequate water to get cleaned every time	72	27	63	31

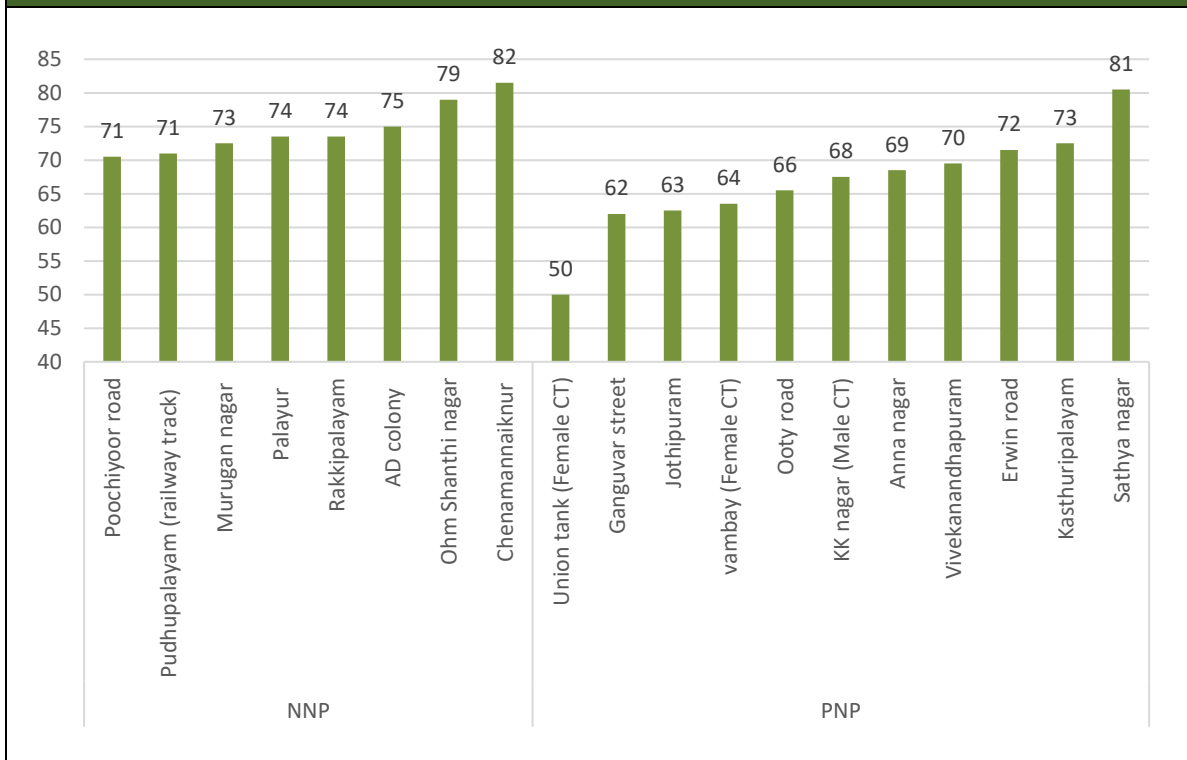
Source: TNUSSP CT and PT Assessment, 2017

On the safety of toilet use, 83 per cent of NNP users and 44 per cent of PNP users partially agreed. Importantly, more female users (63 per cent) than male users (57 per cent) partially agreed to the statement. While the majority of the users (80 per cent) were satisfied with cleanliness in NNP, in PNP just 35 per cent of the users were satisfied fully with cleanliness. The majority of the users in NNP (85 per cent) and PNP (61 per cent) agreed that they didn't have to wait for long to use the toilet (women agreed more than men). User responses indicated that the adequacy of water supply was an issue with a third of the users, especially men. Users disagreed that 'sanitation workers respond well to complaints', especially in NNP where 72 per cent of the users disagreed with the statement (men more than women).

Users were asked to rank the facility management on a scale of five, with one indicating poor and five implying the best CT facility. A majority (70 per cent) of users mentioned that they were satisfied with the current management system – 35 per cent of the respondents rated the facility '3', 31 per cent rated it '4', and 3 per cent rated it '5'. However, 18 per cent rated it '2' and 6 per cent thought it was poor, assigning a rating of '1'.

Using this and inputs on other aspects of management, a composite USI was developed, which is presented in Figure 3.25. All CTs in NNP were rated over 70 by users in NNP, with the highest being 82 for Chenamannaiknur. In contrast in PNP, there was wide disparity where the Union Tank female CT received a USI of just 50, while Sathya Nagar received the highest rating of 81.

Figure 3.25: User Satisfaction Index



Source: TNUSSP CT and PT Assessment, 2017

3.7.4. Combining Performance and User Satisfaction

A further analysis was done for CTs to understand how performance compares against user satisfaction in each facility (Table 3.8). Facility usage was classified by footfall of male and female users. Since footfall varied between male and female users, the facilities were classified as low and high footfall by gender and analysed.

Five facilities had both high performance and user satisfaction – two from PNP including Sathya Nagar and Erwin Road, and three from NNP – AD Colony, Palayur and Chenammaicknur. The classification holds regardless of footfall or gender classification. Two facilities, both in PNP, fell under the ‘low performance and low user satisfaction’ category – Vivekanandhapuram and Anna Nagar, which is expected as user satisfaction is pretty low in these CTs.

Five facilities across both male and female categories and usage patterns fell under the ‘low performance and high user satisfaction’ category – Murugan Nagar, Om Sakti Nagar, Rakkipalayam, Pudhupalayam and Kasthuripalayam. It was important to note that four of these five facilities were in NNP, while one was in PNP. In general, user satisfaction in NNP was higher as compared to PNP regardless of performance, thus indicating the ‘need to access a toilet’ for users. This could either be because IHHLs may not be feasible to construct or because alternatives such OD may be unviable due to various factors including safety, feasibility on account of space, and distance. Thus, even a basic facility lacking in many basic features is valued rather than having none at all.

Seven facilities, six in PNP and one in NNP, fell under the ‘high performance and low user satisfaction’ category –Poochiyoor Road, Ganguvar Road, Ooty Road, Jothipuram – two women’s CTs – Union Tank and Vambay facilities, and KK Nagar male CT. It is important to note that in Ooty Road, there were more male users per seat than the recommended norm, thus leading to more queuing and probably lower user satisfaction. Six of the seven facilities in this category were in PNP, where cleanliness was particularly an issue – going by both visual observation on the day of the study and users’ responses. Despite the facilities getting cleaned every day, given that few workers were responsible for them, the quality of work suffered, leading to foul odour, stains and unclean seats, all of which contributed to low satisfaction among users. Also, five of the seven facilities were under the high footfall category, which could cause longer queues, leading to dissatisfaction among users.

Table 3.8: Comparing USI Satisfaction Against Performance by Gender and Footfall				
Men’sToilets - High Footfall				
Sl. No.			Satisfaction	
			High	Low
1	Performance	High	Sathya Nagar–PNP, Erwin Road–PNP, AD Colony–NNP, Palayur–NNP	KK Nagar – PNP, PoochiyoorRoad – NNP, GanguvarStreet – PNP, Ooty Road – PNP
		Low	Murugan Nagar – NNP	Anna Nagar – PNP
Men toilets - Low Footfall				
			Satisfaction	
			High	Low
2	Performance	High	Chennamnaicknur –NNP	Jothipuram– PNP
		Low	Om shakti nagar – NNP, Rakkipalayam – NNP, PudhupalayamTrack – NNP, Kasthuripalayam – PNP	Vivekanandhapura– PNP
Female toilets - High Footfall				
			Satisfaction	
			High	Low
3	Performance	High	Sathya Nagar – PNP, Chennamnaicknur – NNP, AD Colony – NNP, Palayur – NNP	Poochiyoor –NNP, Ganguvar St – PNP, Ooty Road – PNP, Union Tank – PNP

