

EFFICACY OF PUBLIC TOILETS IN DELHI
CANTONMENT: A STUDY OF THEIR MAINTENANCE

A Dissertation submitted to Panjab University, Chandigarh for award of
Master of Philosophy in Social Sciences, in partial fulfillment of the requirement for
the Advanced Professional Programme in Public Administration (APPPA)

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CERTIFICATE

I have the pleasure to certify that the dissertation titled“Efficacy of Public Toilets in Delhi Cantonment: A Study of their Maintenance” is a bonafide research work carried out by Air Commodore Siruvuri Sridhar VM under my guidance and supervision. The dissertation is a result of his own research and to the best of my knowledge no part of it has earlier comprised in other monograph, dissertation or book.

This is being submitted to the Panjab University, Chandigarh, for the award of Master of Philosophy in Social Sciences in partial fulfillment of the requirement for the Advanced Professional Programme in Public Administration (APPPA) of the Indian Institute of Public Administration (IIPA), New Delhi.

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DISCLAIMER

The findings, interpretations, views, recommendations and conclusions in the dissertation are those of the author, and should not be attributed in any manner to any authority, organization or individual.

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ABBREVIATIONS

AF Stn	Air Force Station
BOT	Build Operate Transfer
Bzr	Bazaar
Cantt	Cantonment
CBD	Cantonment Board of Delhi
CBO	Community Based Organization
GDP	Gross Domestic Product
CSD	Canteen Stores Depot
CSR	Corporate Social Responsibility
CT	Community Toilet
DCB	Delhi Cantonment Board
Dist	District
DMS	Delhi Milk Scheme
FDI	Foreign Direct Investment
GoI	Government of India
HR	Human Resource
Hrs	Hours
IAF	Indian Air Force
IOC	Indian Oil Corporation
Jn	Junction
MCD	Municipal Corporation of Delhi
MFI	Micro Finance Institutions
MoHUA	Ministry of Housing and Urban Affairs
MoUA	Ministry of Urban Affairs
MoUD	Ministry of Urban Development
NDMC	New Delhi Municipal Council
NGO	Non Governmental Organization
O&M	Operations and Maintenance
PPP	Public Private Partnership
PT	Public Toilet

Qtrs	Quarters
Rd	Road
SBA	Swacch Bharat Abhiyan
SBM	Swacch Bharat Mission
SDG	Sustainable Development Goals
SHG	Self Help Group
ULB	Urban Local Body
UN	United Nations
UN DESA	United Nations Department of Economic and Social Affairs
UNICEF	United Nations Children Education Fund
WC	Water Closet
WHO	World Health Organisation
WSUP	Water & Sanitation for Urban Poor

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CHAPTER I : INTRODUCTION

“By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations”

- 2030 UN Agenda for Sustainable Development

Overview

1.1 Sustainable Development Goal 6.2 (as part of the 2030 Agenda for Sustainable Development) was adopted by all United Nations member states in 2015, which aims to achieve access to adequate and equitable sanitation and hygiene for all, paying special attention to the needs of women and girls and those in vulnerable situations by the year 2030. A well managed public toilet chain is vital for protecting the health of individuals and the environment. Leaking toilets and waste water drains can spread diseases and provide a breeding ground for mosquitoes, as well as pollute groundwater that may serve potential danger to drinking water sources. Good hygiene practices such as hand washing with soap and water after using the toilet are essential to limiting the spread of communicable diseases.

1.2 Toilets are a basic necessity to humans but are often taken for granted by those who have regular access. Poor public toilet services are one of the most visible symptoms of inadequate urban sanitation services in India. The pace of development in housing and public transport has not been matched by accessible and functional toilet amenities. Citizens, especially in high footfall areas including market places, bus stands and railway stations often cannot find a clean public toilet when they need one. Efficient public toilet management is especially crucial for cities with a large floating population. Most often, sanitation models fail in their operations and management after a couple of years due to inadequacies in one or a combination of the planning,

financing, operations and management of public toilets.

1.3 Many urban poor households do not have toilets at home and depend on public facilities and community toilets. Added to that, some urban households do not have access to any toilet and need to resort to defecating in the open. Moreover, although sewage systems widely exist, much of the fecal matter is not disposed off safely. These critical conditions pose significant public health and environmental risks, threatening the long-term growth trajectory of India's urban centers that currently contribute a lot to the national GDP. Improvements in public toilet management would positively impact the cities' economic, social and ecological environment.

1.4 Access to safe and healthy sanitation is a basic right for all citizens. Therefore, providing public toilets in cities is a basic component of city services, and its provision is an integral part of urban planning and development. The provision of public toilets is also part of the Swachh Bharat Mission (SBM) that calls for creating a larger number of public toilets in the cities of India. According to the guidelines of the SBM, "Public toilets are provided for the floating population / general public in places such as markets, train stations or other public areas, where there is a considerable number of people passing by. Improved access to safe drinking water and sanitation facilities in the public sphere, including for menstrual hygiene management, will also help to enable more girls to attend schools and more women to take up jobs and work outside their homes.

Urbanization

1.5 According to a report launched by United Nations in May 2018, 55% of the world's population lives in urban areas, a proportion that is expected to increase to 68% by 2050. Projections show that urbanization, the gradual shift in residence of the

human population from rural to urban areas, combined with the overall growth of the world's population could add another 2.5 billion people to urban areas by 2050, with close to 90% of this increase taking place in Asia and Africa.

1.6 The 2018 Revision of World Urbanization Prospects produced by the Population Division of the UN Department of Economic and Social Affairs (UN DESA) notes that future increases in the size of the world's urban population are expected to be highly concentrated in just a few countries. Together, India, China and Nigeria will account for 35% of the projected growth of the world's urban population between 2018 and 2050. By 2050, it is projected that India will have added 416 million urban dwellers, China 255 million and Nigeria 189 million.

1.7 As the world continues to urbanize, sustainable development depends increasingly on the successful management of urban growth, especially in low income and lower middle income countries where the pace of urbanization is projected to be the fastest. Many countries will face challenges in meeting the needs of their growing urban populations, including for housing, transportation, energy systems and other infrastructure, as well as for employment and basic services such as education and health care. Integrated policies to improve the lives of both urban and rural dwellers are needed, while strengthening the linkages between urban and rural areas, building on their existing economic, social and environmental ties.

1.8 India, which is widely expected to be the most populous country in the world with more than 1.5 billion people by 2050, has seen its urban population double in 30 years, to nearly 600 million. India's unique pattern of urbanization is not a corollary, but a driving force of this growth story. Its cities contribute about two-thirds of its economic output and are the main recipients of FDI. 70% of future employment is expected to be generated in Indian cities, with emerging cities (population less than 1

million) driving consumption expenditure. With 70% of India's built environment for 2030 yet to take shape, its impending urban transformation also represents significant opportunities for domestic and international investments (Prasad 2019).

1.9 The urban success story of India demands a closer look. Many of India's cities contend with unsustainable levels of stress on infrastructure, resources and public services. To achieve sustainable growth, these cities will have to become more livable and safe with clean air, sufficient infrastructure, dependable utilities and ample opportunities for learning and employment. To ensure that the benefits of urbanization are fully shared and inclusive, policies to manage urban growth need to ensure access to infrastructure and social services for all, focusing on the needs of the urban poor and other vulnerable groups for housing, education, health care, decent work and a safe environment.

1.10 The solution lies in inclusive urbanization processes that prioritize quality of life for all, focusing especially on the needs of vulnerable urban groups for employment, housing, sanitation, health care and education. Most importantly, planning must incorporate long term resource sensitivity and community involvement at every step, while bench marking smart and measurable outcomes for all stakeholders.

Public Toilets

1.11 A public toilet is a room or small building containing one or more toilets and possibly also urinals which are available for use by the general public. Public toilets are commonly separated by gender into male and female facilities, although some can be unisex, particularly the smaller or single occupancy types. Increasingly, public toilets are incorporating accessible toilets and features to cater for people with

disabilities, elderly and children. Public toilets may be unattended or be staffed by an attendant, provided by the local authority or the owner of the facility. In many cultures, it is customary to tip the attendant, while other public toilets may charge a small fee for entrance and in many localities a free service provided by the local government or an NGO. They are typically found in markets, railway stations, schools, shopping malls, restaurants, or petrol pumps as well as on some of the long distance public transport vehicles. Portable toilets are often provided at festivals and at temporary events for public use.

1.12 Emptying the urinary bladder fully after every 3-4 hours will reduce the likelihood of developing urinary tract infections, cystitis and protect your kidneys from damage. If the bladder fails to empty and goes into retention, the bladder muscle can become overstretched and can be damaged. An overstretched bladder struggles to contract and empty the bladder effectively. Public Toilets are an invitation to participate in urban life, a signal of welcome even more important than parks and benches and dustbins (Lezlie 2015). As an away from home toilet room, a public toilet can provide far more than access to the toilet for urination and defecation. People also wash their hands, use the mirrors for grooming, attend to menstrual hygiene needs and use the waste bins.

1.13 Community toilet (CT) facility is a shared facility provided for a defined group of residents or an entire settlement / community. It is normally located in or near the community area and used by most community members, whereas, public toilet (PT) facilities are provided for the floating population / general public in places such as markets, train stations or other public areas and used by mostly floating/ undefined users .

1.14 To ease planning efforts by cities, it is important to categorize different types

of toilets so that they can be planned & constructed based on the user needs as well as local conditions. Toilets can be categorized on the basis of locations and user types. The type of infrastructure and facilities provided for each type would also differ. The toilets have been categorized primarily into 5 types based on the location of the facility in relation to its usage (Advisory on public and community toilets 2018). They are listed below :-

- (a) Transit Area Toilets.
- (b) Institutional Area Toilets.
- (c) Public Space Toilets.
- (d) Community Toilets.
- (e) Event Linked Toilets.

1.15 The internal design considerations of public toilets are the most crucial for ensuring acceptability and usage. The designs and provision of various facilities shall consider diverse sanitation needs of different user groups (women, children, elderly, differently abled and transgenders) without compromising safety and privacy at all times. Public toilets are places where one is obliged to ease oneself in unfamiliar surroundings among the strangers of the same sex. Therefore, the fundamental principles of design of toilets include psychological studies and not just physical clearances and space requirement.

Operations and Maintenance of Public Toilets

1.16 Operation and maintenance of PT facility is closely linked to design and proper construction practices. O&M of a toilet facility includes several activities like cleaning, provision of consumable items, dedicated staff for the facility, undertaking repairs & replacement, etc. The operations and maintenance activities can be viewed at

two levels, regular and occasional including repairs. Operations and maintenance of PT is one of the weaker areas of management and is often evident from user surveys / complaints from users. Poor O&M results in reduced usage and often people resort to open defecation and urination.

1.17 Operations include the general day to day activities like opening and closing of the toilet facility, cleaning, ensuring safety and staffing, etc. User satisfaction is heavily dependent on the proper and timely operations, hence setting service level standards for each activity is critical. Maintenance includes the repair and replacement of all Public toilet systems, materials, fixtures, accessories. Both existing and new public toilets should be maintained in proper operating condition in accordance with the original design in a safe and sanitary condition.

1.18 The opening and closing time of public toilet should be appropriate to local demand and activity pattern. A clear understanding of the usage pattern and people movement at potential locations will clearly help in deciding the opening and closing hours. Cleaning of toilet requires various equipment and supplies. These typically include safety gear for the cleaner, consumables (such as cleaning tools, sanitizers and disinfectants) and other miscellaneous items for convenience. Operations staff should have access to sufficient number of cleaning tools to aid their cleaning activities, hence necessitating an inventory and stocking system by the operator is important.

1.19 The term “cleaning” refers to all activities related to the provision and use of all cleaning equipment and consumables for predefined activities and schedules by cleaning staff. This schedule ensures that the toilet facility is clean and hygienic at all times. The number of staff persons needs in each category for the O&M of a toilet block depends upon the number of users, the usage hours, method of user charges collection and the institutional arrangements for O&M. The aim should be to appoint

the minimum number of staff essential for carrying out all the daily and weekly O&M schedules and general upkeep measures. Safety, security and access need to be looked proactively to prevent risks to women and adolescent girls from using the facility or sexual assault while using the facility. Special attention should be given to areas prone to vandalism, functional lighting fixtures, water availability, functioning doors, intrusion of privacy, etc.

1.20 One of the first steps while planning for PT facilities is to create an asset inventory of the toilets to enable an evaluation of the quality of services. Most toilets are built on ULB assets and require to be clearly mapped and ownership clarified. This ownership mapping also provides an opportunity to attempt different viability models. The citizens must be aware of the basic information about the public toilets they wish to use and must have access to grievance redressal mechanism.

Sanitation and Hygiene

1.21 Sanitation is the effective use of tools and actions that keep our environment healthy. These include latrines or toilets to manage waste, food preparation, washing stations, effective drainage and other such mechanisms. Sanitation in the context of public toilets refers to the provision of facilities and services for the safe disposal of human urine and fecal matter. Lack of proper sanitation is a serious issue that is affecting most developing countries. The importance of hygienic toilets lies in an effort to prevent diseases which can be transmitted through human waste. It is estimated that up to five million people die each year from preventable waterborne diseases due to inadequate sanitation (Masala 2016).

1.22 Hygiene is a series of practices performed to preserve health. According to the World Health Organization (WHO), "Hygiene refers to conditions and practices

that help to maintain health and prevent the spread of diseases." Personal hygiene refers to maintaining the body's cleanliness. Many people equate hygiene with 'cleanliness,' but hygiene is a broad term. It includes such personal habit choices as how frequently to take a shower or bath, wash hands, trim fingernails, and wash clothes. It also includes attention to keeping surfaces in the home and workplace, including bathroom facilities, clean and pathogen free. The terms cleanliness and hygiene are often used interchangeably, which can cause confusion. In general, hygiene refers to practices that prevent spread of disease causing organisms. Cleaning processes (e.g., hand washing) remove infectious microbes as well as dirt and soil, and are thus often the means to achieve hygiene.

1.23 Hygiene is a set of personal practices that contribute to good health. Hand washing is the single most important activity we can all do to encourage the spreading of diseases. While both sanitation and hygiene are related, the difference is subtle but important. Toilet hygiene is crucial for good health and dignity in our daily lives. A clean toilet is not a luxury; it is a basic sanitary need. Poor toilet hygiene brings a long list of potential health risks. Relieving oneself in unsanitary conditions can lead to infections and diseases, especially diarrhoea. The toilet has a lot to do with personal hygiene and general health as it is a place that cannot be avoided since it is essential to visit the toilet often in a day, keeping it clean and free from anything that can endanger health is important. A toilet is also a perfect place for germs and bacteria to breed. Bacteria's like E-coli, Salmonella and many more can be found mostly in the toilet bowls. These bacteria are also found on the toilet seats, the floor, the flushes and the door handles. Bacteria in the toilet absorb organic waste and release gases which is the reason why we get a foul odor in the toilets (Cecilia 2018).

1.24 Toilets must always be kept clean by making sure they have good hygiene

services like soap dispensers, hand dryers etc. Floors should be moped thoroughly with cleaning agents and as the general rule of toilet etiquette, after using the toilet wash your hands with soap and flush the toilet after use. Public toilets must be used as we use our own toilets at home. There must be workers specifically assigned to clean toilets at every institution, especially public places, to ensure cleanliness throughout the day. Sometimes the situation is worsened by the public users, who do not exhibit toilet etiquette. Worse still, some individuals are not concerned about others when they use public toilets. It only needs a few individuals who are careless about hygiene to turn clean toilets into dirty ones. Some people are in the habit of not flushing toilets after use, while others squat on the seat. It must be noted that no matter how beautiful the buildings or premises are, if the toilets are dirty, the country/ city is seen as backward.

Swachh Bharat Mission (SBM)/ Swachh Bharat Abhiyan (SBA)

1.25 The Swachh Bharat Abhiyan is the most significant cleanliness campaign by the Government of India. The campaign aims to achieve the vision of a 'Clean India'. The objectives of Swachh Bharat include eliminating open defecation through the construction of household owned and community owned toilets and establishing an accountable mechanism of monitoring toilet use. The mission will also contribute to India reaching Sustainable Development Goal 6 (SDG 6), established by the UN in 2015. The mission has two thrusts: Swachh Bharat Abhiyan ("gramin" or "rural"), which operates under the Ministry of Drinking Water and Sanitation and Swachh Bharat Abhiyan ("urban"), which operates under the Ministry of Housing and Urban Affairs.

1.26 The SBM (Urban) guidelines were brought out in October 2014 to provide

states and cities with a road-map for implementing the SBM-Urban components. These guidelines provide the norms for planning, construction, operation and maintenance of Public and Community toilets. More than five years have passed since then and the government has taken a variety of initiatives to help cities to accelerate their progress of implementation. Rapidly growing cities with little individual spaces have made it difficult for households to build individual toilets, but SBM urban is concentrating on building public and community toilets to ensure that sanitation coverage in urban India improves. While construction of toilets and ending the practice of open defecation are key goals of SBM, building a cleaner and healthier India, in the long run, is what the mission aims to achieve.