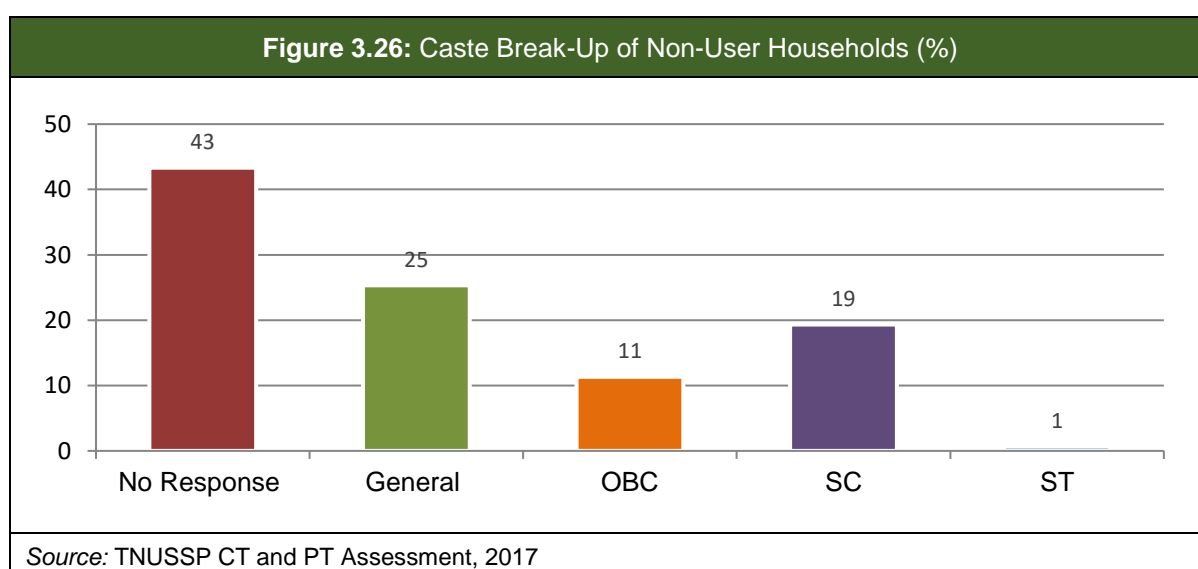
Table 3.8: Comparing USI Satisfaction Against Performance by Gender and Footfall				
		Low	On Shakti Nagar – NNP, Murugan Nagar – NNP, Rakkipalayam – NNP	Anna Nagar – PNP
Female toilets - Low Footfall				
			Satisfaction	
			High	Low
4	Performance	High	Erwin Road – PNP	Jothipuram – PNP, Vambay– PNP
		Low	PudhupalayamTrack – NNP, Kasthuripalayam – PNP	Vivekanadhapuram– PNP
<i>Source: TNUSSP CT and PT Assessment, 2017</i>				

3.8. Perception of CTs

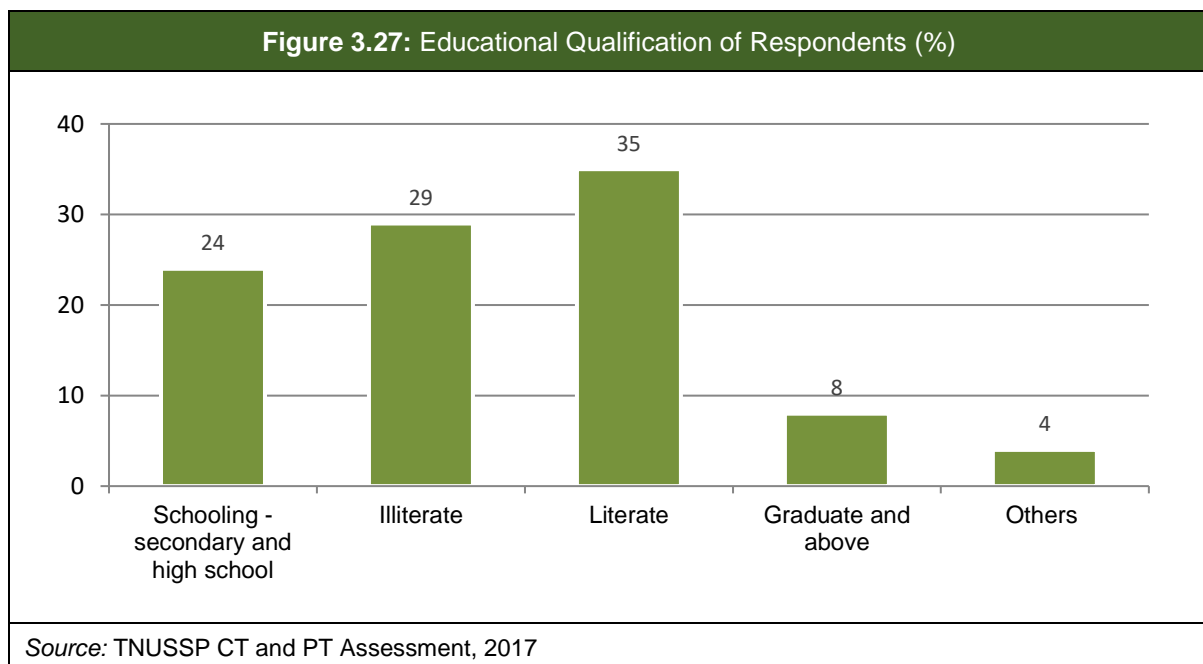
3.8.1. Perception of CTs by Non-User Households Near the Facility

Profile of Households

Of the 150 household respondents, the majority (67 per cent) were female, and the rest were male. In the sample, 75 per cent of the respondents were either the head of the household or the spouse of the head of household. Ten per cent of the respondents were in the 21–30 age group, 44 per cent were in the 31- 40 age group, eight per cnet in the 41-50 age group, 16 per cent were in the 51–60 age group, and the rest over 60 years. Figure 3.26, which presents the caste break-up of households, indicates that 43 per cent did not reveal their caste, 25 per cent belonged to the General category, 19 per cent to Scheduled Caste (SC), 11 per cent to Other Backward Castes (OBC) while just one percent belonged to scheduled tribe (ST).



The educational qualification of the respondents, which is presented in Figure 3.27, indicates that 29 per cent of the respondents were illiterate, 35 per cent were literate, and 24 per cent completed either secondary or high school. In the sample, 80 per cent of the respondents lived in their own house, while 19 percent resided in rented premises. The mean family size was 3.94 (with a standard deviation of 1.53), with 81 per cent of the households being nuclear. In terms of slum and non-slum classification, 79 per cent of the PNP households and 59 per cent of the NNP households were non-slum households, while the rest were slum households.

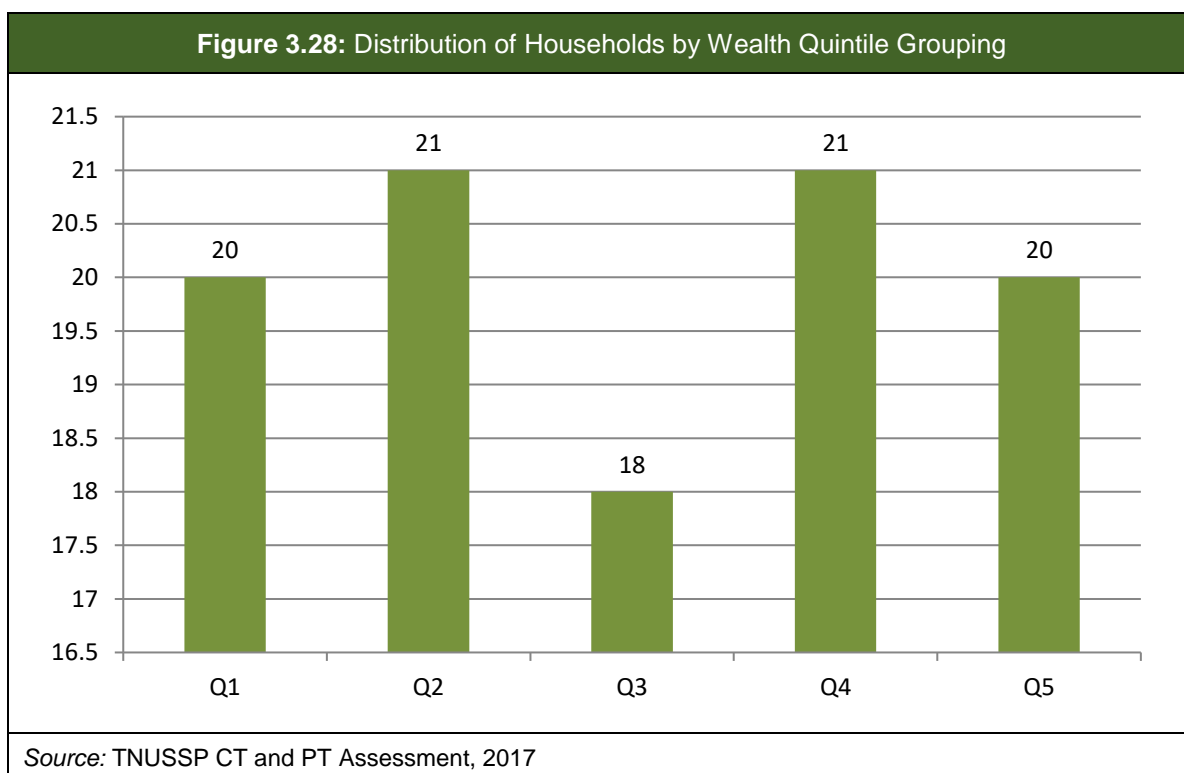


The average monthly income of households was Rs.9,323 with a standard deviation of Rs.9,065. The minimum monthly income was Rs.900 while maximum monthly income was Rs. 1,01,000.

The wealth status of households in the survey was established based on a Wealth Index. The Wealth Index is used to determine relative poverty based on ownership of assets and characteristics of the person's households and was explicitly designed to overcome acknowledged challenges in measuring income. There is no single household characteristic or asset that gives us enough information to determine whether someone is poor or not. Thus, the Wealth Index is based on a variety of households' characteristics and assets that are specific to a particular country. It can be difficult to summarise or simply add up household wealth represented by each of the assets and household characteristics reported in a survey. In addition, the matter is further complicated by the fact that some household characteristics and assets are stronger indicators of relative wealth than others. Adding up each item assumes that each asset contributes equally to measuring the household's wealth.

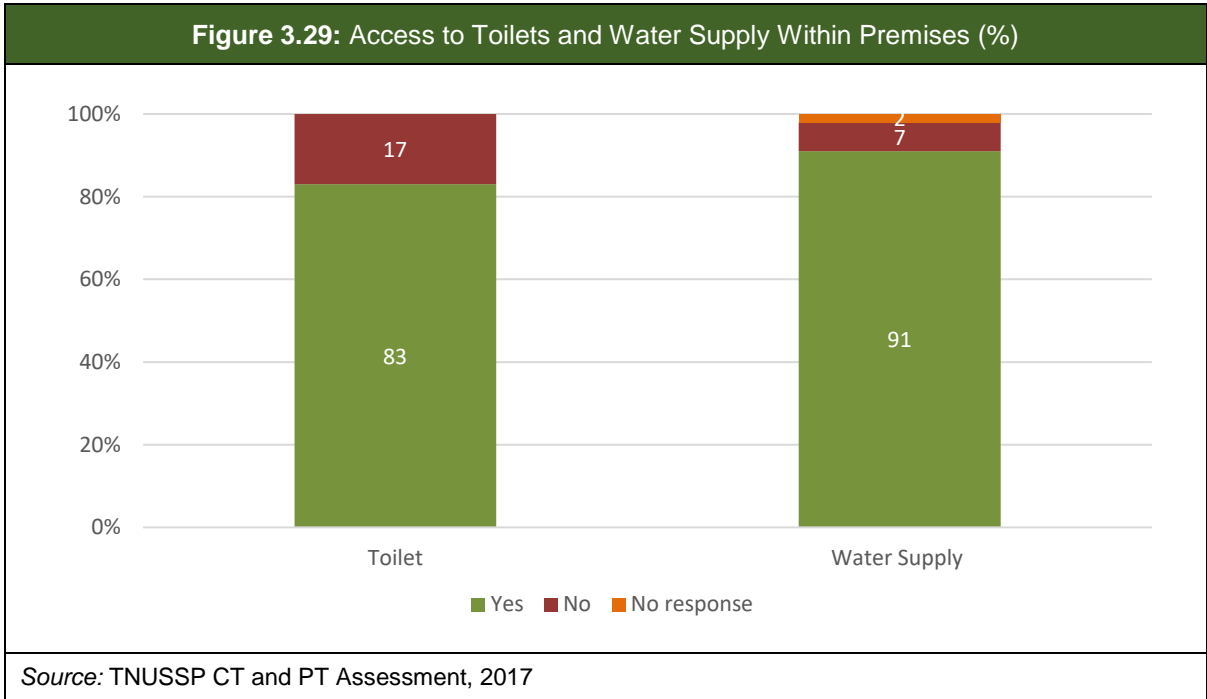
To overcome these challenges, the Principal Components Analysis (PCA) statistical method is used to determine the relative importance of each variable when seeking to summarise a set of variables. When applied to asset and household characteristic data from a nationally representative survey (in the present study, the variables were chosen from the Demographic & Health Survey India 2005-2006), PCA can be used to create one summary measure of household wealth. Once each respondent's household has been given a Wealth Index score, we put all of them in order of wealth and separate them into quintiles.

Variables considered for this exercise were – home ownership, type of family, water connection, IHHL, fans, radio/transistor, LPG connection, refrigerator, television, mobile, bicycle and motorcycle. Based on this, the data reveals that in the survey population, 27 per cent of the households belonged to the medium (third wealth quintile) in the catchment area of CTs and are predominantly non-users of the facility, while 21 per cent belonged to the fifth quintile classified as ‘wealthy’, and 22 per cent belonged to the ‘poor’ quintile (Figure 3.28).



3.8.2. Study Findings

In the sample, 83 per cent of the respondents had a household toilet within their premises, while the rest of the respondents did not (Figure 3.29). Of the 26 households (17 per cent) that did not have a toilet, 77 per cent expressed willingness to construct one in the household and an equal percentage were aware of the SBM guidelines. In terms of water supply, 91 per cent of the sample households had access to water supply within the premises, with 76 per cent using water tanks to store water, 14 per cent using underground sumps, and six per cent using overhead tanks.



Household defecation patterns varied even in households that had a toilet, as shown in Table 3.9. Half the households without toilets prefer OD, about 10 per cent used CTs or PTs, and an equal percentage used shared toilets. Even among households with toilets, seven households used CTs/PTs, four households reported engaging in OD, and an equal number engaged in using shared toilets.

Table 3.9: Family Defecation Patterns Different from Respondent (No. of Households)