1.27 So far, as part of the SBM (Urban), 5,52,692 CTs and PTs have been constructed (SBM Urban dashboard, as on 06 Feb 2020). While the SBM has been successful in increasing the number of public toilets in cities, maintenance, especially in terms of hygiene has been a challenge. Women especially bear the brunt of this lack of clean public toilets as many public toilets are too dirty or unhygienic to use or lack water or do not offer adequate privacy with broken doors or latches. This compels them to either restrict their water or food intake or risk open urination and defecation, all of which can lead to adverse health outcomes.

Statement of the Problem

1.28 ‘Urbanization’ has emerged as one of the most prominent dimensions of the development process the world over. India has also witnessed substantial urban expansion over the last few decades. In the last fifty years, the population of urban India has grown almost five times. Rapid urbanization has posed serious challenges to urban planning and management in terms of providing infrastructure and other civic

amenities like housing, electricity, water and sanitation. The negative consequences of urban pull from the rural, have resulted in critical inadequacies in public utilities, overcrowding, unhygienic conditions etc.

1.29 Delhi is the second largest city in terms of population after Mumbai. The population of Delhi in 2019, is estimated to be 29.596 Million and is increasing by about 0.796 Million every year. Delhi Cantonment is a part of South West Delhi District and has an area of 42.58 Sq km and divided into 8 Wards. It has a current population of 1,21,380 and has 10,500 households (as per 2011 census) living in the area. Due to the proximity of the International airport and Dwarka residential township, many people transit through the area on a daily basis. Apart from the military personnel, it is also home to huge civilian population. Due to opening of most roads in the area for transit by civil population, the floating population has increased rapidly in the area and is putting pressure on the existing public facilities.

1.30 The recent surveys of public toilets in Delhi and other cities of India show that though the number of toilets has increased, there are a lot of inadequacies regarding hygienic maintenance and provision of the required basic facilities like water, electricity, security, dustbin etc. Also, most of the toilets were not adhering to the norms specified by SBM and were not women and disabled friendly. A recent survey carried out by Ministry of Urban Affairs revealed that over one third of PTs in Delhi city are unusable (Paras Singh 2020). Therefore, though the number of public toilets is increasing, their maintenance and provision of clean and hygienic public toilets remains a weak area. Due to this bad state of public toilets, many citizens, especially women avoid using the public toilets except in case of an emergency.

Rationale / Justification for the Study

1.31 Access to a hygienic public toilet is a basic right and expectation of every citizen from the governing body. The same has been also mandated through SDG 6 goal of UN and SBM of Govt of India. Recent surveys of public toilets in Indian cities have revealed that though SBM has resulted in a relative increase in a number of toilets, they are still inadequate and maintenance/ hygiene is a major issue of concern. Due to unhygienic state of many public toilets in India, many users, especially women are reluctant to use them.

1.32 Though some limited surveys have been done in other areas of Delhi, no detailed survey or study of public toilets has been carried out in the Delhi Cantonment area. Delhi Cantonment has two major public shopping centers, public parks, govt schools and a govt hospital, which are open to the civilian and military population. The area is governed by Cantonment Board of Delhi (CBD) under Ministry of Defence. Cantonment Board of Delhi is responsible for maintaining sanitation and hygiene at public areas/facilities in the area.

1.33 This study aims to fill the gap to identify the problem areas in maintenance and make recommendations to improve public toilet facilities in Delhi cantonment area. The research findings will be beneficial to urban governing bodies in general and concerned Cantonment Board of Delhi officials in particular to enable them to realise the weak areas of public toilets and provide guidance to take corrective actions, which will eventually benefit the public residing/ transiting through Delhi cantonment area in having access to hygienic public toilets with the required facilities.

Research Objectives

1.34 The objectives of the study are as under:-

- (a) To study the adequacy and facilities provided in public toilets of Delhi cantonment area and compare them with the norms laid down in SBM (Urban) guidelines,
- (b) To identify the bottlenecks in public toilet maintenance in Delhi cantonment area,
- (c) To assess the hygiene level in public toilets in Delhi cantonment area, and
- (d) To prepare sustainable recommendations for better maintenance of public toilets in Delhi cantonment area.

Research Questions

1.35 The research questions that need to be addressed are as under: -

- (a) Are the existing public toilets adequate to meet the requirements of public places in Delhi cantonment area as per the SBM (Urban) guidelines?
- (b) Are the facilities provided in the public toilets in Delhi cantonment area meet the norms prescribed in the SBM (Urban) guidelines?
- (c) What are the maintenance problems and solutions for public toilets in Delhi cantonment area?
- (d) What is the hygiene level of public toilets in Delhi Cantonment area?

Scope / Limitations/ Delimitation

1.36 The research is limited to public toilets and public areas which fall under the ambit of the Cantonment Board of Delhi. The public toilets located within the military

premises are excluded in the study. This exclusion is mainly due to the limited users, restricted access and better maintenance associated with these toilets in the military premises.

Chapterisation Scheme

1.37 The dissertation is divided into various Chapters as given below:-

- (a) **Chapter I.** Introduction (Overview of the topic, Statement of the Problem, Justification for the study, Research Objectives, Research Questions, Limitations)
- (b) **Chapter II.** Review of Literature.
- (c) **Chapter III.** Public Toilet Guidelines (bring out various guidelines available on planning, designing, operation and maintenance of Public toilets).
- (d) **Chapter IV.** Setting of the Research Work.
- (e) **Chapter V.** Adequacy of Public Toilets (analyse the adequacy of PTs in Delhi Cantt area, based on the laid down guidelines, observations made during field survey and user feed back).
- (f) **Chapter VI.** Facilities in Public Toilets (analyse the facilities available in PTs in Delhi Cantt area, based on the laid down guidelines, observations made during field survey and user feedback).
- (g) **Chapter VII.** Operation and Maintenance of Public Toilets (analyse the Operation and Maintenance of PTs in Delhi Cantt area, based on the laid down guidelines, observations made during field survey, discussions with DCB Officials & Caretakers and user feedback).

- (h) **Chapter VIII.** Cleanliness and Hygiene in Public Toilets (analyse the Hygiene level of PTs in Delhi Cantt, based on the laid down guidelines, observations made during field survey and user feedback).
- (j) **Chapter IX.** Conclusion and Recommendations (make feasible and sustainable recommendations to overcome various deficiencies discussed in previous chapters).

CHAPTER II : REVIEW OF LITERATURE

“What do researchers know? What do they not know? What has been researched and what has not been researched? Is the research reliable and trustworthy? Where are the gaps in the knowledge? When you compile all that together, you have yourself a literature review.”

- Jim Ollhoff

2.1 Majority of the literature available on the subject covers the issues of open defecation and sanitation issues in slum and rural areas. Some surveys were carried out in other cities of India and three specific surveys have been carried out on the public toilets of Delhi. However, it would be fruitful to acquaint with the findings of the major studies undertaken on the subject by researchers to identify the best practices and gaps in the research on the subject.

2.2 Sheikh, Shahana (2008), studied the public and Community toilet facilities for women in slum and resettlement areas of Delhi. Her study didn't include Delhi Cantt area. Her findings are given below:-

- (a) There are various conflicting norms for public toilets at National and local levels.
- (b) There is a lot of difference between the funds available to NDMC and MCD towards the construction and maintenance of public toilets.
- (c) Private contractors are hand in glove with MCD officials and posing as NGOs and taking long term lease of use and pay toilets.
- (d) The expenditure for a family of five to use a community toilet is approximately Rs 37 per day, which is very high compared to the average daily income of Rs 100.
- (e) Many women do not know how to use the toilet properly and leading to dirtying it.

(f) Many women due to cases of sexual harassment in public toilets in slum areas prefer to go out in the open.

(g) Only 4% of Delhi toilets have urinals for women.

2.3 Actionaid India (2016), carried out a status survey of public toilets in Delhi.

They excluded the PTs in Delhi Cantt area. The findings are given below:-

(a) **Visibility and Accessibility.** 72% of the toilets did not have visible signboards. 76% did not have a ramp facility. 35% did not have a separate section for women and 76% did not have signboard in Braille language.

(b) **Public Toilets for Women.** 66% of women toilets did not have a working flush. 53% did not have running water facility. 51% did not have the facility to wash hands. 61% did not have soap to use. 30% did not have doors. 45% did not have locking facility. 50% did not have lights inside. 46% did not have guards.

(c) **Infrastructure and Maintenance.** 71% of the toilets were not cleaned regularly. Cleanliness is a major issue for the users. 38% of septic tanks were cleaned manually.

2.4 Jonnalagadda, Indivar & Tanniru, Sandeep (2014), carried out a research on “Rethinking governance of public toilets: Swachh Bharat lessons from Hyderabad”.

The findings are:-

(a) The public toilets were not distributed equally. They were concentrated around busy junctions and were absent in the by lanes and arterial roads.

(b) Lack of facilities for women and the disabled. The ratio of men to women facilities was 2:1.

(c) In some of the toilets built on BOT model, the contractors

subcontracted the maintenance and the workers were getting a meagre salary. Higher charges were being levied than the prescribed charges. No regular inspection of the maintenance.

(d) Poor regulation of PPP projects.

2.5 Arora, Isha (2019), in her article in Financial Express on “Swachh Bharat? Condition of public toilets continues to be dismal” brought out the following :-

(a) Even as Prime Minister Narendra Modi’s Swachh Bharat Mission is being implemented with great gusto, the condition of public toilets in our country continues to be dismal.

(b) While the construction of public and household toilets has accelerated in the past few years, the practice of defecating in the open continues. Indubitably, the practice has a lot to do with one’s conditioning, but the poor maintenance of public restrooms is also detrimental to eliminating open defecation.

(c) A walk along the chaotic alleys of Chandni Chowk, lined with shops of all kinds, reveals that the capital city isn’t open defecation-free, either. The stench of one public restroom found near the Fountain Chowk, close to Gurdwara Sis Ganj Sahib, is palpable even at the far end of the street it is located in. It is no wonder that even during the busy evening hours, there are hardly any users. “This is old Delhi and urinating in the open is a norm here. You think anyone cares to use the stinky public restrooms here? It’s a different class of people here. Restrooms that charge nominal fees and have designated persons to look after are still in better shape,” a local policeman said.

(d) Caste divide has a big role to play in poor management of urban public

toilets too. “Maintaining a public toilet is considered a degrading job, to be handled by a low-caste person. Thus, the responsibility to maintain public toilets is largely entrusted to Dalits, who are neither paid adequately nor provided safety equipment for the job. This has adverse implications for the maintenance of public toilets and social inequality.

(e) The task of managing toilets is not defined, rather it is ill conceived and under capitalized. The operating cost and capital reinvestment involving housekeeping, staffing, access to utilities, consumables and sewage system crucial to keeping the toilets clean, are inadequately planned or never thought through. Inbuilt checks and balances, involving audits, that should follow the blueprint are often amiss. These reasons largely stem from a widespread societal bias towards the job of managing toilets.

(f) Anu Sharma, an HR professional residing in west Delhi, for one, hardly cares for these facilities. “I’ve had scarring experiences of using public restrooms. I once developed a urinary tract infection after using the restroom in a metro station,” she says. In spite of the heat, she refrained from consuming liquids so as to not use the public washroom. This despite the market having an NDMC operated, free public restroom that was, in fact, cleaner than most other public toilets.

(g) Neetu Seth, a Gurgaon resident spotted in Sarojini Nagar market, says she avoids open marketplace just for the fear of having to use a public restroom. “I prefer malls because they have all the amenities in place”, she says.

2.6 An article ‘A Swachh Bharat milestone: Google Maps show 57 thousand

public toilets in India’, published in India Today on 02 October 2019, brought out the following :-

- (a) Google Maps now lists over 57,000 public toilets in over 2,300 cities across the country. Adding public toilets to Google Maps was initially launched as a pilot in New Delhi, Bhopal, and Indore in 2016, in collaboration with the Swachh Bharat Mission and Ministry of Housing and Urban Affairs.
- (b) More than 2.5 lakh users are already searching for public toilets every month across Google Search and Google Maps.
- (c) Users can now type "public toilets near me" on Google Search, Google Assistant or Google Maps and get results at their fingertips.
- (d) The platform has helped the government take ownership of these listings on Google Maps so they could monitor visits, ratings, reviews and more, thereby, gaining insights that could help them take necessary action to maintain and upgrade toilets.
- (e) Last year, Google Maps ran a campaign to raise awareness and adoption that resulted in 32,000 reviews, photos, and edits being added to public toilets across India by Local guides.

2.7 An article ‘Upkeep of public toilets entrusted to pvt. sector’, published in The Hindu news paper on 10 January 2020, brought out the following :-

- (a) The Chennai Corporation has started allowing private companies to manage public toilets in the city. The private sector will be allowed to maintain 6,641 toilets at 853 locations, and use the buildings for promoting business. Private sector banks that deploy CSR funds for maintenance of public toilets will be permitted to use space to install ATM machines.

(b) Corporation Commissioner G. Prakash held a meeting with private companies and urged the private sector to use CSR funds for improvement of public toilets. The private sector has already started using CSR funds for maintenance of public toilets in the Kodambakkam zone, in the vicinity of Panagal Park in T. Nagar.

(c) Details of public toilets are available at www.ChennaiCorporation.gov.in and companies can start maintaining them under existing government rules, after getting permission from the Corporation. Representatives of Indian Overseas Bank, State Bank of India, Indian Bank, Punjab National Bank, HDFC, IDFC, CPCL, MRF, Adyar Ananda Bhavan and Woodlands participated in the meeting and are expected to take up maintenance of public toilets. All the toilets will also be renovated using the CSR funds.

(d) The Corporation has been maintaining public toilets in all 15 zones of the city, offering services free of cost. Residents have been complaining about unauthorized collection of money from users of public toilets. The civic body has been filing complaints with the police against those who collect money from residents for use of public toilets.

2.8 Givetaash, Linda & Gupta, Priti (2019), in their article in NBC News on 'India's city of Pune focuses on sanitation system of the future' brought out the following :-

(a) Basic sanitation services are severely lacking in India, where 40 percent of the country's more than 1 billion people practice open defecation, according to 2015 World Bank figures. This can result in the spread of deadly diseases, including cholera, diarrhea and typhoid.

(b) Compounded with dirty drinking water, poor sanitation kills around 8,42,000 people globally each year, according to the World Health Organization. Poor sanitation alone leads to an estimated 2,80,000 deaths related to diarrhea, according to the organization. In India, nearly 400 children under the age of 5 die every day because of poor sanitation, according to UNICEF.

(c) Innovations ranging from restrooms on wheels that also boast Wi-Fi access and cafes, to digital sensors in human waste that seek health trends are being tested in Pune, a city of 4 million in western India that is serving as a real world laboratory for sanitation systems of the future.

(d) The Toilet Board Coalition sees the money making potential of the “sanitation economy” which ranges from high tech toilets to the extraction and use of bio fuels from waste and estimates that it will be worth \$61 billion in India alone by 2021.

(e) A project being developed by the European Space Agency will include toilets with specialized sensors that extract information from waste. These sensors will be able to detect disease outbreaks such as cholera before individuals begin to show symptoms, allowing health officials to react early and potentially limit the spread, according to Sunil Agarwal, the director of the coalition's Smart Sanitation City Project in Pune.

(f) Vavale, the mother to be, was fortunate enough to find a clean and safe public restroom catering to women while out in Pune recently. The bright pink Ti bus toilet is one of 12 such facilities around the city offering not just a clean toilet and sinks but also sanitary napkins, Wi-Fi access and charging ports for cell phones.

(g) “Women are stepping out of homes and working at different levels, so this gap of not accessing clean toilets is a drawback,” said Ulka Sadalkar, executive director of Saraplast, the company that builds and runs Ti, short for Toilet Integration, in partnership with the municipality. The Ti buses were launched in 2017 in partnership with the Toilet Board Coalition. They have a combination of Western style toilets and squatting pans. A female caretaker is on site 12 hours a day, and maintenance specialists monitor all the facilities to stay on top of repairs.

(h) Sensors in the converted buses monitor temperature and humidity and are connected to a main control room to alert maintenance staff when breakdowns occur. It also prompts on site staff to improve ventilation or cap the number of users in the bus at once, to keep the space comfortable. While the local government has rolled out similar “e-toilets” that operate by coin, many of them are regularly out of service, residents say.

(j) Shiv Kalani said she had a “horrible experience” traveling across the province of Maharashtra with her daughter, who is prone to getting urinary tract infections. They spent two hours looking for a clean facility to use in Pune before finding the Ti bus. “I would prefer sitting in the open than using a public toilet,” Kalani said. “Imagine the kinds of diseases we contract using a dirty toilet.”

(k) In addition to hygiene, there are also safety concerns. Many public toilets lack water and electricity, making them so dark inside you can’t see your hand in front of your face. Some facilities separate male and female facilities with only a curtain. Those that are managed often have male caretakers, who make some women nervous.

(1) Kavita Pawar, 17, was recently searching desperately for a toilet with a friend who was menstruating. They found one public facility, but it was dark and there were men hanging around, so they decided against it. "Where is our safety?" said Pawar, a college student. "If I ever want to go to the bathroom badly, I have no choice but to wait until I reach home."