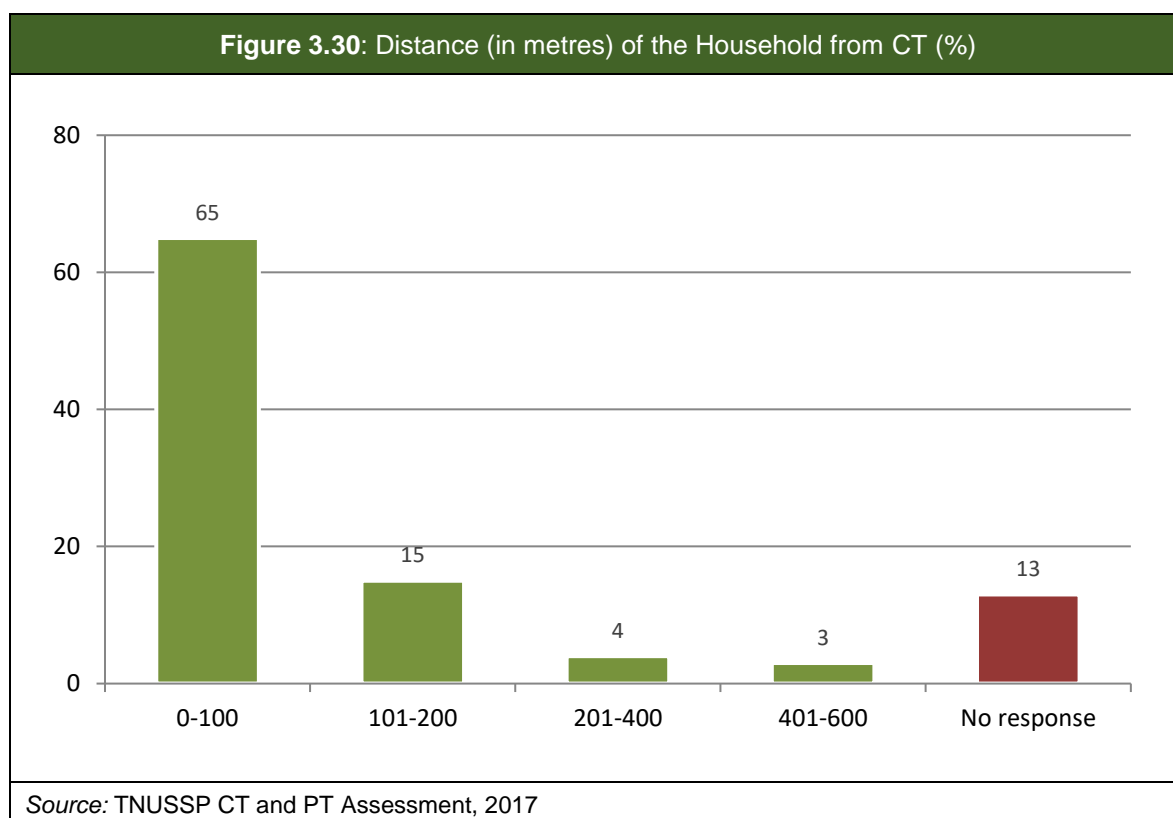
Sl. No		Have IHHL	
		No	Yes
1	Same as respondent	1	105
2	CT/ PT	3	7
3	OD	13	4
4	Other	6	4
5	Shared toilet	3	4
		26	124

Source: TNUSSP CT and PT Assessment, 2017

All respondents who practiced OD travelled less than 500 m away. The reasons for preferring OD over CTs (17 households) included unhygienic conditions and poor cleanliness, poor water supply, and long queues.

Distance from CTs

Two-thirds of the respondents in the sample resided less than 100 m from the facility, while 15 per cent lived between 101–200 away (Figure 3.30). Respondents were also asked for their opinion of CTs. A third of the households with toilets did not offer any opinion on CTs; 44 per cent thought they were unhygienic and poorly maintained, and 21 per cent thought they were good and clean.

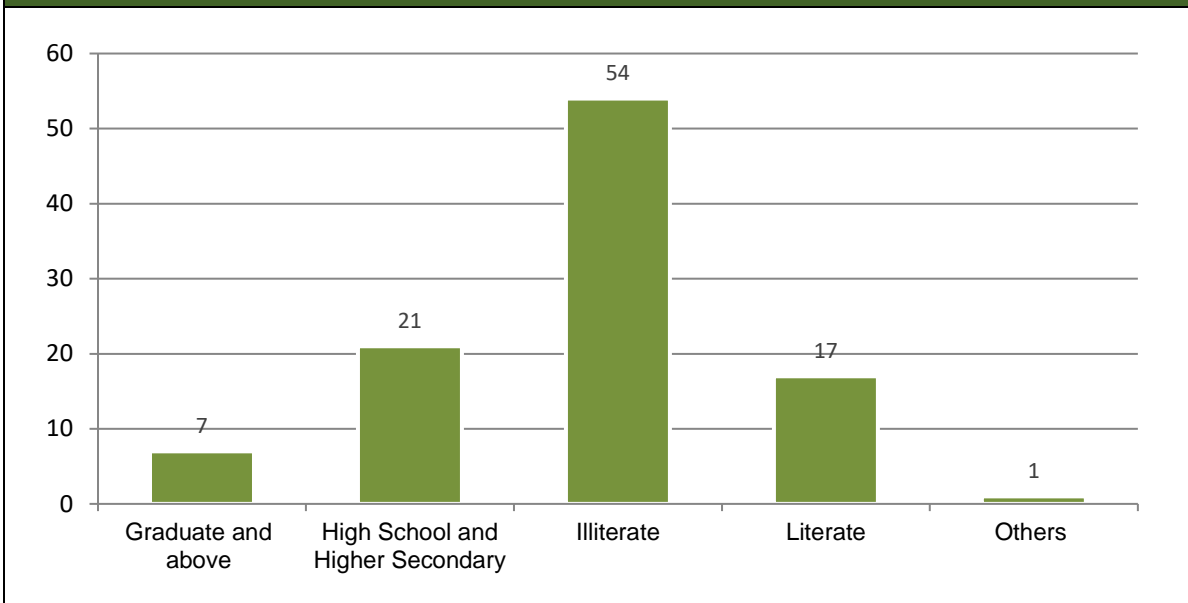


3.9. Perception of CTs by the Households Near the Facility in Non-Slum Areas

3.9.1. Profile of Households

Purposive sampling of households located near CTs that had no household toilet and all members practicing OD, or households having an individual toilet but adult members still practicing OD, were considered. Thirty-six households each from PNP and NNP were interviewed. Two-thirds of the respondents were women, and 72 per cent were either the head of the household or the spouse. The caste breakdown of the respondents indicated that 40 per cent had not revealed their caste, 31 per cent belonged to the General category, 15 per cent were in the Other Backward Caste category, and 13 per cent were in the Scheduled Caste category. About 60 per cent of the respondents owned their house, while the rest lived in rented premises. The educational qualification of respondents (Figure 3.31) revealed that 54 per cent were illiterate, 21 had passed high school or higher secondary school, and 7 per cent were graduates or postgraduates.

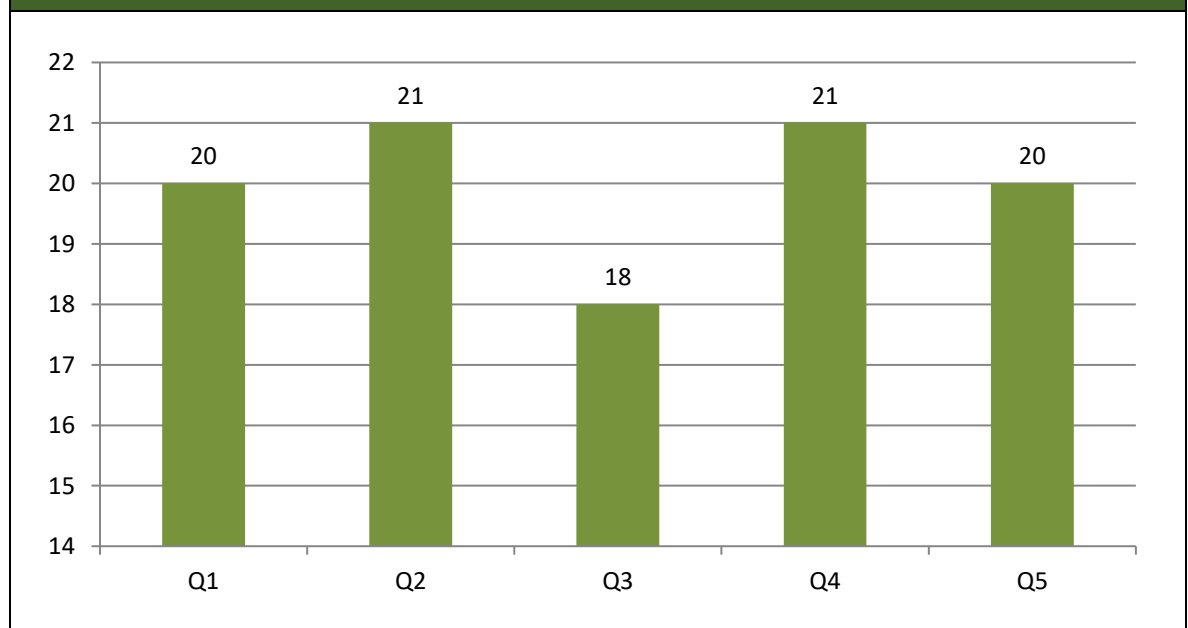
Figure 3.31: Educational Qualification of Respondents (%)



Source: TNUSSP CT and PT Assessment, 2017

In the sample, 80 per cent of the households were nuclear families, with the average household size being 3.53 with a standard deviation of 1.36. Members from about half the sample households were engaged in occupations such as painting, carpentry, skilled labour, and daily wage work, while 26 per cent were construction workers and 21 per cent were employed in services in the private sector.