2.9 Jeffery, Neil (2018), in his article in Skoll foundation on 'How to Improve Sanitation Across an Entire City: the Case of Visakhapatnam' brought out the following :-

(a) Poor sanitation in India is not just a rural issue: at least 157 million urban poor Indians lack access to decent toilets and one in 10 deaths in India are related to poor sanitation. Water & Sanitation for the Urban Poor (WSUP) has just completed a three year programme in Visakhapatnam, funded by USAID, which has made a major difference to the lives of 250,000 residents and created a model for how cities in India can make rapid strides to improve sanitation.

(b) The solution to this complex problem is not just about building toilets and raising public awareness. People need to change centuries old behaviors and be prepared to pay for and regularly use toilets. But improving sanitation for residents also goes beyond eliminating open defecation. To reduce the risk of disease spreading, a key challenge is to ensure the safe management and treatment of waste from toilets that are not connected to sewers.

(c) The leadership of local authority, in our experience, is an essential element for citywide change and to ensure the change will be sustainable for the long-term.

(d) Rather than try and cover the whole city at once, our team developed a

unique ward-by-ward approach to stop open defecation. The program tapped into existing community groups to better understand sanitation needs and promote behavior change.

(e) Rather than view residents as passive beneficiaries, we took a consumer led approach, recognizing the importance of developing services and products which people actually want and will pay for.

2.10 Paras, Singh (2020), in his article published in The Times of India, City on ‘Over one-third of public toilets in Delhi unusable, just a few are model ones’ (The article is based on a survey carried out by Ministry of Urban Affairs) brought out the following :-

(a) A survey of 1,175 PTs surveyed for cleanliness and Maintenance in Delhi revealed the following :-

Table 1 : Survey results of PTs in Delhi (All figures in %)

ULB	North Corporation	SDMC	Delhi Cantt	EDMC	NDMC
Unusable	40	14	30	76	2
Usable but Dirty	34	10	22	18	5
Clean	23	18	13	5	25
Very Clean	3	16	17	1	56
Excellent	0	41	17	0	12
Aspirational	0	1	0	0	0

(b) Significant improvement of PTs was seen in Delhi Cantt compared to the previous survey. The number of unusable PTs have decreased from 61% in 2018-19 to 30% in 2019-20 survey.

(c) The survey also judged the ease with which PTs could be located on

Google Maps Toilet locator. The results are given below :-

Table 2 : Percentage of PTs located on Google Maps Toilet Locator

	North Corporation	SDMC	Delhi Cantt	EDMC	NDMC
Percentage of PTs Located	77%	82%	87%	92%	94%

2.11 **Research Gaps.** The following research gaps were found:-

- (a) Reasons for unhygienic toilets were not clearly ascertained.
- (b) Specific Solutions/ recommendations were not provided to improve the maintenance and hygiene of public toilets.
- (c) No study on the adequacy of PTs has been carried out for Delhi Cantonment area.

CHAPTER III : PUBLIC TOILET GUIDELINES

“The flush toilet, more than any single invention, has 'civilized' us in a way that religion and law could never accomplish.”

- Thomas Lynch

Overview

3.1 Over the past three decades, the Government of India and few State Governments have published several publications (guidelines, standards, manuals, norms, etc.) on ‘Public and Community Toilets’. The Government of India had published ‘Guidelines on Community Toilets’ in the year 1995. These guidelines were the first attempt by the Government of India to capture the subject of Community Toilets in a comprehensive and exclusive manner. These guidelines served as an important resource book to implementing agencies on issues related to understanding of user preferences, demand responsive designs, construction and O&M.

3.2 The Government of India’s Swachh Bharat Mission (SBM) was announced on 02 October 2014 with a target of making India open defecation free by 02 October 2019, the 150th birth anniversary of Mahatma Gandhi. Given that 12% of country’s urban households defecate in the open as per Census 2011, the provision of clean and well maintained PT / CT facilities requires priority and focused attention. Swachh Bharat Mission directs actions required not only to increase access to toilets but also to eradicate practices of open defecation and manual scavenging, adoption of scientific waste management methods, facilitating appropriate behavioural changes, capacity augmentation and creating environment for private sector’s involvement.

3.3 While launching the SBM, the MoHUA had brought out a set of guidelines to inform States and Urban local bodies regarding various components of the Mission, including fund release and utilization, mission monitoring etc. Few State Governments

like Odisha, Andhra Pradesh, Telangana, Punjab, etc. have formulated state level guidelines for CT / PTs to further progress the SBM objectives. There are also several norms from Bureau of Indian Standards that provide directions on specific aspects related to planning of PTs/CTs. Thereafter, numerous advisories and amendments were issued to the guidelines from time to time, in response to evolving ground realities and changing expectations of various stakeholders. The revised Swachh Bharat Mission (Urban) guidelines encompassing all the separate advisories and communications collated together in one place were issued in October 2017 to facilitate speedier implementation.

3.4 The National ‘Advisory on Public and Community Toilets combined all the relevant information from all the earlier efforts of the Governments and with the technical collaboration with GIZ India (German Agency for International Cooperation) and issued a single document known as “**Advisory on Public and Community Toilets**” in November 2018. The salient features of the Advisory are :-

- (a) The Advisory attempts to compile all the earlier efforts (Guidelines, Manuals, IS codes, etc) of the Governments in the field of Public Toilets & Community Toilets.
- (b) The Advisory covers all the stages (planning, design & construction, O&M and management) of any toilet project, for ensuring comprehensive planning and sustainability of any infrastructure.
- (c) The Advisory includes relevant sections on gender (women & transgender), differently abled, elderly & children.
- (d) The lessons learnt from Swachh Bharat Mission until 2018 have also been captured in this advisory.

3.5 With all its rich & all-inclusive content, the Advisory attempts to serve as a single resource book for government officials, private consultants & other stakeholders. With this Advisory, the ULBs will be well informed while planning for new infrastructure and also how to take care of existing infrastructure. This advisory attempts to contribute to the achievement of the Swachh Bharat Mission objectives. This advisory will serve as a guide to informed decision making through the entire project cycle, for developing implementation strategies for planning, designing, operation and maintenance and management of PT / CT facilities and related infrastructure. Certain important aspects of the advisory, relevant to this study are brought out in the succeeding paragraphs.

Need Identification/ Adequacy of PTs

3.6 It is important that PT facilities are viewed and understood from two sides, the demand side (user related) and the supply side (infrastructure and institution related). An integrated assessment provides the extent of requirement of toilet service provision. User understanding is essential while creating new toilets as well as improving service levels for existing toilet facilities.

3.7 **Demand**. For PTs, locations generating continuous visiting by people like tourist places, public gathering places, railway stations, bus stands, markets etc. need to be identified through a spatial analysis. The key information needs to be collected includes Number of persons gathering, Duration and timing of gathering, Gender based differentiation, Willingness to pay for toilet usage and User preferences on type of toilet & other services.

3.8 **Supply**. The supply side assessment is aimed at mapping the existing infrastructure (location, capacity to handle demand, level of service, etc.), so that the

gaps could be identified as well as new infrastructure can be suitably planned. Typical data to be collected includes Locations of existing PTs, Gender wise toilet seats (Men / women / children / differently abled / transgender), urinals, baths, Facilities provided (child care room, hand wash, changing room, caretaker provisions, etc.), Level of cleanliness, Availability of water, electricity, Waste water disposal mechanism and solid / menstrual waste collection service, User charges collected for different uses, Measurements and drawings, Technical capacity of the ULB, Administrative capacity of ULB (manpower supply), Financial capacity of ULB and Contract management capacity of ULB.

3.9 **Data Analysis.** Data to be used for planning PT facilities in the city needs to be analysed by integrating the demand and supply database. While demand side input on location would indicate the location where the toilets need to be provided, supply side input provides the number of existing toilets in the vicinity which could be retrofitted to be made more usable. This will enable the authorities to identify and site locations for new toilets construction. Another important assessment is the footfall assessment in the vicinity of potential locations. People count undertaken while designing shopping malls, traffic studies will help identifying potential people likely to visit / use the toilet. The assessments also help calculate the number of units required for each type of user as per norms and potential neighbourhood location. This calculation will help arrive at land requirements or conversely based on land available what proportion of users can be provided with services. Alternately, if additional land is available around existing toilets, additional handling capacity can also be worked out through refurbishment.

Design

3.10 There is a relationship between design and management of public toilets which should not be ignored by the planners. Innovative design components can not only ensure ease of management but also reduce operation and maintenance costs. Public Toilets should provide clean, safe, accessible, convenient, and hygienic facilities to the public at a level of privacy adequate to perform necessary personal sanitary needs. The key design considerations are accessibility, external structure, internal design, infrastructure, facilities and accessories. While all aspects need to be designed for, their relative importance is governed by local conditions and user preferences. Besides catering to the basic need for a toilet facility, design choices should be such that they allow for easy cleaning and management, have high resistance to vandalism, theft, pasting posters and have low maintenance requirements. Design and material choices need to ensure that they can be sustained for long with minimum efforts.

3.11 **Norms for Provision of Toilets.** The norms for the number of WCs, urinals and wash basins are in line with the Guidelines for Swachh Bharat Mission (Urban), 2014. These norms are also in line with the ‘Model Building Bye laws’, 2017, MoUD. The laid down norms for PTs are given below :-

- (a) **Water Closet for Male.** One per 100 persons up to 400 persons; for over 400 add at the rate of one per 250 persons or part thereof.
- (b) **Water Closet for Female.** Two for 100 persons up to 200 persons; over 200 add at the rate of one per 100 persons or part thereof.
- (c) **Urinals for Male.** One for 50 persons or part thereof. Nil for Females.
- (d) **Wash Basins.** One per WC and urinal provided.

- (e) Provision of Western WC is mandatory, where as provision of Indian WC is recommended.
- (f) Provision of Hand wash facility and Mirror are mandatory.
- (g) Provision of Differently abled Unit is mandatory.
- (h) Provision of Trans Gender Unit is optional.
- (j) Provision of waiting area is optional.
- (k) Provision of a care taker/ store room is mandatory.

3.12 **Site Selection.** Proper identification of the project sites is a pre requisite for provision of PT facilities. Potential areas with daily floating population need to be identified in a city. Such areas may be market places, bus stands, railway stations, court compounds, parks etc. Even in some areas if PTs are available, its adequacy needs to be assessed. all commercial areas should have public toilets within a distance of at least 1 km. Based on the type of demand, typical toilet unit size, and required facilities, type of toilet projects can be arrived at based on the following lines:-

- (a) Construction of permanent new toilets / urinals
- (b) Rehabilitation of existing toilets (working / defunct)
- (c) Conversion of a urinal to a toilet
- (d) Deployment of temporary toilet / urinal
- (e) There could be site conditions wherein sufficient space is not available. In such cases smaller facilities with fewer units (1 men and 1 women toilet), either urinals / toilet units can be installed.
- (f) In cases where land alignment is not suitable, modular / prefabricated structures, etc. can be used.
- (g) In cases where, full time deployment of manpower is not possible, self-cleaning toilets could be an option.

Source of Funding

3.13 **Construction Costs.** ULBs have been predominantly using their own funds for creating PT facilities. Presently opportunities have been created for ULBs to access and appropriately use a mix of centrally sponsored schemes (SBM), state government support and own funds. All public and community toilets constructed under SBM must have a minimum five years maintenance contract. When multiple toilet projects are combined and funds are found insufficient, cities can explore PPP modes with long concession periods. Some alternative mechanisms for accessing the construction costs may include:-

- (a) Grant subsidies from Government, donor agencies
- (b) Loans (MFIs / SHG federations / banks)
- (c) CSR support
- (d) Levying a separate ULB 'Cess' for PTs

3.14 **O&M Costs.** O&M costs includes staff costs, cost for electric supply, water supply, sewage disposal, cleaning equipment, consumables supplies and repairs. O&M costs should be generally met completely by user charges wherever possible, a principle advocated by MoHUA generally for all infrastructure projects. The idea is to make toilet operations financially sustainable. Some options for meeting the revenue shortfall could include:-

- (a) Allowing potential advertisement revenue
- (b) Small scale vending of toiletry items
- (c) Subsidies for certain O&M cost heads
- (d) Reimbursements for repairs from time to time
- (e) Attaching revenues from commercial areas & other infrastructure towards O&M of toilet facility

3.15 **Grouping/Clustering.** Typically, facilities which attract higher footfalls will have a tendency to generate higher revenues from advertisements and vice versa. Hence, ULBs could consider grouping few commercially attractive toilets with toilets having less revenue potential to increase the overall attractiveness of the projects package, thereby making overall services financially feasible and a viable business model. The obvious risk in such an approach is to prevent the operator from maintaining the profitable ones while neglecting the rest. This makes monitoring of service levels across all toilet locations a critical function.

Contracting

3.16 It is the responsibility of the ULB to provide public sanitation services. Project preparation for PT facilities requires multi disciplinary skills such as technical, social, financial and contracting. Importantly, a clear hierarchy of staff and responsibilities based on institutional capacities needs to be defined. When such skill set is not available in house, the ULB is recommended to seek external help from NGOs/CBOs and consultants.

3.17 A critical aspect of management is the ability to decide the extent of private sector participation and providing supporting business environment to them. The level of engagement of private sector could be for :-

- (a) Providing manpower services for O&M
- (b) Construction / rehabilitation / retrofitting activities
- (c) Financially investing into construction

3.18 Common issues with PT projects are related to poor quality of construction (poor choice of materials, poor workmanship & poor supervision) and lack of ownership by operator. Often, construction is outsourced to a local contractor and

O&M given to a different operator. In such cases, the operator pays minimal attention to routine maintenance and repairs while awaiting ULB involvement. The resultant poor maintenance causes user dissatisfaction and disuse of facilities. ULBs should explore alternative arrangements and choose the most appropriate option that will ensure good quality of construction and proper use of facilities constructed. The possible arrangements emerging are :-

- (a) Single agency handling construction and O&M
- (b) Construction by CBO / NGO under ULB guidance
- (c) Construction and operation by operator (operator finds own contractor), with separate contracts / financing arrangements for each activity
- (d) ULB procures and install pre-fabricated structures to avoid construction related quality issues
- (e) ULB procure and provide mobile toilets to avoid construction issues

Operation & Maintenance

3.19 Operations and maintenance of PT is one of the weaker areas of management and is often evident from user surveys/ complaints from users. Poor O&M results in reduced usage and often people resort to open defecation and urination. Based on the toilet category, it is important to frame an appropriate O&M plan for the project. This would include detailing on toilet operation hours, cleaning cycles, equipment and consumables required, appropriate staffing (caretakers/ cleaners), attending to repairs (minor and major), user charge collection, monitoring, complaint redressal and awareness creation.

3.20 In outsourced arrangements, the ULB is free from managing day to day operations, but the role shifts to being supervisory in nature. In the absence of strict

supervision and monitoring by ULB, the operator is normally under no pressure to deliver as per the performance parameters outlined in the contract. Simple and effective complaints reporting mechanism can provide good feedback to ULB and enable to act against the contractor to improve the situation. The monitoring mechanism could be devised both from self reporting and inspection results.

Facilities and Infrastructure

3.21 **Toilet Cubicles.** The number of units for WCs / urinals provided in a facility would depend upon the location, number of users and land availability as per the laid down norms. Appropriate mix of Indian and western closets should be provided and of suitable dimension.

3.22 **Toilets for Differently Abled and Special Needs.** While working out the number of units, one of the units shall be designed for differently abled (with all facilities to cover different types and degrees of disability) men or women in their respective blocks. Harmonised Guidelines on Norms and Standards for Barrier Free Environment for Persons with Disability and Elderly Persons, 2016, GoI clearly gives the norms and specifications of different toilet elements to be provided.

3.23 **Water Supply and Storage Arrangements.** Availability of sufficient water in a PT is essential for its efficient operations and maintenance. It is also essential to ensure that users practice good personal hygiene. Water requirement for the facility may be worked out and enough storage for at least half day operation is to be kept in storage.

3.24 **Waste Water Management.** Human waste from PT / CT facilities needs to be properly managed to maintain sanitary conditions, to ensure that there are no

adverse consequences on health and the environment. The toilet facility must be connected to a sewer line if it is available in the vicinity. Onsite treatment solutions need to be considered in absence of availability of sewer lines in vicinity.

3.25 **Electricity and Lighting.** Adequate lighting at all times and especially during the night hours is crucial for ensuring that women and adolescent girls can use the toilet facilities 24X7. Adequate lighting should be provided both in the interiors and exterior of the facility. Emergency lighting provision should also be made.

3.26 **Ventilation.** Proper ventilation and odour control is one of the biggest priorities while operating PT facilities. Effective ventilation ensures that polluted air is quickly extracted and helps in avoiding dampness and subsequent growth of fungus on floors and walls. Ineffective ventilation can make a PT facility unusable, even if it is well designed.

3.27 **Accessories and Provisions.** Hand wash and mirrors, Soap dispensers, Dust bins, Tissue dispensers, Hand drying equipment, Air fresheners, Toilet and Urinal sanitizers, Child care and diaper changing stations, Sanitary Napkin vending machines and Sanitary bins are to be made available in the PTs.

Norms / Design Specifications / References

3.28 A summary of the references in the above discussed guidelines, related to design and construction of PT is given below :-

- (a) Harmonised Guidelines on Norms and Standards for Barrier Free Environment for Persons with Disability and Elderly Persons, MoUD, 2016
- (b) Model Building Bye-laws, MoUD, 2016

- (c) CPHEEO Manual on Sewerage & Sewage Treatment Systems, MoUD, 2013
- (d) Urban and Regional Development Plans Formulation & Implementation Guidelines, MoUD, 2014
- (e) SP7: National Building Code of India, BIS, 2016

CHAPTER IV : SETTING OF THE RESEARCH WORK

“It is important to get results from experiment, but most important is the process in getting the results”

- Dr Nik Ahmad Nizam

Research Design

4.1 The study aims to provide insights into the status of public toilet facilities in Delhi cantonment area by comparing them with the prescribed norms laid down in SBM (Urban) guidelines. The research involves finding out the location of public toilets in the Delhi Cantonment area, geographical mapping of their locations, survey of the major public areas, survey the facilities in the public toilets, compare with the prescribed norms, assess the maintenance practices & hygiene standards and obtain the user feedback.

4.2 To get responsive feedback on the objectives, relevant information was garnered using both primary and secondary sources. Data/ information was garnered by interviewing the concerned authorities governing, operating and maintaining the facilities. Also, the toilets were surveyed for assessing the status and seeking feedback from the maintenance staff. Therefore, the research approach used both Quantitative and Qualitative Methods. The research design is Descriptive. However, data analysis is carried out wherever required to make deductions.

Methods Applied and Data Sources

4.3 Assessing efficacy of a public toilet dealt with the issues of adequacy as per the demand, accessibility in terms of location, provision of various facilities provided to cater for the inclusive needs of various sections of the society (especially women, disabled, aged and children), maintenance of the facilities to keep them functional with

the desired hygiene standards and feedback mechanism from the users.

4.4 Assessing maintenance of a public toilet dealt with the provision of various facilities like signage & display boards, lighting, water supply, dustbin, security, feedback mechanism etc, upkeep of the facilities in working condition and ensuring cleanliness & hygiene. Assessing Hygiene level of a public toilet dealt with the issues of ventilation, foul smell, cleanliness of facilities & fixtures, usage of disinfectants & cleaning tools, waste disposal, training of maintenance personnel and awareness of users in hygienic usage practices.

4.5 The method of research has been a balanced blend of Qualitative and Quantitative methods. Primary data was collected through Field survey of public places and public toilets, Interviews/ discussions with DCB officials, maintenance personnel and feedback from users through a questionnaire. Secondary data/ information was garnered from Govt reports & guidelines and newspaper articles.

4.6 All the major public places in Delhi Cantt area were surveyed to evaluate if the existing public toilets are adequate to meet the requirements of public places in Delhi cantonment area with the SBM (Urban) guidelines as the benchmark. The data on the facilities provided in public toilets in Delhi cantonment area were obtained by a field survey of 23 of the existing public toilets in the area and their adequacy was evaluated by comparing the obtained data with the norms laid down in SBM (Urban) guidelines as the benchmark.

4.7 The maintenance problems and solutions for public toilets in Delhi cantonment area were arrived at after analysing the data obtained through field survey of the existing public toilets in the area, interviews/ discussions with the concerned DCB officials, maintenance personnel and feedback from users through a questionnaire. User feedback was obtained from a mix of shop keepers, customers,

public transport drivers, Traffic Police Officials and other transiting public from both male and female toilet users. The hygiene level of public toilets in Delhi Cantonment area was assessed from the data obtained through a field survey of all the existing public toilets in Delhi Cantt area and user feedback.

Survey of PTs

4.8 The Format used for the Survey of PTs is placed as **Annexure I**. The survey format was divided into six parts as given below :-

- (a) Part I : Basic data
- (b) Part II : External (Location, Visibility, Signage and Facade)
- (c) Part III : Access
- (d) Part IV : Internal Facilities
- (e) Part V : Cleanliness & Hygiene
- (f) Part VI : Operation & Maintenance

4.9 A total of 23 PTs in the major public areas Delhi Cantt area were surveyed by personally visiting the PTs. Also, most PTs were visited during dark hours also to assess the lighting condition both externally and internally. Out of these, five were Urinals for men only, four were e-toilets for women only, Nine PTs were for both men and women, one child toilet and four toilets were under construction/ not yet operational/ locked. The details of the PTs surveyed are given below :-

Table 3 : Details of the PTs Surveyed

Sl No	Location	Landmark	Date & Time	Type of PT & Locality	Type of Users & Footfall	Distance from the main area
01	Maude Lines	Near Road Jn, Adjoining Airmen Quarters	31 Jan 20 0900 h 1930 h	Men only Urinals & Road Jn	Floating & Low	Next to Road

02	Maude Lines	Opp to IAF Primary School	31 Jan 20 0915 h 1935 h	New SBM Toilet	Not yet Operational	Next to Road
03	Opp to Dargah	Near Taurus Officers Hostel	31 Jan 20 0930 h 1945 h	Men only Urinals & Road Side	Floating & Low	Next to Road
04	Sadar Bazaar	Kranthi Chowk	31 Jan 20 1045 h 2000 h	Men only Urinals & Road Jn	Shop keepers, Floating & High	Next to Main Road Junction
05	Sadar Bazaar	Kranthi Chowk	31 Jan 20 1100 h 2010 h	E-Toilet for women & Shopping Area, Road Jn	Locked	Next to Main Road Junction
06	Sadar Bazaar	Next to DMS Shop	31 Jan 20 1015 h 2020 h	Men only Urinals, women Toilet & Shopping Area	Shop keepers, Floating & High	Near to Shopping Centre
07	Sadar Bazaar	Next to DMS Shop	31 Jan 20 1025 h 2030h	E-Toilet for women & Shopping Area	Locked	Near to Shopping Centre
08	Shastri Bazaar	Opp to Defence Caterers	02 Feb 20 1000 h 1945 h	Men only Urinals & Shopping Area	Shop keepers, staff Floating & High	Near to Shopping Centre
09	Shastri Bazaar	Opp to Defence Caterers	02 Feb 20 1000 h 1945 h	E-Toilet for women & Shopping Area	Locked	Near to Shopping Centre
10	Shastri Bazaar	Opp to Capital Restaurant	01 Feb 20 1000 h 1945 h	Old Toilet Complex for men & women	Shop keepers, staff Floating & High	Near to Shopping Centre
11	Kirbee Place Jn	Next to Jail Road	31 Jan 20 1300 h 01 Jan 20 2000 h	Old Toilet Complex for men & women	Floating & Low	Near to Main Road Jn

12	Sadar Bazaar	Opp to Gurdwara	31 Jan 20 1100 h 2045 h	New SBM Toilet Complex for men & women	Shop keepers, staff Floating & High	Near to Shopping Centre
13	Kotwali Road	Next to Bus Stop	01 Feb 20 1600 h 2000 h	New SBM Toilet Complex for men & women	Floating & Low	Near to Bus Stop, next to road
14	Kotwali Road	Next to Bus Stop	01 Feb 20 1610 h 2010 h	Child Mobile Toilet	Floating & Very Low	Near to Bus Stop, next to road
15	Shastri Bazaar	Next to P&T Colony	01 Feb 20 1815 h	New SBM Toilet Complex for men & women	Shop keepers, staff Floating & High	Near to Bus Stop, next to road and shopping centre
16	Shri Nagesh Garden	Near Taurus Officers Institute	02 Feb 20 1100 h 1930 h	New SBM Toilet Complex for men & women	Floating & Low	In the garden
17	Triveni Shopping Complex	Near Taurus Canteen	01 Feb 20 1715 h	New SBM Toilet Complex for men & women	Floating & Low	Near the entry/ exit gate
18	Hanuman Mandir	Adjoining DCB Staff Quarters	02 Feb 20 1030 h	E-Toilet for women & Floating	Blocked	Next to Road
19	Kirbee Place Jn	Next to CSD Depot	31 Jan 20 1245 h 01 Jan 20 2000 h	New SBM Toilet Complex	Not yet Operational	Next to Road and Main road Junction
20	Kirbee Place Jn	Next to Dist Employment Exchange	31 Jan 20 1400 h	New SBM Toilet Complex	Operational but Locked	Next to Road, Bus stop and Main road Junction
21	Near Palam Railway	Opp to Vegetable	03 Feb 20 1300 h	New SBM	Under Constructi	Shopping area, next

	Crossing	Market		Toilet Complex	on	to main road junction
22	Sadar Bazaar Cantonment Metro Station	Near IOC Depot Junction	31 Jan 20 0815 h	Sulabh Toilet Complex for men and women	Floating & Low	Inside Metro Station

User Feedback

4.10 User feedback was obtained by face to face interview using a questionnaire format. Only people who use public toilets in the area were interviewed. Questions were related to adequacy of PTs, facilities provided, maintenance, operation, feedback mechanism, effectiveness of SBM and user fee. The Questionnaire format used for interview is placed as **Annexure II** to this report for reference. Majority of the users were interviewed immediately after they used a PT. A total of 100 Users were interviewed for the feedback. The interviews were conducted on four days during the period from 04 to 10 February 2020. The location wise breakdown, where users were interviewed is given below :-

- (a) Sadar Bazaar area : 45
- (b) Shastri Bazaar Area : 21
- (c) Kirby Place Junction : 10
- (d) Sadar Bazaar Metro Station : 7
- (e) Shri Nagesh Garden : 7
- (f) Palam Railway Crossing Vegetable Market : 10

4.11 Gender wise breakdown of the Users interviewed were given below :-

- (a) Male : 76
- (b) Female : 24

4.12 The breakdown of type of Users interviewed were given below :-

- (a) Shop keeper/ shop worker : 52
- (b) Floating Population : 32
- (c) Traffic Police : 8
- (d) Auto/ e- Rickshaw Drivers : 8

Interview of DCB Officials and Discussions with Caretakers

4.13 The officials responsible for sanitation and managing the PTs under their jurisdiction were interviewed on aspects of adequacy and O&M of PTs. The Questionnaire format used for interview is placed as **Annexure III** to this report for reference. The officials were busy with the Delhi State election duties and other departmental inspections and could not spare the desired time towards discussions. Only two officials could be interviewed due to time constraints.

4.14 During the survey of PTs, informal discussions were held with the caretakers to obtain their feedback on various issues of O&M of PTs. Discussions were held with a total of eleven caretakers in different shifts at seven PTs in the area.

CHAPTER V : ADEQUACY OF PUBLIC TOILETS

“Lack of toilets forced crores of Indians, especially our daughters and daughters-in-law, to lead an undignified and an unhealthy life”

- Ram Nath Kovind, President of India

Delhi Cantonment Area

5.1 Delhi Cantonment area consists of two major shopping areas namely Sadar Bazaar and Shastri Bazaar, where you find majority footfall of the floating population. Apart from these two shopping areas, it is surrounded by residential areas of Dwarka, Najafgarh, Janak Puri, Rajouri Garden to the west, transit hub of Dhaula Kuan to the East, Gurgaon and Delhi Airport to the South. There are four main roads which pass through the Delhi Cantonment area inter connecting these areas to each other. All the people proceeding to Delhi Airport and Gurgaon from North and North West areas pass through the Cantonment area and similarly, the people proceeding to other parts of Delhi from western parts also pass through the Cantt area.

5.2 Apart from the two shopping areas and transit population many of the Defence services personnel and civilian population stay in various residential areas located in the Cantt area. The nearby Palam colony also houses many serving defence forces personnel. Also, the Delhi Cantt area houses many office and other defence facilities including Base hospital, various messes, Canteens and other welfare facilities, which attract movement of not only serving defence personnel but also the Ex service men in the area from various parts of Delhi and nearby states of Haryana , UP and Punjab. There is also a Metro Station and a huge public garden in the area. There are many Schools and major hospitals run by the military and DCB are also located in the area.

5.3 To ascertain the adequacy of PTs in Delhi Cantt area, the following methods

were employed :-

- (a) Survey of all the major public places in the area.
- (b) Feed back from Public in the area by way of interaction and interview through questionnaire.
- (c) Interview of DCB Officials.

Deductions from the Survey

5.4 **Vegetable Market Area Near Palam Railway Crossing.** There is a large vegetable market near Palam Railway Crossing on the old Palam Road. There are about 25 vegetable and fruit shops apart from few smaller shops like pan shops, tea stalls etc. The residential areas of Palam, Sekhon Vihar, various Air Force residential areas along the Old Palam Road depend on this market for fresh vegetable purchases. There is a heavy footfall in the area especially during evening hours. Also, it is a main public transport hub in the area with many Autos, buses and taxis waiting for the commuters. The traffic is heavy in the area during morning and evening hours with people residing in Palam Colony and other Air Force residential areas along the road either commuting to/from work/ schools or shopping for vegetables and fruits. Presently, there is no public toilet in the area and the shop keepers are urinating in the open areas along the railway track. However, a new Public Toilet is under construction by DCB, which once operational should resolve the problem being faced by the public in this area.

5.5 **Sadar Bazaar Cantonment Metro Station Area.** The Metro Station is located near a major road intersection of Dwarka road and Sadar Bazaar Road. There is heavy traffic at the junction coming from Dwarka going towards other parts of Delhi, Gurgaon, Air port and towards Sadar Bazaar. There are many e Rickshaws,

especially from about 0800 to 2000 hours parked near the Metro Station. Also, there are many people changing buses at this junction. There is an IOC depot also at the junction. Presently there is no Public toilet in this area. There is one paid Sulabh toilet complex available inside the Metro station. On enquiry from the Metro officials, they informed that the facility is mainly for the metro commuters but, in case of emergency any one can use the toilet on payment. However, no such information is displayed outside the Metro station. A need for a Public Toilet in the area exists. However, the availability of land with DCB in the area may be an issue as most of the land in the vicinity is owned by the military.

5.6 **Sadar Bazaar Area.** Sadar Bazaar is the busiest area of Delhi Cantonment as it has a huge residential area of civilian population, surrounded by residential areas of Defence personnel, General Hospital, Police Station and Police residential complex, Cantt General Hospital, Cantt Higher Secondary school and many shops, places of worship all faiths and heavy flow of vehicular traffic. The area is the hub of business and shopping activity of Delhi Cantt. The DCB office is also located in the area. There are many Banks also located in the area. The area has one new toilet complex, two old Urinal complexes and one e toilet for women. Considering the huge population of the area, the public toilets are considered highly inadequate. A new toilet complex has been constructed near the DCB Office, but not yet operational. The e toilet is unserviceable and kept locked. If the new toilets are made operational and the old urinals are replaced by new SBM type PT complexes, it would meet the requirements of the area.

5.7 **Shastri Bazaar Area.** This is the second shopping area of the Cantt. Though relatively smaller compared to the Sadar Bazaar, it also has considerable number of shops, two petrol pumps and a major post office. The area has one SBM

toilet complex, one old toilet complex and a small urinal facility for men. Since the old toilet facility is not maintained well, the available toilets are considered inadequate for meeting the needs of the public in the area especially for women working in the area. If the old toilet complex is replaced with a new SBM type toilet complex, it would meet the requirements of the public in the area.

5.8 **Kirbee Place Junction Area.** It is a main road junction having major facilities in the area like CSD Depot, District Employment Exchange and Munitions House. There are three full fledged PT complexes in the close vicinity of the Junction. However, only one old PT complex is only in use. One facility though operational is locked since few days as the care taker is absent and one PT complex is under construction. It is felt that there is no need for three PT Complexes in the area as the floating population is not very high and there are no shopping areas in the vicinity.

Deductions from Public Feedback

5.9 There were three questions related to adequacy of PTs in the user feedback interview as given below :-

- (a) Are the PTs adequate in your area of Delhi Cantt?
- (b) Do you have to wait for your turn for using PTs?
- (c) Do you feel there should be more PTs in your area?