Figure 3.32: Distribution of Non-Slum Households by Wealth Quintile Grouping

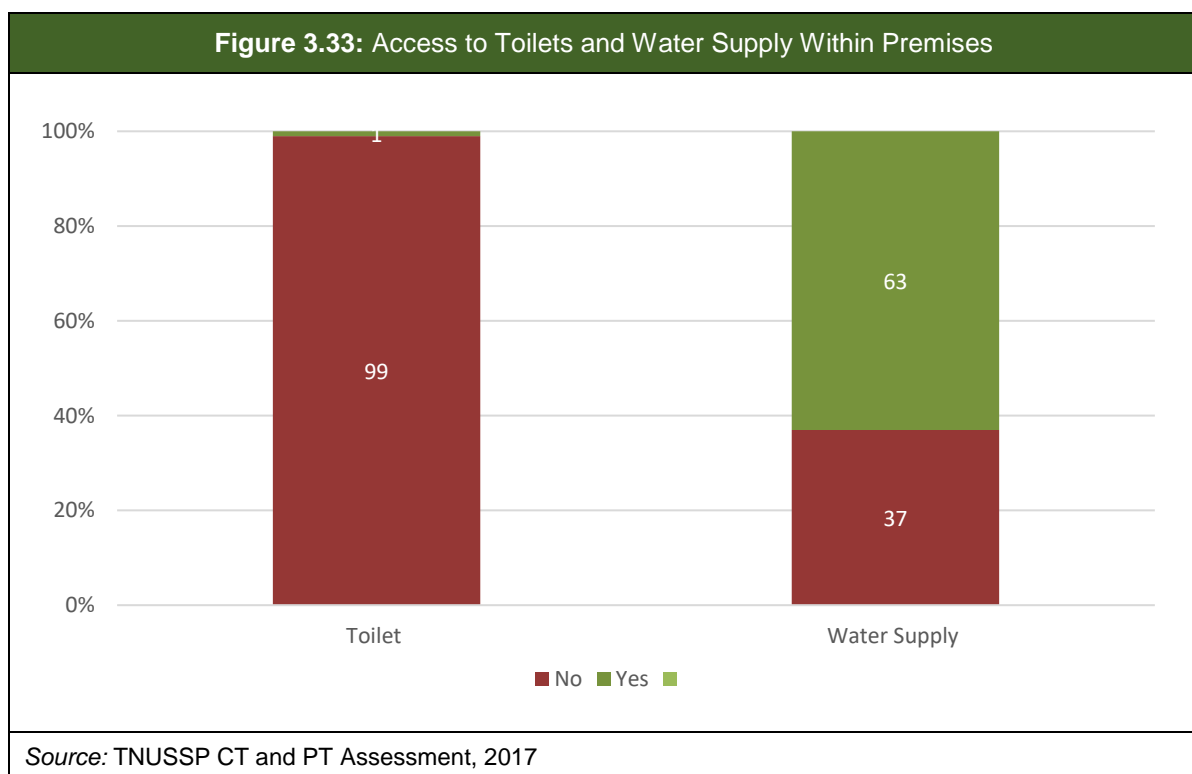


Source: TNUSSP CT and PT Assessment, 2017

Socio-economic profiling of non-slum households done based on PCA revealed a fairly uniform distribution of households across wealth quintiles. While 41 per cent of the households fell under the 'poorest' or 'poor' category, an equal percentage fell under the 'wealthy' or 'wealthiest' category (Figure 3.32).

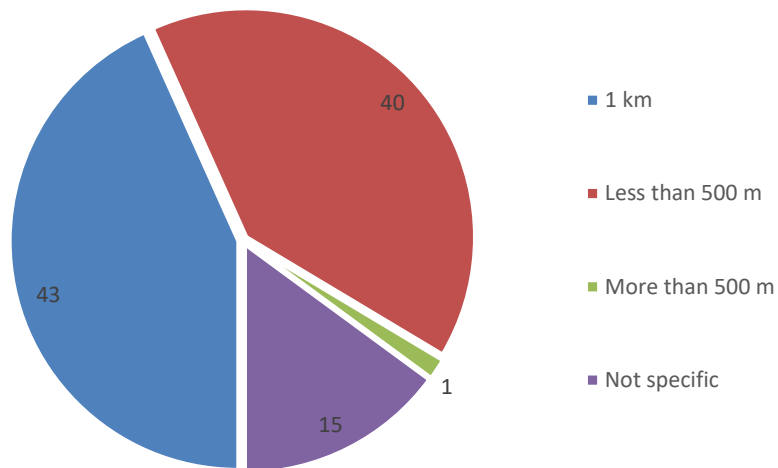
3.9.2. Study Findings

Households were asked about access to water and toilets within their premises, and the results are shown in Figure 3.33. Sixty-three per cent of the households had access to water within the premises and drums were predominantly used to store water, while some households also had overhead tanks and underground sumps. In line with the purposive sampling, 99 per cent of the households did not have toilets, of which 93 per cent defecated in the open and six persons use shared toilets, while none of them used nearby CTs. In the sample, 51 per cent of the households had expressed willingness to construct a household toilet, with 54 per cent of them being aware of SBM norms for toilet construction.



Members of households without toilets typically defecated in the open, with some travelling less than 50 m to the OD site (40 per cent) and others travelling even up to 1 km to access the site (43 per cent) (Figure 3.34).

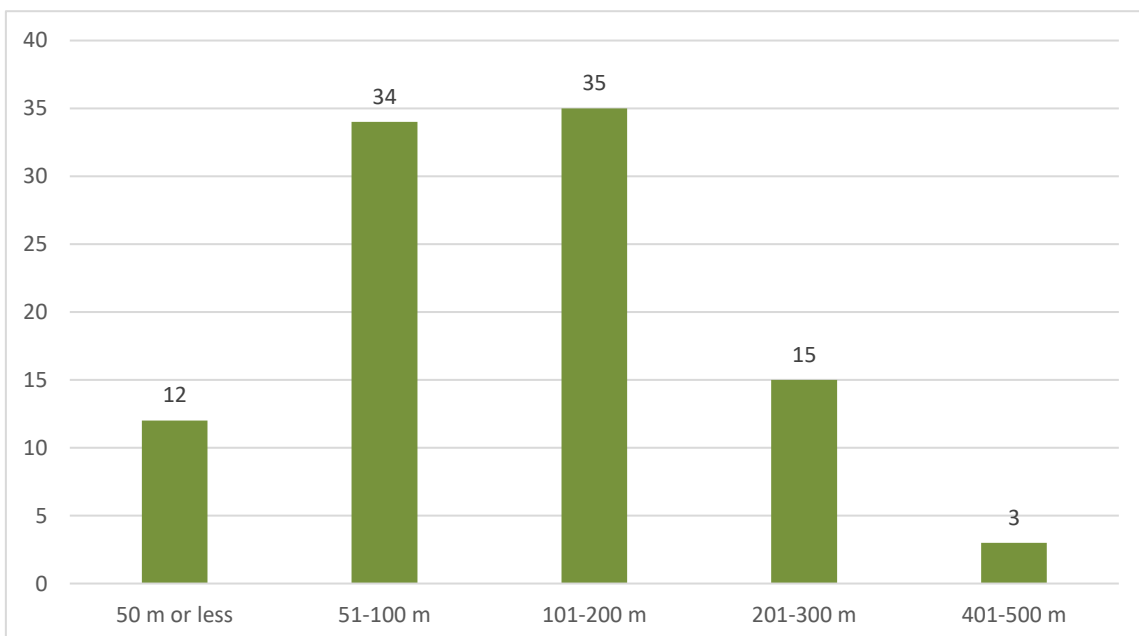
Figure 3.34: Distance Travelled for Open Defecation (%)