5.10 **Are the PTs adequate in Delhi Cantt Area and Do you feel there should be more PTs in your area?.** The responses from the users has been specific to the area of the user and does not indicate for the whole of Cantonment area except for the traffic police, who responded for the whole of the area since they had knowledge of the whole area. Majority of the users said that the PTs in the area are adequate. Some of the users who said PTs were adequate had a condition that if all the available PTs

are maintained clean, then they are sufficient. When the users were asked if they feel more PTs are required, their responses were slightly different. Most of them said they prefer more of New SBM type toilet complexes are required, which shall ensure that they are adequate and better maintained. The feedback from the users on these questions are depicted in the charts below :-

Chart 1 : User Feedback on Adequacy of PTs

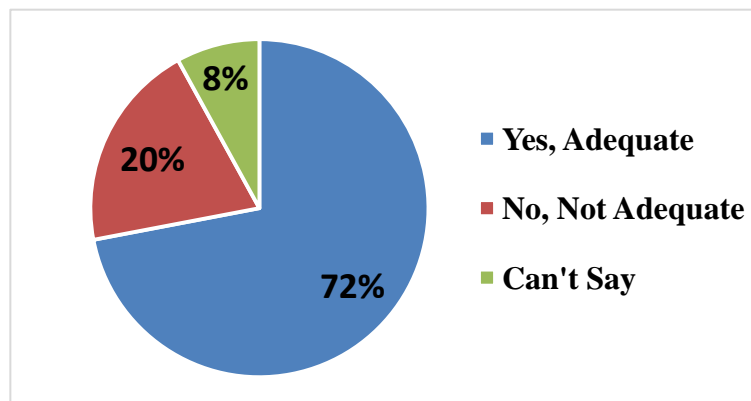
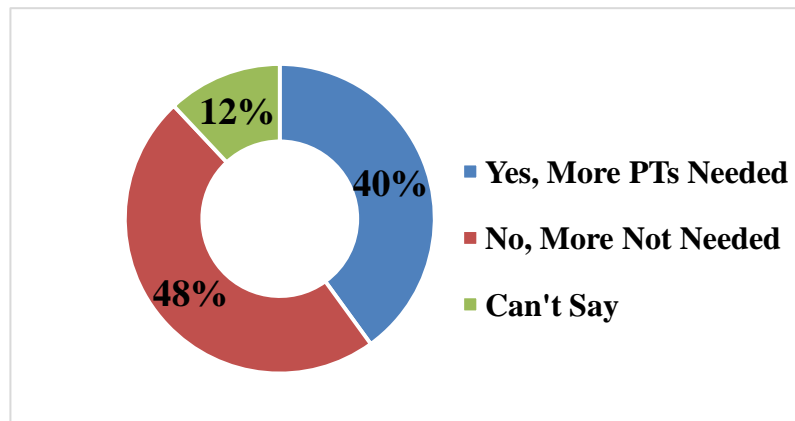


Chart 2 : Need More PTs in the Area



5.11 Some of the specific issues brought out by the users, area wise and type of users during the interviews are given below :-

- (a) The respondents, mainly the vegetable vendors of the vegetable market area near Palam railway crossing brought out that they desperately require a PT in the area as presently they have no choice but to urinate in the open along the nearby railway track. The women vendors either go to their

far away homes or to some friend's homes to relieve themselves and eagerly waiting for the completion of the PT under construction.

(b) The respondents especially the e rickshaw drivers at the Sadar Bazaar Cantonment Metro Station area brought out that there is a need for a PT in the area and presently they don't have any facility in the near vicinity and are forced to hold on to relieve themselves elsewhere. They also said that they are not aware that they could use the toilet inside the Metro station as claimed by the Metro officials.

(c) The small shopkeepers in the Sadar Bazaar area who don't have their attached toilets in their shops are very angry with the dirty Urinals in the area and recommended that all the old type of toilets should be demolished and new SBM type PTs should be constructed with a permanent caretaker/cleaner deployed at the facility so that the PTs could be maintained clean continuously. The women in the area were very unhappy and expressed their helplessness in not having a clean toilet within their reach. They recommended that the new PT constructed close to DCB Office should be made operational and also the two e Toilets deployed in the area should be made serviceable and opened for use.

(d) The users in Shastri Bazaar were very unhappy with the maintenance of the old PT complex and are very happy with the new SBM PT complex which is very far off for some of them. They recommended that the old PT and Urinals should be demolished/ converted into new SBM type PT complexes so that the facilities would be adequate for the area.

(e) The Traffic Police personnel unanimously complained that there are no PTs in the areas of IOC depot Junction (Metro Stn), Hanuman Mandir

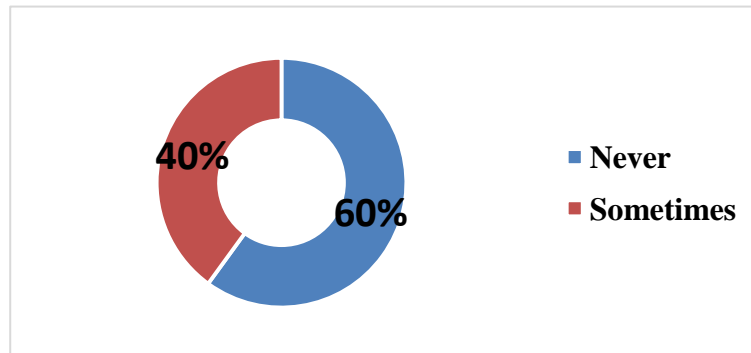
Junction (near AF Stn Palam) and Parade Road Junction (Water Tank), which causes a lot of inconvenience to them when deployed on duty in these areas. The women police officer complained that she stopped using PTs in the area as they are very dirty and she uses them only when there is an emergency.

(f) Most of the bigger/ richer shop keepers said that they have their houses either above their shops or near to the shop, so they do not use the PTs as they are not maintained clean.

(g) Most of the floating population considers that there are adequate PTs in the area and they don't use them regularly.

5.12 **Do you have to wait for your turn for using PTs.** Majority of the male users from the busy shopping areas have told that they never had to wait in queue. Some of them said that sometimes they have to wait for their turn for using the Urinals. The feedback from the users on this question is depicted in the chart below :-

Chart 3 : Need to wait in Queue for using the PTs



Deductions from Interview of DCB Officials

5.13 DCB Officials gave the following information on adequacy of PTs in the area :-

(a) Presently, there are a total of 9 PTs and 6 E Toilets are operational in the area. 2 PTs are under construction. There are 9 PTs which were constructed recently but not yet made operational as the contract for

outsourcing the maintenance is not yet finalized.

(b) There are sufficient numbers of PTs in accordance with the ratio of population. Therefore, there is no need of any new construction of PTs.

(c) Till date, there is no plan to convert old urinals/PTs into new SBM type toilet complexes. However, DCB is maintaining old urinals/PTs in clean and hygienic manner.

Summary of the Findings on Adequacy of PTs in Delhi Cantt

5.13 The following are the major findings on adequacy of PTs in Delhi Cantt area based on the Survey of the area and User feedback :-

(a) There is a need for a PT in the area of Vegetable Market near Palam Railway Crossing and a PT complex is under construction.

(b) There is a need for a PT complex near Sadar Bazaar Cantt Metro Station area.

(c) There is a need for replacing the two old Urinal complexes with the new SBM type PT complexes in Sadar Bazaar area. Also all the e toilets should be made serviceable and made available for use of women there by providing adequate access to women. The newly constructed PT complexes should be made operational as soon as possible.

(d) The PT complex near Dist Employment Exchange should be opened regularly and made available for public use.

(e) The old PT complex near to Capital Restaurant in Shastri Bazaar should be replaced by a New SBM type PT complex.

(f) Mobile Self cleaning single seat toilets should be provided in the areas of Hanuman Mandir Junction (near AF Stn Palam) and Parade Road Junction

(Water Tank) for exclusive use of Police Personnel deployed in those areas and other minor floating public in those areas.

(g) Once the newly constructed PT at Maude lines is made operational, the urinal complex at Maude lines be made non operational and demolished.

CHAPTER VI : FACILITIES IN PUBLIC TOILETS

"There's almost a mathematical proportional relationship between, on the one hand, the non-glamorous nature of water, sanitation and hygiene and, on the other hand, its objective development significance. If we don't get SDG 6 right, none of the SDGs will function and actually be delivered."

- Hon Kevin Rudd, Former Prime Minister of Australia

6.1 The facilities provided in the PTs in Delhi Cantt area were assessed by surveying the operational PTs in major public places under the jurisdiction of DCB and analysed them by comparing the data with the norms specified in the Advisory on Public and Community Toilets issued in November 2018 by the MoUA. Also, a feedback was obtained from the users through interviews.

Deductions from the Survey

6.2 Collection of data through survey of PTs was carried out in three parts as given below :-

- (a) **External Facilities**. It includes approach road, ramp facility, external lighting, visibility of PT, signage and display boards including in Braille, aesthetic facade including landscaping, display of telephone numbers of maint agency, helpline, user charges & timings.
- (b) **Access**. It includes provision of separate entrances for men and women, privacy for women, accessibility to differently abled/elderly/ children, waiting area or a place to keep personal belongings, is the entry and exit possible without making physical contact with walls/doors/people, security door at the entrance and guard/care taker at the entrance.
- (c) **Internal Facilities**. Number of urinals, Indian & Western WCs, wash basins, water supply & electricity connection, toilets flushes, urinals flush

valves, toilet doors with locking facility from inside, mug/bucket/jet spray in the toilet, internal lighting, disabled and children friendly, emergency lighting, child care space, napkin vending machine, caretaker's room and store room.

6.3 Out of the 22 PTs in Delhi Cantt surveyed, there were five Urinals for men only (except the urinals at DMS shop, which also has a single toilet for women), four e-toilets for women only, eight PTs were for both men and women, one child toilet and four toilets were under construction/ not yet operational/ locked. The data of Sulabh toilet complex inside Sadar Bazaar Metro Station was not collected and has been excluded as it does not fall under the responsibility of DCB but under the Delhi metro. The data of internal facilities of three e toilets for women could not be collected as they were closed/ locked. Data on internal facilities of four new PT complexes, which were under construction/ not yet operational/ locked also could not be collected.

6.4 **Urinals for Men only.** The observations and photographs of the facilities in Urinals are given below :-

(a) **Urinals at Maude Lines.** Though the urinals are located next to the road, there is no proper approach road and ramp facility. It is visible from far off distance. There are no signage boards. It is open from top and has four urinals for men. The walls externally are filled with torn advertisement posters. No telephone numbers of any officials/ maintenance personnel were displayed. The single entry/ exit to the urinal is narrow. There is no lighting both internally and externally. Though there is a water storage tank, there is no water supply inside. The urinals have flush valves but most of them are broken and flushing system is not serviceable. There is no security door and caretaker/ cleaner at the urinal. There are no wash basins. It has ceramic tiled flooring and some of the tiles are broken. The surroundings of the urinals are

dirty. There is no drainage but the waste water/ urine is drained out to the rear of the structure in the open.

Photograph 1 : External of Maude Lines Urinals



Photograph 2 : Internal of Maude Lines Urinals



(b) **Urinals Opposite to Dargah**. The facilities of these urinals are similar to the urinals at Maude lines, except that it is cleaner externally, the walls do not have any advertisement posters, it has two urinals and the waste water is connected to the adjoining open main drain.

Photograph 3 : External of Urinals near Dargah



Photograph 4 : Internal of Urinals near Dargah



(c) **Urinals near Kranthi Chowk, Sadar Bzr.** The facilities of these urinals are similar to the urinals at Maude lines, except that it has a proper and tiled approach road, it has sufficient external lighting, it has five urinals, water supply is available in the urinals, many of the water pipes are leaking and externally it was maintained clean.

Photograph 5 : External of Urinals near Kranthi Chowk, Sadar Bzr



Photograph 6 : Internal of Urinals near Kranthi Chowk, Sadar Bzr



(d) **Urinals near DMS Shop, Sadar Bzr.** The facilities of these urinals are similar to the urinals at Maude lines, except that in addition to the three urinals for men, it also has a single toilet for women, the entry/exit of the men urinals is very narrow and only one person can pass through at a time, It is surrounded by small shops and street hawkers compromising the privacy of women users and the women toilet is blocked and not being used.

Photograph 7: External of Urinals near DMS Shop, Sadar Bzr



Photograph 8: Internal of Urinals near DMS Shop, Sadar Bzr



(e) **Urinals near Defence Caterers, Shastri Bzr.** The facilities of these urinals are similar to the urinals at Maude lines, except that it is a renovated Urinal complex with a covered top. It has a tiled approach road and externally clean. It has sufficient external lighting but no internal lighting and the two broad entry/ exit openings. It has two urinals for men. It has sufficient water storage and water supply is there inside the urinals. It has

granite flooring and one urinal flush was serviceable and urinal pipe of the other flush is broken.

Photograph 9: External of Urinals near Defence Caterers, Shastri Bzr



Photograph 10: Internal of Urinals near Defence Caterers, Shastri Bzr



6.5 **E Toilets for Women**. There are a total of four e-toilets for women deployed one each at Kranthi Chowk, near DMS shop at Sadar Bazaar area, near Defence Caterers, Shastri Bazaar and at Hanuman Mandir, near DCB Staff Qtrs. Out of these, three were found locked and not being used. The toilet near DCB Staff Qtrs though was open, found to be blocked and not being used. The surroundings of this toilet were found to be very dirty and dirty water was flowing in the open.

Photograph 11: E Toilet near Kranthi Chowk, Sadar Bzr



Photograph 12: E Toilet near DMS Shop, Sadar Bzr



Photograph 13: E Toilet near Defence Caterers, Shastri Bzr



Photograph 14: E Toilet near DCB Staff Qtrs



6.6 **Child Toilet.** The only mobile child toilet in the area was deployed near the PT complex at Kotwali road bus stop. The toilet had a display board indicating it as child toilet. Externally it was clean but dirty from inside. It has a single child Indian toilet seat and a wash basin. It has a door with locking facility. It has water connection and functional taps for the toilet and wash basin. There is no lighting facility inside. It has a bucket. It was found that some adults were also using the facility. The photographs are given below :-

Photograph 15: Mobile Child Toilet near Kotwali Road



6.7 **Operational PT Complexes.** Out of the seven PT complexes surveyed in the Delhi Cantt area (excluding the Sulabh PT complex inside Metro Stn), there were two old PTs and five new PTs (SBM Type). The common observations to all PTs and the specific observations to each PT are given separately below :-

(a) **Common Observations.** The observations common to all/most PTs are given below :-

- (i) All PTs are close to the public areas and are at a convenient distance to the users.
- (ii) All PTs had a proper approach road or they are located next to a main road.

- (iii) All PTs have sufficient external lighting facilities.
- (iv) All the PTs were clearly visible from far off distance except the PT opposite to Geeta Ashram bus stop, which is covered by trees.
- (v) All PTs have legible sign boards indicating men and women toilets except the PT at Geeta Ashram bus stop. However, there are no leading in signage to the PTs except at the Kotwali road PT. There are no boards in Braille language at any of the PTs.
- (vi) Out of the 7 PTs, 3 PTs (2 Old PTs and the new PT at Geeta Ashram bus stop) didn't have any landscaping or potted plants to improve the external facade.
- (vii) All PTs had separate entrances for men and women. However, at the old PT at Shastri Bazaar, the entry for women is facing the main road, compromising in privacy of women.
- (viii) All the PTs had ramp facility and special toilet for the disabled except in the old PT at Shastri Bazaar. The ramp at Kirbee Place old PT is very steep.
- (ix) None of the PTs had any waiting area or place to keep the personnel belongings of the users.
- (x) All the PTs except the PT at Geeta Ashram bus stop have a security door at the entrance.
- (xi) All PTs except the 2 PTs at Geeta Ashram bus stop and the old PT at Shastri Bazaar had a caretaker/ cleaner. However, they were not wearing their uniform and were difficult to recognize as caretakers.
- (xii) All the PTs have water connection and over head facility for water storage. However, at the time of survey, there was no water

supply at three PTs (old and new PTs at Shastri Bazaar and the old PT at Kirbee Place Jn).

(xiii) All PTs had electricity connection except the PT at Geeta Ashram bus stop. At the time of survey there was no electric supply at old PT at Shastri Bazaar. The new SBM PTs had emergency lighting powered from solar energy. The old PTs and the PT at Geeta Ashram bus stop didn't have any emergency lighting arrangement.

(xiv) All the PTs had individual water taps and flushes in the toilets.

(xv) All the urinals had flush valves. However, some had automatic flush sensors, which were not working.

(xvi) All PTs had doors for the toilets which had serviceable locking mechanism from inside except the PT at Geeta Ashram bus stop, which had locking mechanism broken in one of the toilets.

(xvii) All PTs had at least one of the facilities of mug/bucket/jet spray in each of the toilets except two PTs at Geeta Ashram bus stop and old PT at Shastri Bazaar.

(xviii) All PTs had had sufficient internal lighting and mirrors except in two PTs at Geeta Ashram bus stop and old PT at Shastri Bazaar.

(xix) None of the PTs had child care space.

(xx) Only three PTs at Kirbee Place Jn, Shri Nagesh garden and at Kotwali road had Sanitary napkin vending machines, but none of them had napkins in them and are non operational.

(xxi) All the PTs had sufficient overhead water storage capacity but require water supply at least twice in a day and the water leakages have to be arrested for continued availability of water supply inside.

(xxii) None of the PTs had a separate store room. Only three PTs at Triveni complex, New SBM Toilet at Shastri Bazaar and Kotwali road had care takers rooms, which are also being used as store rooms. At Geeta Ashram bus stop PT, the toilet meant for the disabled is being used as store room. At Shri Nagesh garden PT, one of the ladies toilet is being used as store room.

(xxiii) None of the PTs had any telephone numbers of the officials displayed for making complaints. However some of them had a display board showing the daily inspection record, in which the name and telephone number of the inspector are written. However, this data is very old and not being updated on a daily basis.

(xxiv) All the PTs are maintained clean externally except 2 PTs (Old PT at Shastri Bazaar and PT at Geeta Ashram bus stop).

(xxv) The entry/exit of all PTs was possible without making physical contact with walls, doors or people.

(xxvi) All PTs had mirror except 2 PTs (Old PT at Shastri Bazaar and PT at Geeta Ashram bus stop).

(b) **Specific Observations.** The observations specific to a PT and the photographs are given below :-

(i) **PT Opposite to Geeta Ashram Bus Stop, Sadar Bazaar.** The PT is not clearly visible as there are lot of trees around it covering the PT. It has water logging outside (from the water leaking from the overhead water tank). It does not have a caretaker. The toilet meant for the disabled is locked and the key is kept with a barber working adjacent to the PT. There is no store room and the toilet meant for the

disabled is being used as a store room. There is no facility of internal or external lighting at the PT. The PT has a high ceiling and leaves a gap at the top from the walls of the PT. Nearby shopkeepers are using the PT as a source of water for their use at the shops. Lot of vegetation growth noticed near the overhead water tank. The PT has 03 urinals, one wash basin and two toilets for men. It has one toilet and one wash basin for women.

Photograph 16: PT Opposite to Geeta Ashram Bus Stop, Sadar Bazaar (External)



Photograph 17: PT Opposite to Geeta Ashram Bus Stop, Sadar Bazaar (Internal)



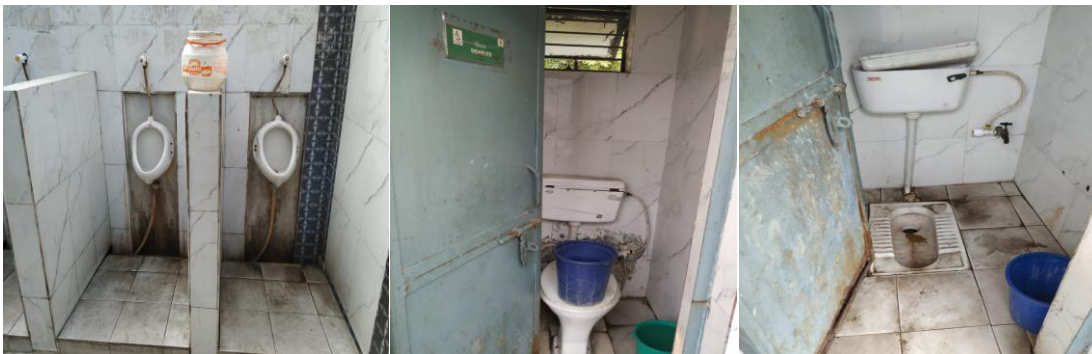
(ii) **Old PT at Kirbee Place Junction.** The PT has 4 urinals, 2 toilets and 1 wash basin for men and three toilets and one wash basin for women. The ramp for wheel chair is very steep. There is no water

supply at the PT on all three occasions visited for survey. Some of the fittings are broken. There is no store room and cleaning tools and agents are placed at various locations within the PT.

Photograph 18: Old PT at Kirbee Place Junction (External)



Photograph 19: Old PT at Kirbee Place Junction (Internal)

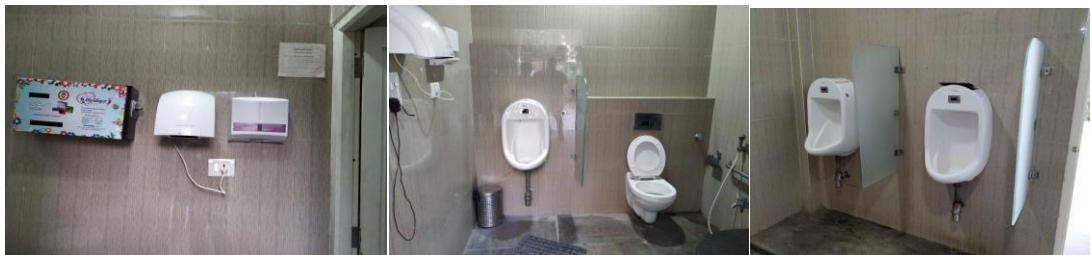


(iii) **PT at Kotwali Road Bus Stop.** This PT is relatively new with most of the desired facilities as per the laid down norms. It has two urinals, one western WC and two wash basins for men. It has one western WC and one wash basin for women. This is the only PT which has a leading in signage to the PT at a distance of 50 meters near the bus stop. This PT also has hand dryer and paper napkin dispenser, however, there were no napkins in it. It has touch free flushes in the urinals, but the sensors are not working.

Photograph 20: PT at Kotwali Road Bus Stop (External)



Photograph 21: PT at Kotwali Road Bus Stop (Internal)



(iv) **Old PT at Shastri Bazaar**. This is a very old PT with the highest footfall in the area. The women toilet is open to main road and does not provide privacy for women users. It has 3 urinals, 1 western WC and 2 wash basins for men. It has 1 Western WC and 1 wash basin for women. It has a combination of cement, granite and ceramic flooring. It does not have a caretaker. There was no water and electric supply at the time of survey on two occasions. There were lot of advertising posters on the external walls which were torn, making the walls look shabby from outside.

Photograph 22: Old PT at Shastri Bazaar (External)



Photograph 23: Old PT at Shastri Bazaar (Internal)



(v) **New PT at Shastri Bazaar (Next to P&T Colony)**. A newly constructed PT in the area with a caretaker in attendance and has most of the facilities as laid down in the guidelines. It has 2 urinals, 1 Western WC and 2 wash basins for men. It has 1 Western WC and 2 wash basins for women. The urinals have touch free sensor based flush system but the sensors are not working. There was no water supply in the PT at the time of Survey, but water supply resumed after half an hour. The toilet for men was locked by the care taker as there was no water supply and it was opened once water supply resumed.

Photograph 24: New PT at Shastri Bazaar, next to P&T Colony(External)

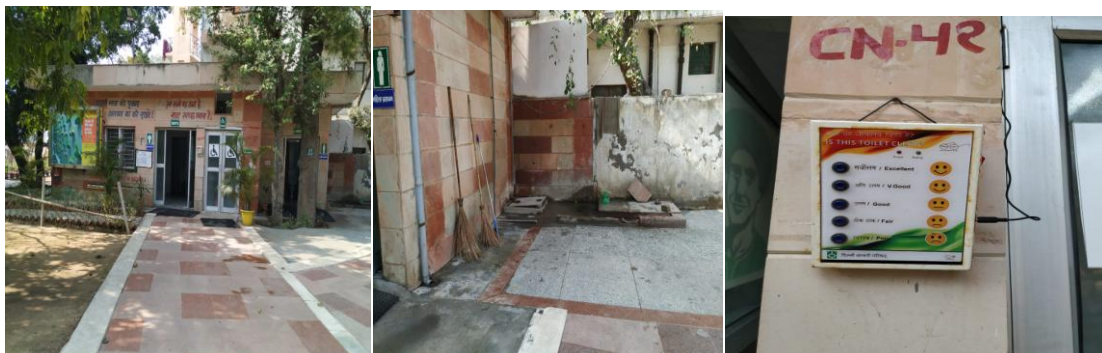


Photograph 25: New PT at Shastri Bazaar, next to P&T Colony(Internal)



(vi) **PT at Shri Nagesh Garden**. The PT has very good signage display boards and good approach road for the toilet. It does not have a store room and one of the ladies toilet is being used as store room. This is the only PT which had separate caretakers for men and women toilets. The PT has 6 urinals for men including one for child, 1 Indian WC & 1 Western WC and 2 wash basins for men. It has 2 Indian WC & 1 Western WC and 2 wash basins for women. This is the only PT which had an electronic user feedback mechanism, however it was not working.

Photograph 26: PT at Shri Nagesh Garden (External)



Photograph 27: PT at Shri Nagesh Garden (Internal)



(vii) **PT at Triveni Shopping Complex**. A relatively new PT complex. It has most of the facilities as per the norms laid down. It has 2 urinals, 1 Western WC and 2 wash basins for men. It has 1 Western WC and two wash basins for women. It has a well maintained Divyang toilet. There was no water supply in the PT at the time of survey and the men toilet was found locked. The PT has hand dryer and paper napkin dispenser, however, there were no napkins in it. The inspection record board was not displayed.

Photograph 28: PT at Triveni Shopping Complex (External)



Photograph 29: PT at Triveni Shopping Complex (Internal)



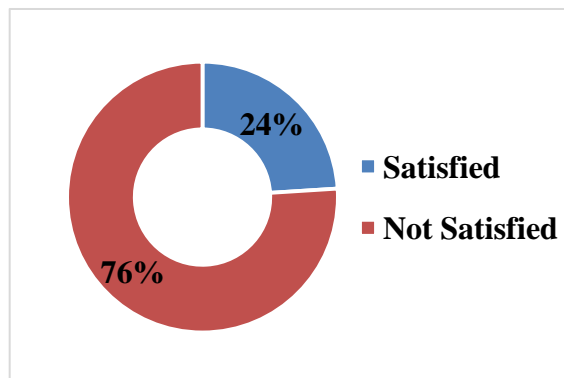
Deductions from the User Feedback

6.8 There were two questions related to adequacy of facilities in PTs in the user feedback interview as given below :-

- (a) Are you satisfied with the facilities in PT?
- (b) Any other additional facilities required in PT?

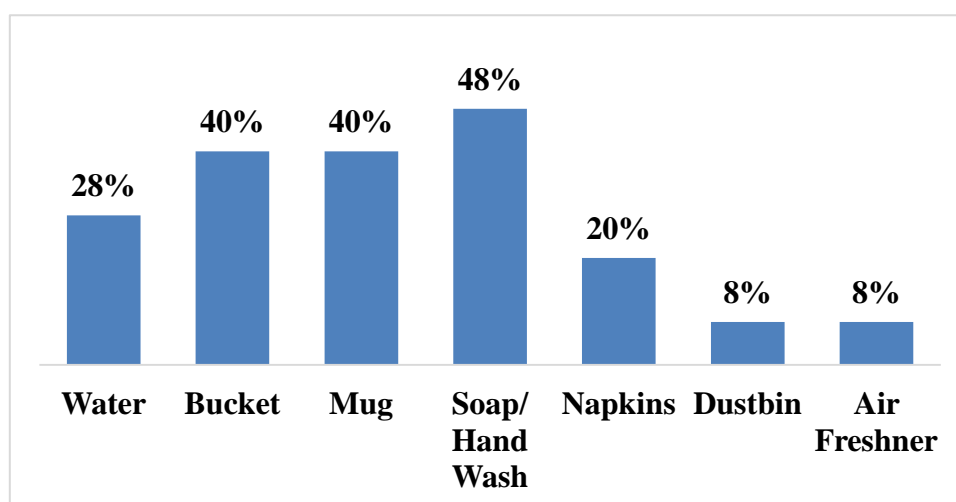
6.9 **Are you satisfied with the facilities in PTs.** It was observed that none of the users were aware of any laid down norms or guidelines on the facilities to be provided in PTs. Therefore, initially they were hesitant to answer this question. On further discussion about the basic and hygiene facilities, they were ready to answer. Majority were not satisfied with the facilities of the old PTs. Also, they were not happy with the water supply at the PTs. The feedback is given in the chart below :-

Chart 4 : Satisfied with the Facilities in PTs



6.10 **Additional Facilities Required in PTs.** The expectation of the majority of the users was limited to provision of basic facilities like water, bucket, soap and mug. However, few of them expressed requirement of other hygiene facilities like dust bin, napkins etc. Few of them said that the facilities being provided in the new SBM toilets should also be provided in the old PTs. The feedback as a percentage of users responded, who wanted these specific facilities is summarized in the chart below :-

Chart 5 : User Feedback on Facilities required in PTs



Summary of the Findings on Facilities of PTs in Delhi Cantt

6.11 The major findings on facilities of PTs in Delhi Cantt area based on the Survey of PTs in the area and User feedback are summarized below :-

- (a) There are no sign boards in Braille language in any of the PTs.
- (b) Telephone numbers of the concerned officials of DCB for giving user feedback/ complaints are not displayed at the PTs.
- (c) There are no leading in signboards in the vicinity of the PTs.
- (d) Caretakers should be deployed at all the PTs and they should be in uniform for easy identification.
- (e) There is no waiting area or a place for keeping the personal belongings by the users at any of the PTs.

- (f) Water supply at most of the PTs is not regular and a weak area.
- (g) Most of the urinal flushes are unserviceable, especially the ones with automatic flushing sensors.
- (h) None of the sanitary vending machines, Tissue dispensers and soap dispensers were refilled with the consumables.
- (j) None of the PTs had an earmarked store room.
- (k) Old PTs were ill equipped in comparison with the new PTs.
- (l) None of the PTs displayed operations timings.
- (m) The facilities of PT at Geeta Ashram bus stop, Sadar Bzr, the Old PT at Shastri Bzr and the Urinals at DMS shop, Sadar Bzr are in a bad condition as they have high footfall and there are no caretakers.
- (n) The expectations on facilities in PTs from most users were found to be very basic like water, bucket, mug and soap. They are more interested in cleanliness rather than more facilities.

CHAPTER VII : OPERATION & MAINTENANCE OF PUBLIC TOILETS

"Sanitation is more important than independence. Everyone must be his own scavenger"

- M. K. Gandhi

7.1 The operation and maintenance of PTs in Delhi Cantt area were assessed by surveying all the operational PTs in major public areas under the jurisdiction of DCB, by interacting with the caretakers and interviewing the concerned DCB Officials. Also, a feedback was obtained from the users through interviews.

Findings from the Survey

7.2 **Urinals for Men only.** The observations and relevant photos from the survey on maintenance of urinals are given below :-

- (a) The urinals do not have doors and are open 24 hrs a day for use. However, there is no lighting facility for usage in the night time.
- (b) The urinals are cleaned every day only once in the morning by DCB staff and they do not have any caretaker at the facility.
- (c) The urinal flushes are not working either due to the fixtures broken or no water supply except for one flush of the urinals at Shastri bazaar which was working.
- (d) All the urinals are for free usage and also there is no advertising revenue.
- (e) There is no facility for user feedback and none of these urinals are mapped on the Google toilet locator, except the Urinals opposite to Dargah, near Sadar Bazaar.
- (f) There is no record of audit or inspection by the officials at the urinal

sites.

(g) The Urinal opposite to Dargah is connected to an adjoining open drain and the Urinal at Maude lines is connected to open area at the rear of the urinal and other urinals have sewerage connections.

(h) There is no record of any maintenance displayed at the site.

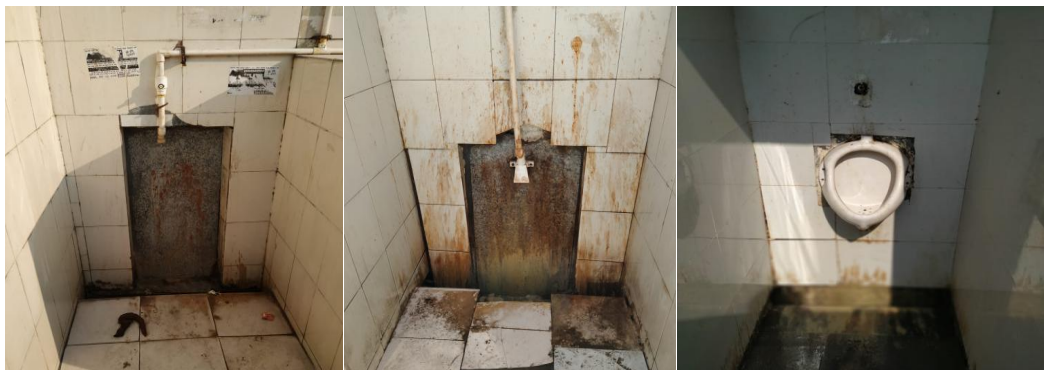
Photograph 30: Broken Tiles in Urinals



Photograph 31: Urinals connected to open drain



Photograph 32: Urinals with unserviceable Flush



Photograph 33: Urinals with Dirty Surroundings



7.3 **E Toilets for Women.** All the e toilets were locked except the one next to DCB Staff quarters which was blocked and had a water logging in the vicinity. Lot of advertising posters were pasted on them with dirty surroundings.

Photograph 34: Maintenance of E Toilets



7.4 **Maintenance of Operational PTs.** The findings of the parameters related to Operation and Maintenance of the seven PTs surveyed and relevant photographs are given below :-

- (a) **Opening and Closing Time.** There was no display of any opening and closing time at the PTs. However, the caretakers at the PTs have generally indicated that, the PTs are opened in the morning at 0400 to 0600 hrs and remain open until about 2000 hrs to 2200 hrs. Thereafter, they are kept locked though caretaker is available at the PT. The PTs at Geeta Ashram bus stop and Old PT at Shastri Bazaar were kept open 24 hrs a day.

(b) **Caretakers.** Two PTs (at Geeta Ashram bus stop and Old PT at Shastri Bazaar) did not have any caretaker. Four PTs had one caretaker deployed. The PT at Shri Nagesh garden had 2 caretakers separate for men and women toilets. The caretakers are temporary employees provided by the contractor to maintain and take care of the PT. They are paid Rs 12,000 each per month. Generally the caretakers are working in a two shift basis. First shift from 0800 to 2000 hrs and second shift from 2000 hrs to 0800 hrs. Some of the caretakers could not answer properly on the shift timings and were confused about exact timings of their shift. None of them were wearing uniform. Some of them said that they were issued one uniform only and it is given for wash, some of them told that they gave it for alteration. It was clear that they were only trying to cover up their lapses. Majority of the caretakers were illiterate and no one had any formal training on maintenance of PTs. However, the PTs that had caretakers were better maintained compared to the PTs without caretakers.