Source: TNUSSP CT and PT Assessment, 2017

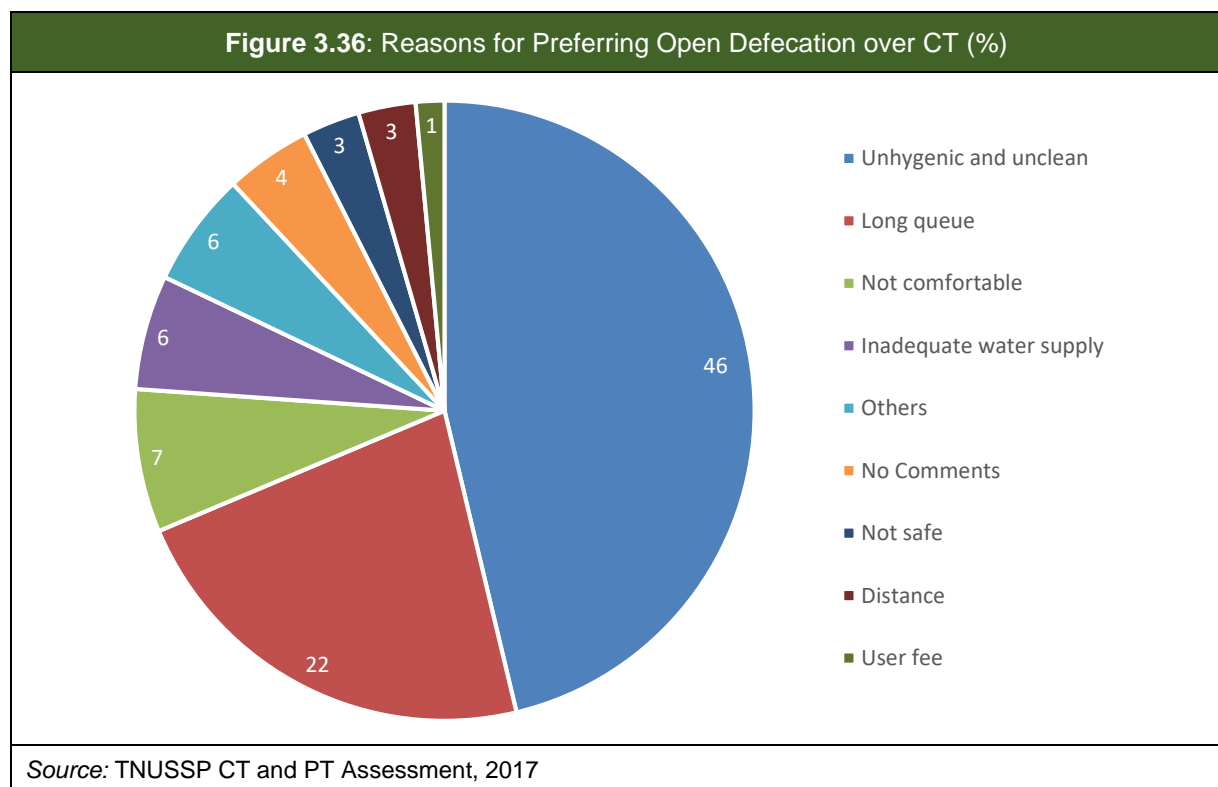
This was despite the fact that the CTs were in close proximity to their place of residence, as shown in Figure 3.35. For 12 per cent of the households, the CT was less than 50 m from their place of residence, 34 per cent of the respondents lived about 51-100 m away from the CT, and 35 per cent lived between 100-200 m away.

Figure 3.35: Distance (in m) of the Household from the CT (%)



Source: TNUSSP CT and PT Assessment, 2017

The main reasons why respondents' preferred OD over using CTs were – lack of hygiene and cleanliness (46 per cent) and long queues (22 per cent). Other reasons stated included inadequate water supply, lack of safety, distance and user fee (Figure 3.36). When asked for recommendations to improve the CT (n=72), about half the respondents did not give a recommendation, around 39 per cent mentioned that if the facility was clean, hygienic, free from odour and well maintained, they were willing to use it, while 11 per cent stressed on repair and refurbishment as they pointed out cases of inadequate seats leading to long queues, broken doors and tiles, malfunctioning electric fittings, etc.



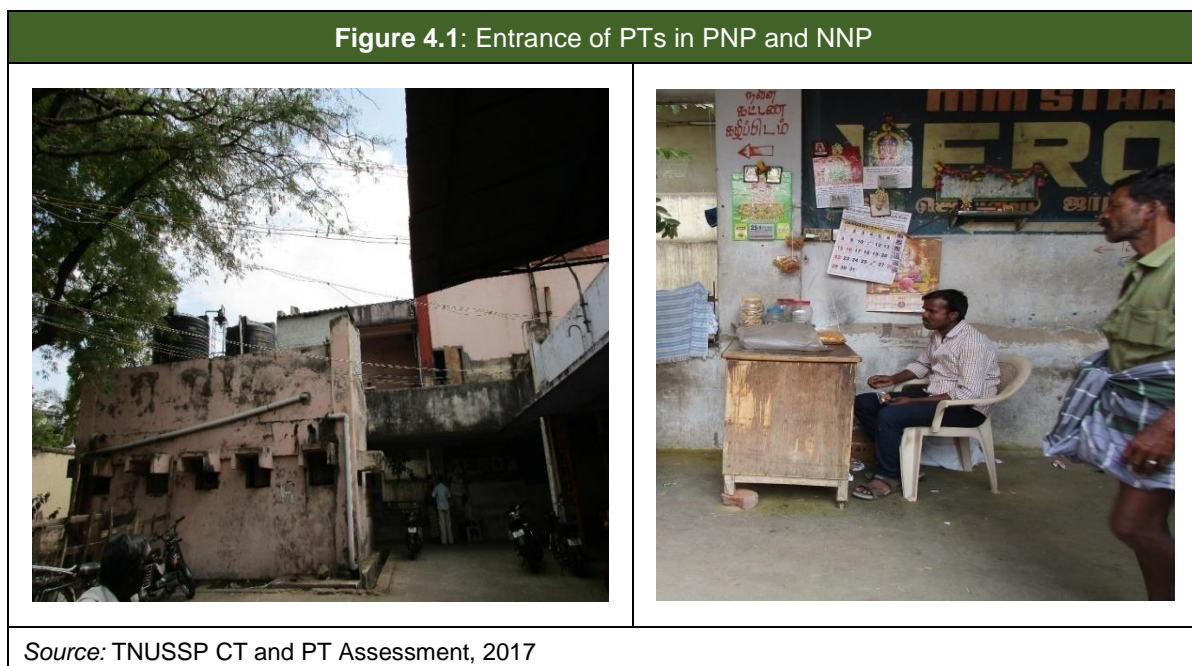
Study Findings: Public Toilets

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4. Study Findings: Public Toilets

4.1. Infrastructure

One PT in PNP located in a bus stand was assessed, which had three seats for men, two for women, and two for persons with physical disabilities (although this was not functional at the time of the study). Separate entrances with signage were available for male and female users with a partition wall separating them, and offered access through steps and a ramp. The facility itself did not have a compound wall. The size of each cubicle was 1.13 m x 1.14 m x 2.74m, while the size of the waiting area available was 6.61 m x 1.47m.



Cubicles were fitted with squatting pans and all cubicles had wooden doors, although with broken latches. The rear clearance in both the men's and women's sections was found to be less than 18 inches. The facility had a leak-proof RCC roof and floor and dado, which were found fitted with tiles. Although there was no provision for washing in the facility, it offered a bathing enclosure for women only. A washbasin and mirror existed, but other basic facilities like soap, a hand drier/napkin dispenser, fly control machine, cleaning equipment, and a separate room for the caretaker/janitor were not available in the facility. Cubicles were fitted with steel taps, and plastic mugs and buckets were available.

4.2. Wastewater and Solid Waste

The PT had a septic tank without a baffle wall and soak-pit in series, with the structure located around 12 m away from the complex completely below ground level. The septic tank had five manholes and a 2 m high vent pipe without a fly screen. Grey water was separated from black water and flowed into an adjacent stormwater drain. For solid waste, disposal bins were available and menstrual waste was disposed of along with solid waste.

4.3. Water Supply and Power

The facility was connected to 24-hour water supply from the TP, but had no backup arrangements. It also had an overhead tank of 2,500 l which was filled using an electric pump twice a day. The facility had 24-hour power supply with functional light fittings in each cubicle.

4.4. Maintenance

The facility was managed by a private contractor who was appointed to operate between 5 a.m. and 10 p.m. Two designated workers were responsible for managing the facility, and they cleaned it on a daily basis. They used PPE and used a pump and string to clear choked toilets. User fee was collected with separate tariffs for urination, defecation and bathing. Accounts were maintained informally, and the monthly maintenance cost was estimated at Rs. 3,000 per month. While minor repairs were undertaken by the contractor, major repairs were borne by the ULB. The septic tank was cleaned once in six months by private cesspool operators, and the average cost of emptying was Rs. 1,000 per load.

4.5. Loading

In the PT, 124 male users were noted per seat and 37 female users were noted per seat, which was in line with the SBM norm (one seat for 100-400 male users, and two seats for 100-200 women users).

4.6. Exit Interviews

About 55 per cent of the respondents were women and the rest were men. Of these, 42 per cent were in the 31–40 years age group, 12 per cent were in the 21–30 years bracket, 18 per cent were 41–50 years, and 20 per cent were 51–60 years. Among the respondents, 52 per cent were from wards outside the TP, 45 per cent from wards within the TP, and 3 per cent were from outside Coimbatore. Of these respondents, 37 per cent belonged to Scheduled Castes, 12 per cent to Other Backward Castes, and 46 per cent did not respond to the question. Thirty-eight per cent of the respondents were illiterate, 18 per cent were literate, and 25 per cent had passed high school. Occupational typologies of the respondents included construction work (27 per cent), shopkeepers, auto drivers and domestic workers. About half of the respondents earned less than Rs. 5,000, 42 per cent earned Rs. 5,000–10,000 per month and the rest earned Rs. 10,000–Rs. 15,000.

About 45 per cent of the respondents had a toilet facility at home while the rest did not, of which 91 per cent did not plan to construct a toilet either. In the sample, 55 per cent of the users had been using the facility for anywhere between 3 and 5 years, 10 per cent had been using it for more than a year, and 32 per cent had been using it for less than a year. Forty-seven per cent of users mentioned that there was provision for bathing with enough water and space in the PT.

In terms of frequency of use, 42 per cent of the users reported using the facility regularly, 17 per cent used the facility on a weekly basis, and 33 per cent rarely used the facility. The user fee was collected in the PT according to standard – Re. 1 for urination, Rs. 2 for defecation and Rs. 5 for bathing/washing. The overwhelming majority of respondents paid the user fee, and the majority (66 per cent) of users paid Rs. 3 to access the PT. Fifty-eight per cent of respondents reported paying daily, 7 per cent paid weekly, 5 per cent paid monthly, and 23 per cent did not respond. Sixty-five per cent of the respondents thought that the charge collected was nominal, 22 per cent did not think so, and 13 per cent did not respond. The majority (80 per cent) of users mentioned that the token system was not being followed in the facility, which was confirmed during the study.

4.7. User Satisfaction

Seventy per cent of users mentioned that they were not satisfied with the current management system for the toilet, while 20 per cent were satisfied. However, when asked for suggestions for improvement, 52 per cent did not offer any specific recommendation, while 20 per cent suggested improving cleanliness and 8 per cent reported being satisfied.

Users were asked questions on various aspects of the PT and could agree or disagree with the statement. In the sample, 38 per cent agreed that the PT was easily accessible (62 per cent agreed partially), 31 per cent fully agreed that it was safely accessible (69 per cent partially agreed), 44 per cent of users were fully satisfied with cleanliness (56 per cent were partially satisfied), 78 per cent fully agreed that they usually do not wait for long to access the toilet (22 per cent partially agreed), 51 per cent fully agreed that sanitation workers responded well to complaints (49 per cent agreed partially), and 74 per cent agreed fully that they get adequate water for cleaning (26 per cent agree partially).



Conclusion and Way Forward

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5. Conclusion and Way Forward

5.1. Strengths of the Existing Facilities

Addressing the sanitation needs of poor households in densely populated slums through CTs is a step in the right direction towards ending OD. The available infrastructure of CTs at the time of the study, which were spread across the two TPs, were not fully utilised - four of the 23 CT facilities were out of use. This put 19 per cent of the constructed seats out of reach of needy users. The functioning toilets were open for at least 16 hours a day, and were conveniently located for users with a majority of them travelling less than 100 m to reach them. The broad dimensions of the toilets were in line with SBM guidelines and the number of seats were also commensurate with SBM norms, in all except three facilities. Fewer children used CTs (average 27) in relation to men (average 110) and women (average 79) in most of the facilities. This may be explained by the fewer number of child-friendly seats.

Although a majority of the CT users did not have household toilets, those that did also continued to use CTs because of water scarcity or insufficient toilet seats at home. Thus, CTs in their current format served the immediate sanitation needs of its user – by being the only mode for safe sanitation and by supplementing the current sanitation arrangement, thereby contributing to reduction of OD in PNP and NNP.

About 65 per cent of households without a toilet planned to construct one, while 60 per cent of them were aware of SBM guidelines. Households that did not have toilets were unable to construct them because of the rented nature of the premises or because of the lack of space.

In general, CT users were satisfied with the standard of CTs, although variations remained across facilities. User satisfaction in the 19 CTs varied widely from 60 per cent – 97 per cent, pointing to a definite need for improvement in operations. Cost and distance were not identified by users as main concerns, while the lack of cleanliness and poor repair & maintenance were mentioned as key barriers to access by the households around the CT. Some preferred to travel up to 1 km to defecate rather than use an unclean toilet. Users pointed to improving cleanliness and maintenance as key recommendations for improving the functioning of CTs.

5.2. Areas of Improvement

1. In the sample of 25 CTs and PTs in NNP and PNP, cleanliness emerged as a major issue across both towns. Urine odour, spit marks, gutkha stains, waste on the roof/window sills, and unclean floors were some of the issues that were observed. Despite contract employees reporting to clean the facility in PNP every day, user feedback highlighted the need for improvement. With workers working across many facilities, their efforts are insufficient to meet basic levels desired by the users.
2. Typically, poor location or quality of fittings are among the often-cited reasons that CTs fall into disuse. In the sample, among the toilets that were functional, more than 80 per cent of the users reported living within 100 m from the facility, indicating that they were ideally located. Visual inspection also indicated appropriate quality of fittings. However, these needed to be maintained, which has not been the case, as doors were missing, latches were missing where doors existed, and closets were broken. In the user feedback, just 16 per cent of the users in NNP and 47 per cent of the users in PNP fully agreed that the facilities were safe to use, despite physical assessments giving a high score for safety parameters. Clearly, repair and maintenance impacted usage to the extent that it

violated the dignity of users and posed safety concerns, especially for women users, besides being an unpleasant experience for the user.