(c) **Tools for Cleaning.** The old PT at Shastri Bazaar didn't have any tools at the site. The PT near Geeta Ashram bus stop had only unused wet area brooms locked up in the toilet meant for disabled. All other five PTs where caretakers were present had the following cleaning tools at the facility:-

(i) All five PTs had wet area brooms, only three had dry area broom.

(ii) Only two PTs had a scrubber/ brush for cleaning wash basins. Others were cleaning using bare hands.

(iv) One PT at Kirbee Place Jn didn't have a brush for cleaning WC

and was using cloth to clean the same. Other PTs had a brush.

(v) All PTs had Cloth/ Mop and wipers for floor cleaning.

(vi) 2 PTs (at Kirbee Place Jn and Kotwali road bus stop) didn't have a bucket and mug for mixing the cleaning agent, they are mixing on the floor directly.

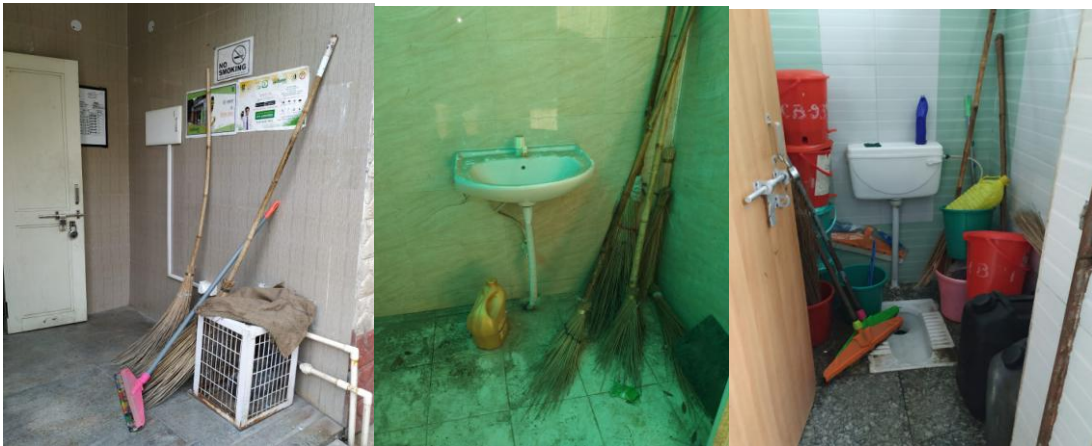
(vii) 2 PTs (at Kirbee Place Jn and at Triveni shopping complex) didn't have a separate cloth/ sponge for cleaning the mirrors.

(viii) None of the PTs had any pan for collecting dust except the PT at Kirbee Place bus stop.

(ix) None of the PTs had any disposable garbage bags.

(x) Since there are no store rooms at the PTs, these items are being kept either in the open or in caretaker's room/ one of the toilets.

Photograph 35: Cleaning Tools at PTs



(d) **Cleaning Agents.** The information on cleaning agents at the five PTs where caretakers were present is given below :-

(i) 2 PTs at Kirbee Place junction and at Triveni shopping complex didn't have sanitary ware cleaning agents. The Harpic containers were empty.

(ii) 2 PTs at Kotwali road bus stop and Triveni shopping complex

didn't have a Tiles/ Floor cleaning agent like Phenyl.

(iii) Only the PT at Shri Nagesh Garden had glass cleaning agent for the mirror.

(iv) The PT at Triveni shopping complex didn't have Naphthalene balls, while rest of the PTs had the same.

(v) The PT at Kirbee place junction didn't have a hand washing soap. There is a liquid soap dispenser, but empty.

Photograph 36: Cleaning Agents at PTs



(e) **Protective Gear**. The information on protective gear for the staff at the five PTs where caretakers were present is given below :-

(i) None of the caretakers were using any protective gear.

(ii) The caretakers at most PTs had boots, gloves and masks but are not being used. These items were dumped in a corner in an unhygienic manner. The PT at Kirbee place jn didn't have any protective gear.

Photograph 37: Protective Gear at PTs



(f) **Cleaning Frequency, Schedule and Record of Inspection.** There is no schedule or cleaning frequency that is laid down in practice and none of the caretakers are also aware of such a schedule. The PTs where there are no care takers deployed (PT at Geeta Ashram bus stop and the old PT at Shastri Bazaar), are cleaned only once in the morning time by the staff of DCB. Other PTs which have caretakers deployed are being cleaned as and when considered required by the caretaker. As per the caretakers, complete cleaning is generally done once in the morning and afternoon/evening subject to availability of water. Thereafter, whenever a particular section is seen to be dirty, it is cleaned. Most of the PTs have displayed a board containing inspection record. However, it is not updated on a daily basis and appeared to be only for a show purpose. A sample of such board displayed at Kotwali road bus stop PT surveyed on 01 Feb 20 (date indicated on the board is 27 Nov 19) is given below :-

Photograph 38: Inspection Record Board at Kotwali Road PT

दिल्ली छावनी परिषद
दैनिक सफाई जांच-बिन्दु

श्रीधालय ID : DCB/008/PT3/008
स्थान : Kotwali Road

दिनांक : 27/11/2019
सफाई कर्मचारी : अनिल शर्मा

पर्यवेक्षक : Sachin
सफाई निरीक्षक मोबाईल नं० : 8130354459

क्र.सं.	दायित्व	प्रथम पारी		द्वितीय पारी		पर्यवेक्षक द्वारा प्रतिक्रिया		
		सफाई करने का समय	कर्मचारी के हस्ताक्षर	सफाई करने का समय	कर्मचारी के हस्ताक्षर			
1.	श्रीधालयों तथा पेसाबधरों के अंदर से सफाई	4:00	4:20	अनिल शर्मा	11:00	11:20	अनिल शर्मा	✓
2.	सिंक/सेविन/डिस्पेन्सरों की सफाई	4:20	4:30	अनिल शर्मा	11:20	11:30	अनिल शर्मा	✓
3.	बूके को उतारना/कॉन की सफाई/बूकेबाग को खाली करना	4:30	4:35	अनिल शर्मा	11:30	11:35	अनिल शर्मा	✓
4.	सीवरों पर धब्बों को साफ करना	4:35	4:50	अनिल शर्मा	11:35	11:50	अनिल शर्मा	✓
5.	शौचों की सफाई करना	4:50	5:00	अनिल शर्मा	11:50	12:00	अनिल शर्मा	✓
6.	दुर्गन्ध की रोकथाम, फिगार्डल का प्रयोग	5:00	5:10	अनिल शर्मा	12:00	12:10	अनिल शर्मा	✓
7.	साबुन/ पानी की उपलब्धता की जांच करना	5:10	5:15	अनिल शर्मा	12:10	12:15	अनिल शर्मा	✓

(g) **Toilet & Urinal Flushes.** Toilet flushes were fully functional at 2 PTs. At Kirbee Jn PT, there was no water supply, At Geeta Ashram bus stop PT, flush in one of the Gents toilet was not working and clogged, At Triveni

Complex PT, Gents toilet flush not working, at Shastri Bazaar new PT, ladies toilet flush not working and at Shastri Bazaar old PT, none of the flushes were working. None of the flushes in the urinals were working except at Geeta Ashram bus stop PT, but it was observed that no one was using them. In urinals of other PTs, either there was no water supply or the automatic sensors were not working.

(h) **Door locks/ latches.** Doors of toilets at all PTs had serviceable latches except at one door of Geeta Ashram bus stop PT.

(j) **Leakage of Water.** Water pipes near the over head tank and taps inside were found to be leaking at the PT near Geeta Ashram bus stop. There was no water at 3 PTs, caretakers confirmed that there are no leakages.

(k) **Serviceability of Lights.** Three PTs had all serviceable lights. The PT at Geeta Ashram bus stop did not have any lights installed. At the new PT at Shastri Bazaar, 2 external lights were unserviceable. There was no electric supply at old PT at Shastri Bazaar and regular users confirmed that they are unserviceable. At the PT at Kotwali road, one external light is unserviceable.

(l) **Broken Fixtures.** Four PTs didn't have any fixtures broken. The old PT at Shastri Bazaar had many broken fixtures and the PT at Kirbee Place Jn had some had some flush tanks broken.

Photograph 39: Broken Fixtures at PTs



(m) **Waste Disposal Mechanism.** The waste from all the PTs is being disposed off at the nearest public dustbin and further collected by the DCB staff.

(n) **Free or Paid.** All the PTs were free for usage and no money is being collected, though 2 PTs had charges displayed outside. There is no advertising revenue from any of the PTs. One user informed that DCB is collecting Rs 500 per shop and Rs 200 per house per month towards SBM.

Photograph 40: User Charges Displayed at PTs



(p) **Listing on SBM Toilet Locator.** Out of all the surveyed PTs, only one urinal (Opp to Dargah, Sadar Bzr) and three PTs (old PT at Shastri Bazaar, PT at Kirbee Place Jn and PT at Geeta Ashram bus stop) were listed in Google SBM toilet locator. The newly constructed PTs were not listed.

(q) None of the PTs had any asset inventory record and the Dos/ Don'ts are not displayed in the PTs. All PTs had Sewerage connections along with closed drains for flow of waste water. None of the PTs had any record of Maintenance or repairs.

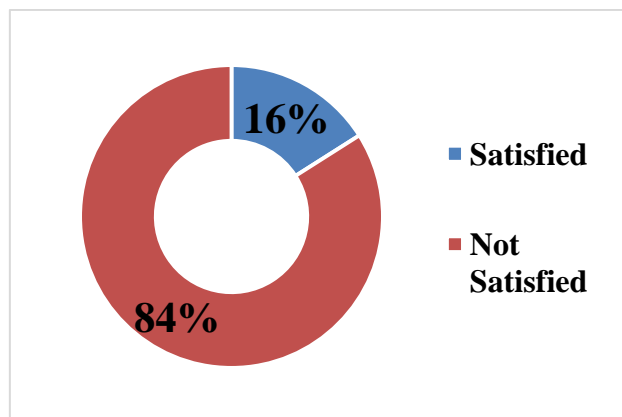
Deductions from the User Feedback

7.5 There were six questions related to maintenance of PTs in the user feedback interview as given below :-

- (a) Are you satisfied with the maintenance of PTs?
- (b) Rank the maintenance problems in the order of severity from 1 to 5.
- (c) Who is responsible for bad maintenance of PTs?
- (d) Do you know whom to complain about PTs?
- (e) Do you find any improvement in Pts after implementation of SBM?
- (f) Your suggestions for improvement of PTs?

7.6 **Are you satisfied with the maintenance of PTs.** Majority of the users were not satisfied with the maintenance of PTs. The feedback on this question is indicated in the chart below :-

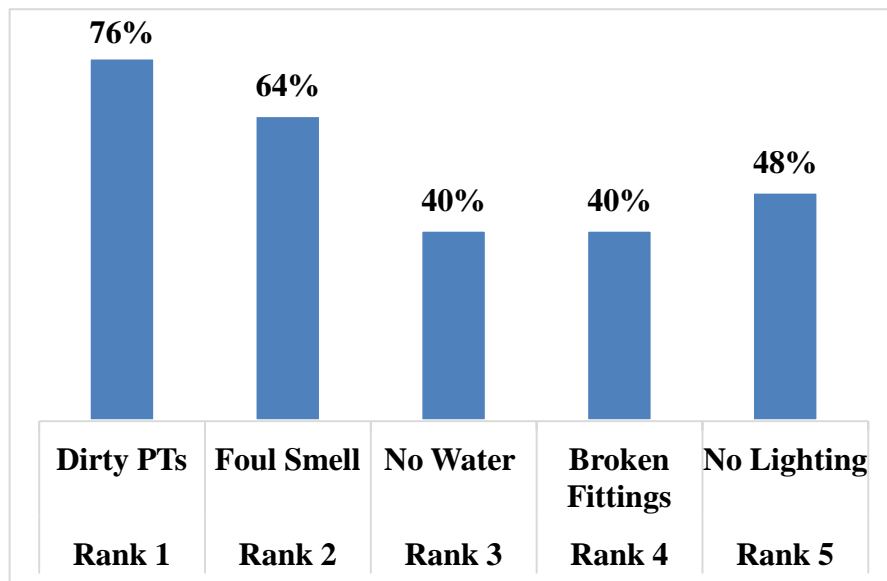
Chart 6 : User Satisfaction with Maintenance of PTs



7.7 **Ranking of the Maintenance Problems.** Majority of the users have ranked the maintenance problems (in the order of reducing severity) as Dirty Toilets (Most Severe problem), Foul Smell, No Water, Broken Fittings and No Lighting (Least Severe Problem). The percentage of users given the rank for each of the problems is

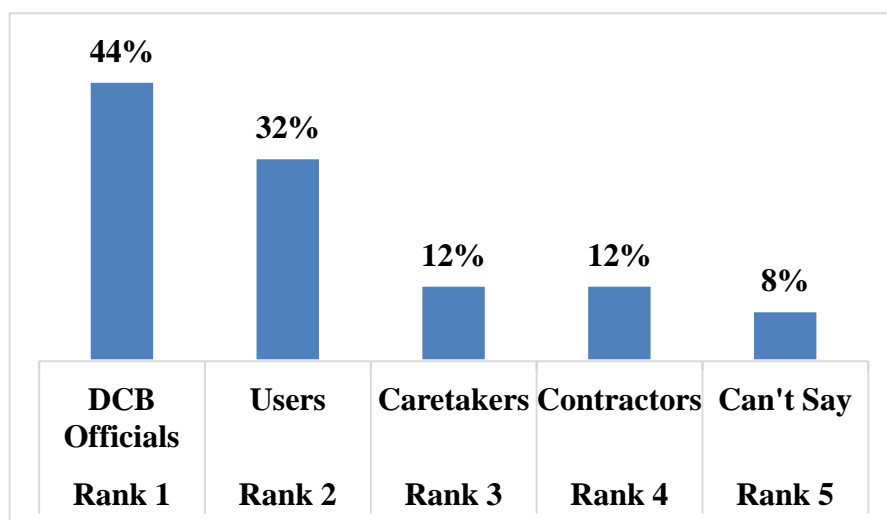
given below in the chart:-

Chart 7 : User Ranking of Maintenance Problems in PTs



7.8 **Responsibility for Bad Maintenance of PTs?** Most of the users hold DCB Officials responsible for bad maintenance followed by the users themselves, Caretakers and Contractors. The percentage of users given the rank for each of the category responsible for bad maintenance are below in the chart :-

Chart 8 : User Feedback on Responsibility for Bad Maintenance of PTs



7.9 **Do you know whom to complain about PTs?** No user knew who to complain about complaints, except one user (a shop keeper at Sadar Bazaar) knew the telephone number of a Sanitation Inspector in DCB who is responsible for the maintenance of PTs.

7.10 **Improvement in PTs after Implementation of SBM.** 100% of the users felt that there has been an improvement in the quality/ Standards of PTs after implementation of SBM. They were very happy with the maintenance of New SBM PTs and recommended that all old PTs should be converted to new PTs with a care taker in attendance for continuous cleaning.

7.11 **Do you mind Paying a Small Fee if PTs are Maintained Clean?** 100% of the Users said that they do not mind to pay a fee for usage if the PTs are maintained clean.

Findings from the Discussion with Care takers

7.12 Majority of the Caretakers were not happy with the irregular water supply which is affecting the maintenance of PTs and ensuring they are clean. Some of them were also blaming the users for breaking the fittings and throwing trash and spitting in the PTs. None of them complained anything about the contractor or the DCB officials. When inquired about the shortage of consumables, they said that they would be collecting the same from DCB office and were not finding time. When inquired about the unserviceable facilities, they hesitantly said that they informed the DCB officials when they came for inspection. However, they did not have any record with them. They informed that DCB Officials regularly come for inspection of the PTs.

Deductions from the Interview of DCB Officials

7.13 DCB has entered into a term contract for upkeep and cleaning of public roads, bazars, Urinals etc in Delhi Cantt area with a firm, M/S Aakanksha Enterprises with effect from 01 Mar 19 for a period of six months and further extension of six months. The firm is to provide 8 supervisors (basic pay of Rs 16,962) and 170 Safai karamcharis (basic pay of Rs 14,000). The total cost of the contract is approximately Rs 3.66 Crs per annum. The contractor is to provide all the safety gear required for the employees as per the applicable rules. Specific to the PTs, caretakers to be provided and cleaning has to be undertaken by the contractor. However, DCB is to undertake repairs and provide all cleaning materials and other consumables to the contractor for maintenance.

7.14 The DCB maintains the PTs with its own funds. Revenue is not being generated through advertisements. However, they framed Delhi Cantonment Board Advertisement Policy, based on the advertisement Policy, 2017 adopted by local bodies of Delhi. The said policy is pending before Competent Authority for notification.

7.15 List of inventory of the PTs is being maintained at DCB office. Monthly survey is being conducted of the PTs by DCB to identify any repair work. The problem at PTs is also reported by Assistant Sanitary Inspectors and Caretakers. The overall maintenance repairs ,water supply and electric supply at the PTs are looked after by the Engineering branch of DCB.