3. Further, repair and maintenance work had suffered with water logging on the floor, poor drainage, and clogging, among other issues noted in many facilities. Of particular concern was wastewater management, with poorly constructed containment structures that had no baffle walls and no connection to soak-pits. Existing structures also had damaged containments, with visual exfiltration and open manholes seen in many facilities in both PNP and NNP. While PNP was dependent on either government or private cesspool vehicles to empty the containment of CTs, NNP was dependent solely on private vehicles as the TPs don't have any desludging vehicles. Further consultations revealed that emptying was very irregular in NNP.
4. Only one of the operational facilities in PNP and two in NNP had more users per seat than the SBM norm, indicating that overcrowding was not an issue. However, non-users of toilet facilities preferred OD over using PSCs. These two aspects clearly indicated that there is scope for vast improvement in usage levels through improvements in cleaning and maintenance.
5. A sanitation inspector is responsible for all maintenance work in PSCs and complaints about the facilities are expected to be addressed by him. In reality, there are many facilities to attend to and managing toilets is just one component of the range of things the inspector is expected to perform. It is important to note that none of the CTs had a caretaker to manage them. Clearly, managing PSCs requires continuous maintenance and management and the absence of a dedicated caretaker/ CBO/NGO/private agency is likely to compound the problem and push the facility into disuse/sub-optimal use.

Box 5.1: CT/PT in Tamil Nadu

GoTN has been a leader in urban sanitation and has made concerted efforts to address sanitation deficits in the state. With an aim to make the state ODF by 2015, the state had undertaken toilet construction since 2012. Towards this end, the focus has been on construction and improvement of toilet infrastructure across the state by renovating old toilet structures, building new individual toilets and new CTs and PTs.

With the focus on expanding the physical infrastructure at the state level, the GoTN views higher capital infrastructure as a prerequisite for better quality infrastructure. Under SBM, a total of 2,73,628 IHHLs, 13,285 CT seats and 1,220 PT seats have been constructed in urban areas. While expanding the network of CTs is the need of the hour, this has been pursued as a government-initiated programme rather than community-led total sanitation. The absence of community involvement in planning and management the facility risks falling into disuse, on account of poor maintenance as community ownership is not fostered from the beginning.

Management of CTs is the responsibility of ULBs and they are free to choose an appropriate model for management. While districts like Tiruchirappalli have offered sustainable templates for CT management, most CTs and PTs have been managed by ULBs through their network of full-time and contract employees. In the absence of the right contractual incentives for employees and continuous oversight by either the community and/or ULB authorities, cleanliness and repair & maintenance of toilet infrastructure tends to suffer.

Source: TNUSSP CT and PT Assessment, 2017

5.3. Recommendations

1. To improve access to sanitation, the primary focus should be on renovating current facilities to meet user expectations and also re-operationalising those that are not in use. While renovating, the opinion for non-users living close to the facility (and who are directly impacted by the facility) should also be taken, as evidence suggests that certain toilets are not in use because of objection from them.
2. With cleanliness and maintenance being the major issue among users and the key barrier to access, O&M mechanisms needs to be reviewed and redefined. Fixed cleaning schedules and designating sanitation workers to each facility from the TP along with provision of appropriate equipment will enhance cleanliness. Use of PPE should be made mandatory.
3. If OD needs to be completely eradicated, then along with cleanliness, the number of seats has to be increased with special consideration for children and persons with physical disabilities.
4. A minimum user fee could be charged for CT users as it will increase ownership and also contribute to economic sustainability.
5. Containments in CTs need immediate attention with reconstruction to comply with the definition of septic tanks and prevent visible exfiltration. Grey water management is another area that needs proper planning and implementation. Solid waste/menstrual waste management needs to improve, with provision of dustbins in all facilities and repair or replacement of non-working incinerators. Also, incinerators need to be installed in toilets that do not have one presently.
6. Guidelines on construction and management of CT/PTs with the aim of assisting ULB officers and city planners in planning, design, implementation, and O&M of CTs and PTs will be useful.

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Annexures

Annexure 1: Guidelines On Community Toilets A3

Annexure 2: Slum Sanitation Programme, Mumbai A5

Annexure 1: Guidelines on Community Toilets

Guidelines on CTs were issued in 1995 by the MoUAE to facilitate proper and sustained use of the facilities. Since sanitation is seen as the responsibility of the ULB, CTs are traditionally built, operated, and maintained by them. However, ULB-managed toilets are poorly maintained for lack of the following aspects: dedicated staff for maintenance and supervision, payment for services rendered and ownership among users.

Key **deficiencies** in CTs noted in the guidelines include – lack of cleanliness and poor upkeep especially in toilets that are not pay-and-use, insufficient water supply, inappropriate location, poor construction standards, lack of security especially for female users, and inadequate funds for O&M. To address these deficiencies, guidelines were issued in four areas which included Project Preparation, Design & Construction, O&M and Institutional & Financial Arrangements.

On the issue of **user charges**, the guidelines recommend that CTs be maintained on a pay-and-use basis by collecting user charges to cover full O&M costs and provide adequate staff and material for maintenance.

On the issue of **management** of CTs, the guidelines highlight the merits and demerits of community- and NGO-managed toilets.

Table A1: Pros and Cons of Various Models of CT Management			
Sl. No.		Pros	Cons
1	O&M by external agency	<ul style="list-style-type: none"> a. ULB is relieved of managerial and financial responsibilities b. Users are likely to develop a sense of ownership, as they pay for services and demand better services 	<ul style="list-style-type: none"> a. Short period contracts do not offer sufficient incentives to render good quality and effective services b. A lack of supervision and monitoring leaves room for contractors to under-perform
2	O&M by community	<ul style="list-style-type: none"> a. Users have a sense of ownership b. Users have control on the level of service c. O&M costs are minimised as some functions are taken over by the community d. ULBs are relieved of financial and managerial burden 	
Source: Ministry of Urban Affairs and Employment (MoUAE) in 1995			

The guidelines recommend that the final selection of a particular option should be based on the user's willingness to pay for and participate in O&M. While selecting an external agency, the guidelines recommend preference for an NGO, ensuring compliance with the contract by the agency/NGO, and recommend that user charges be fixed to cover full O&M costs and allow for reasonable profit.

Annexure 2: Slum Sanitation Programme, Mumbai

The Slum Sanitation Programme focussed on providing quality toilets to slum communities and involved them in project implementation right from the planning stage. Communities where toilets were built were mobilised by an NGO, the project was explained to them, and their inputs were taken when it came to toilet design and location.

They were organised as a CBO, which was registered as a Trust or a Society (under the Bombay Public Trust Act). The responsibility of maintaining the toilet block is then handed over to the CBO and a Memorandum of Understanding is entered upon between the CBO and the Corporation. The MoU specifies that CBOs operate and maintain the toilet block as follows, while the corporation is responsible for major capital repairs:

- Maintenance and minor repairs
- Hours of operation
- Maintaining accounts and issuing monthly passes
- Payment of water and electricity charges
- Appointment of caretaker
- Maintaining security
- Insurance and claims
- Prohibition of use of the toilet block for other purposes
- Steps to be taken in case of a breach of the agreement

These toilets have been built to high specifications and typically have a longer life and hence O&M is necessary. Towards this, monthly fees and pay-per-use charges are collected, which covers all expenses related to the upkeep of the toilet blocks including water and electricity charges. All minor repairs are to be carried out and paid for by the CBOs while the municipal corporation is responsible for attending to major repairs.

The various types of management arrangements which have emerged include –appointment of caretakers (66 per cent), contracting individual CBOs to manage and operate the toilets (17 per cent), contracting professional operators to manage them (3 per cent), self management by the CBO (3 per cent), while in the remaining 11 per cent of cases, the CBO has either not been formed or is not functioning. In a few CBOs, some groups are seen as dominating the operations.

The SSP CTs are well-used by many slum residents and promise the potential of raising revenues sufficient for O&M in many locations. However, CBOs need to be supported to directly manage the CTs themselves, or to contract out the day-to-day management to local private sector operators.

Source: Study of the World Bank-Financed Slum Sanitation Project in Mumbai, WSP (2005)



Tamil Nadu Urban Sanitation Support Programme (TNUSSP) supports the Government of Tamil Nadu and cities in making improvements along the entire urban sanitation chain.

The TNUSSP is implemented by a consortium of organisations led by the Indian Institute for Human Settlements (IIHS), in association with CDD Society, Gramalaya and Keystone Foundation.