7.16 As per DCB officials, the caretakers/users can report/complain to the concerned Assistant Sanitary Inspector of that area and the contact details are displayed at PTs. The PTs are inspected by the Assistant Sanitary Inspectors on daily basis and the same is recorded on the Cleaning Schedule Board as affixed at PTs.

Feedback machines have been installed at all PTs. Training is imparted to caretakers/cleaning staff from time to time. Further, protective gears viz. mask, gloves, helmet, gum boots etc have also been provided to the staff and their free health checkup is carried out at regular intervals in Cantonment Board General Hospital.

7.17 The challenges being faced by DCB include keeping up the motivational level of safai karamcharis and changing the general mindset of the public (like not flushing the toilet despite the availability of water). Nukkad Nataks and rallies by students of DCB Schools are being carried out at regular intervals in their respective areas/wards to create awareness on public hygiene. DCB has decided to conduct a monthly competition among the toilet blocks to improve the sanitation level and to enhance the motivation level in safai karamcharis.

7.18 DCB is in the process of finalising a comprehensive maintenance contract for maintenance of all PTs including the urinals & newly constructed PTs. The new contract shall include O&M, round the clock safety, daily cleaning and undertaking the repairs regularly as required. It will include providing all the necessary consumables, periodical maintenance works and cleaning of PTs once in every three hours. DCB would be responsible only for supervision and monitoring the performance of contractors as per the contract terms. Presently the terms and conditions of the contract are being finalized.

7.19 **Variations between Contract/ DCB Officials Claims and Observations made during Survey of PTs.** The differences are summarized below :-

- (a) The payment to Safai Karamcharis/ caretakers deployed at PTs is supposed to be Rs 14,000 per month as per the contract, but the caretakers said that they are being paid Rs 12,000 by the contractors.
- (b) As per the contract, the contractor is to provide all the safety gear

required for the employees as per the applicable rules, however, in practice no safety gear is being used by the Safai Karamcharis.

(c) The list of inventory of each PT maintained at their office is not being updated.

(d) There is no record of the monthly survey of PTs being conducted by DCB to identify any repair work. Also, there is no follow up mechanism of any maintenance complaints/ repairs.

(e) As per DCB officials, the contact details of Assistant Sanitary Inspectors are displayed at PTs and the inspection carried out by the Assistant Sanitary Inspectors on daily basis is recorded on the Cleaning Schedule Board as affixed at PTs. However, only few PTs had these boards and none of them were updated. Some of them had a record as old as 3 to 4 months.

(f) As per DCB officials, Feedback machines have been installed at all PTs. However, only one PT had a feedback board and that too was not working.

(g) As per DCB officials, training is imparted to caretakers/cleaning staff from time to time. However, as per the caretakers deployed at PTs, they were never trained and didn't have any hygiene knowledge.

CHAPTER VIII : CLEANLINESS & HYGIENE IN PUBLIC TOILETS

*“Since the Middle Ages, progress in hygiene has been characterized
by the conquest of stink”*

- Martin H. Fischer

8.1 The Cleanliness and Hygiene in PTs of Delhi Cantt area were assessed by surveying the operational PTs in the major public areas under the jurisdiction of DCB and by discussing these issues with the caretakers and users. Part IV of the survey format contained parameters of cleanliness and hygiene, which were selected based on the advisory on PTs issued by MoHUA.

Deductions from the Survey

8.2 **Smell/ Odour.** Out of the 5 Urinals, 7 PTs and 1 E Toilet surveyed, only 3 PTs (Shri Nagesh Garden, Triveni Shopping Complex and Kotwali Road Bus stop) didn't have foul smell/ odour. Rest of them had very strong foul smell and is very difficult to tolerate the odour for longer duration. The urinals and PTs where there no caretakers, the foul smell was more in comparison with those which had caretakers. Also, wherever there is no water supply and high footfall of users, the foul smell was more compared to others.

8.3 **Cleanliness.** Three Urinals at Kranthi Chowk, near DMS shop at Sadar Bzr and at Shastri Bzr had dirty floors, which could be attributed to high footfall and absence of caretaker. Two PTs at Geeta Ashram bus stop and Old PT at Shastri Bzr had dirty floors, which could be attributed to absence of caretakers at these PTs. Geeta Ashram bus stop PT had the dirtiest floor, which could be attributed to water leakages. Non availability of water is a major factor for dirty floors at PTs which had caretakers.

The walls at urinals and old PTs especially at Shastri Bazaar were found to be very dirty. The fittings were relatively cleaner at new PTs, however very dirty at old PTs and the Urinals. All the mop cloths used for floor cleaning (available at all PTs with caretakers) were found to be very dirty.

Photograph 41: Floor Cleanliness at PTs



8.4 **Use of Disinfectants and Sanitizers.** Only 2 PTs at Shri Nagesh Garden and the new PT at Shastri Bzr had sufficient stock of Phenyl, Harpic and Naphthalene balls and are using them. The PT at Triveni complex only had acid in stock. The PT at Kirbee Place Jn had only Phenyl in stock. Naphthalene balls though were used in the urinals and wash basins, were not in stock. The PT at Kotwali Road did not have Phenyl. There is no laid down procedure for collection and stocking of these

consumables. The caretakers could not answer the questions as to why they are not having and not using these agents. One of the caretaker said that she is not getting time to collect the items and the person in other shift will be collecting soon from DCB office.

8.5 **Exhaust Fan.** All PTs had sufficient exhaust fans except the PT at Geeta Ashram bus stop, which had sufficient gap in the ceiling and didn't have any exhaust fans. Two exhaust fans in ladies toilet of the PT at Shri Nagesh garden were not working.

8.6 **Foot Operated Dustbin with Lid.** 3 PTs (at Triveni complex, at Shri Nagesh garden and at Kotwali Road Bus stop) had proper dustbins in both Men and Women toilets. The new PT at Shastri Bzr and Kirbee Place Jn didn't have a dustbin in men toilet. The old PT at Shastri Bzr and at Geeta Ashram bus stop didn't have dustbins in both men and women toilets. It was found that there was no waste in any of the dustbins. It may be because none of the toilets had any toilet paper or tissues/napkins, thereby not generating any waste inside.

8.7 **Hand wash Soap/ Liquid Soap Dispenser.** Two PTs (new PT at Shastri Bzr and at Triveni complex) had liquid soap dispensers in both men and women toilets with liquid soap solution filled in them. 2 PTs (old PT at Shastri Bzr and at Geeta Ashram bus stop) didn't have any soap or soap dispensers in both men and women toilets. The PT at Kotwali Road Bus stop had soap dispensers in both men and women toilets, but no liquid soap solution filled in them. The PT at Shri Nagesh garden had soap dispensers in both men and women toilets, but no liquid soap solution filled in men toilet. The PT at Kirbee Place Jn didn't have soap in men toilet but had a soap dispenser in women toilet but no liquid soap solution filled. It has been observed that though some of the caretakers had liquid soap solution in stock, they are not filling the

dispensers.

8.8 **Hand Dryer/ Tissue Dispenser.** Three PTs (new PT at Shastri Bzr, at Triveni complex and Kotwali Road) had hand dryers and tissue dispensers. It was observed that for the hand dryers, the sensor detects only if the hands are kept very close to the dryer, almost touching it. None of the tissue dispensers had tissues in them. Other PTs didn't have any such facility.

8.9 **Touch Free Urinal Valves and Wash Basin Taps.** The wash basins in all the PTs didn't have any touch free water taps. 3 PTs had touch free Urinal Flush valves, but none of these sensors were working.

8.10 **Other Issues.** None of the PTs had any aromatic air fresheners installed. No Hygiene Dos and Don'ts were displayed in any of the PTs. Majority of the caretakers were uneducated and none of them had any training in toilet hygiene concerned with maintenance and usage of PTs.

Deductions from the Interaction with Caretakers and Users on Hygiene Issues

8.11 None of the caretakers were aware of the hygiene practices to be followed for toilet cleaning and they were not using the protective gear given to them. They had no training given to them on these hygiene issues. This lack of knowledge is also leading to bad maintenance in terms of cleanliness of the PTs as they were not aware of what harm the dirty toilets would cause to the users and themselves. Majority of the users too were not bothered about hygiene. Some of the shopkeepers who were aware of hygiene problems made alternate arrangements and are not using the PTs. One woman Police officer said that she does not use PTs except in emergency due to hygiene issues in PTs. Only 12% of the users had knowledge of good hygiene practices and diseases they may get due to dirty toilets. One of the user said that all these problems

of dirty PTs is only for the rich and poor users don't have any problems. It was observed that there was not much awareness especially amongst the men users about health hazards of dirty PTs and good toilet hygiene practices.

CHAPTER IX : CONCLUSION AND RECOMMENDATIONS

"I think toilets are more important than temples"

- Narendra Modi, Prime Minister of India

Background of the Study

9.1 World population is continuing to move to urban areas at a very fast pace as part of the developmental process of the rural population in search of better jobs and facilities in the cities in comparison to the rural areas. The success and sustainability of this urbanization process would largely depend on the successful management of growth in urban population, especially in low income and lower middle income countries where the pace of urbanization is projected to be the well above the world average. The challenges of urbanization process include major challenges in meeting the needs of the growing urban populations in terms of housing, transportation, energy systems, other social infrastructure needs and basic services such as education, health care and other civic services.

9.2 India, being the second most populous country in the world, has seen its urban population double in the last three decades. Most of the urbanization in India is a result of people seeking better job opportunities in the urban areas and the growing aspirations of the rural households to avail better infrastructure facilities like education and health care available in the cities. The pace of urbanization in India demands a closer look at the challenges. Many of India's cities are facing unsustainable levels of stress on infrastructure, resources and public services. To achieve sustainable growth and contribution to the nation's GDP, these cities should have sufficient public infrastructure and adequate basic utilities for dignified living of its citizens. There is an urgent need for the policies to manage urban growth needs to ensure sustainable and

inclusive access to adequate infrastructure and social services for all, focusing on the needs of the urban poor and other vulnerable groups for housing, education, health care, decent work and a safe environment.

9.3 Access to a clean and hygienic public toilet is a basic necessity of the citizens to relieve their urinary bladders when they are out of their homes. Holding the urinary bladder full for long would cause lot of health issues to the people. Apart from this, there is also a necessity for the female population to have access to a public toilet for changing the sanitary napkins during menstrual periods. In the absence of these facilities, public are either forced to urinate and defecate in the open or hesitate to consume fluids so as to keep their bladders empty or women hesitating to go out during menstruation times. Therefore, providing access to a clean and hygienic public toilet to its citizens is one of the mandatory civic services of the local governments.

9.4 Sustainable Development Goal 6.2 adopted by all United Nations member states in 2015 aims to achieve access to adequate and equitable sanitation and hygiene for all by the year 2030. Many urban poor households do not have toilets at home and depend on public facilities and community toilets. Some of the urban households do not have access to any toilet even outside their homes and need to resort to defecating in the open. Also, though the sewage systems exist in most places, much of the faecal matter is not being disposed off in a safe manner. These critical inadequacies pose threat to public health and environment, threatening the sustainability of India's urbanization. Improvements in public toilet management would positively impact the economic, social and ecological environment in addition to upholding the dignity of the citizens, especially women. Efficient public toilet management is very crucial for cities with a large floating population. Very often, the sanitation projects and public toilet facilities collapse in their operations and management after a given period of

time due to shortcomings in forecasting, planning, financing, operations and management of public toilets.

9.5 GoI initiated the Swachh Bharat Mission in October 2014 aiming for a cleaner and open defecation free India. The provision of public toilets is also part of the mission and calls for creating a larger number of public toilets in the cities of India.

In November 2018, GoI has issued an Advisory on Public and Community Toilets, which combined all the relevant information from all the earlier efforts of the Governments and from the experience and feedback of various stakeholders on the implementation of SBM until then. The Advisory covers all the stages of planning, design & construction, O&M and management of toilet projects, for ensuring comprehensive planning and sustainability of any infrastructure by the ULBs.

9.6 The recent surveys of public toilets of Indian cities revealed that the number of toilets has increased due to implementation of SBM. However, there are a lot of weak areas in terms of maintenance management. A recent survey carried out by Ministry of Urban Affairs revealed that over one third of PTs in Delhi city are unusable due to bad maintenance. Therefore, though the number of public toilets is increasing, their maintenance and provision of clean and hygienic public toilets remains a weak area. Due to this bad state of public toilets, many citizens, especially women avoid using the public toilets. However none of the studies clearly brought out the reasons and recommendations to improve upon the weak areas.

9.7 This study attempted to survey the PTs in Delhi Cantt area and assess the adequacy of PTs, the facilities provided, Operation and Maintenance and level of hygiene. The collected data has been compared with the laid down guidelines to identify the specific deficiencies. Also, feedback from users, maintenance personnel at

the PTs and the concerned DCB officials was obtained to have a comprehensive understanding of the issues and to make recommendations to overcome the observed weak areas.

Findings of the Study

9.8 **Adequacy of Public Toilets.** The PTs and Urinals provided at the two major shopping areas of Sadar Bazaar and Shastri Bazaar were found to be inadequate for the high footfall in the area. The existing facilities in the area are very old with broken/ unserviceable fixtures and are not maintained well adding onto the inadequacy. Also, the four e toilets for women were locked and not available for use. The area near Sadar Bazaar Cantonment area doesn't have a PT in the vicinity and requires a PT to cater for the high footfall of floating population. There is a requirement of smaller toilets (mobile self cleaning toilets) to provide access for the police officials deployed on duty in the areas of Hanuman Mandir near AF Stn Palam and near Parade ground road junction. There are three PTs near Kirbee place junction which are in a radius of 100 meters to each other, which are considered excess compared to the footfall in the area. Majority of the users felt that the existing PTs in Delhi Cantt area are sufficient. There are many new PTs which were constructed but not yet opened up for the public usage.

9.9 **Facilities in the Public Toilets.** The facilities provided in the newly constructed SBM PTs were much better compared to the old PTs. However, in compared to the facilities recommended in the advisory on PTs, none of the PTs had sign boards in Braille language, contact details for user feedback/ complaints, leading in signboards to the PTs, operations timings, caretakers not deployed at all the PTs and none of them were uniform, no waiting area, no earmarked store room and irregular water supply at some PTs. Most of the urinal flushes were unserviceable and all the

available automatic flushing sensors were not working. Some of the PTs had sanitary vending machines, Tissue dispensers and soap dispensers. However, they were not refilled with the consumables. The PTs at Geeta Ashram bus stop, Sadar Bzr, the Old PT at Shastri Bzr and the Urinals had least facilities. Most of the user expectations on the facilities required in PTs were found to be very basic like water, bucket, mug and soap. They are more interested in cleanliness rather than more facilities.

9.10 **Operation and Maintenance of Public Toilets.** Provision of caretakers at the PTs has been out sourced by DCB. Only 5 PTs had caretakers deployed. The PTs with caretakers were better maintained. However availability of consumables, water supply and lack of training of caretakers were found to be major weak areas. Lack of monitoring, inspection and follow up of the maintenance on a day to day basis by the DCB officials could be attributed to the bad state of PTs in the area. The PTs and urinals without caretakers are being cleaned only once in the morning by the DCB staff. All PTs are free for Usage and didn't have any advertising revenue. There is no facility for user feedback and most of the PTs were not listed on the Google maps toilet locator. There is no record of audit/ inspection, inventory list and maintenance record at the sites. The e toilets for women were found locked and not being used. Majority of the PTs didn't have sufficient cleaning agents and tools. There was no clear procedure to ensure that the PTs had sufficient stock of the consumables. The water supply to most PTs was irregular. The old PT at Shastri Bazaar and the PT at Geeta Ashram bus stop were the worst maintained and this could be attributed to absence of caretakers at these PTs. 84% of the users were not satisfied with the maintenance and they were ready to pay nominal fee for usage if the PTs were maintained clean.

9.11 **Comprehensive Maintenance Contract.** DCB is in the process of entering into a comprehensive maintenance contract for all its PTs and urinals. The contract will include provision of cleaning staff, consumables, day to day and periodical maintenance and repair works. After implementation of this contract, the role of DCB would be limited to monitoring and inspection.

9.12 **Hygiene at the Public Toilets. Smell/ Odour.** All the Urinals and 4 PTs had very strong foul smell and the odour is way beyond the tolerance levels. Three Urinals and two PTs had very dirty floors. The foul smell and dirty floors are a result of the absence of caretakers and no water supply at these facilities. The walls at urinals and old PTs especially at Shastri Bazaar were found to be very dirty. All the mop cloths used for floor cleaning were found to be very dirty and not being either cleaned or replaced with new cloths. At most of the PTs, sufficient disinfectants and sanitizers were not being used, as they didn't have items in their stock. None of the caretakers had any training on hygiene practices and they were not using the available protective gear. Only 12% of the users had knowledge of good hygiene practices and diseases they may get due to dirty toilets. However most of them expect the PTs to be visibly clean.

Recommendations

9.13 The recommendations for improving the access, adequacy, facilities provided, operations & maintenance and hygiene in PTs of Delhi Cantt area are arrived at after taking a balanced view of the data/ feedback obtained from field survey of the PTs, maintenance staff, users and sanitation officials of DCB. Also, the future plans of DCB were kept in mind while drawing out the recommendations.

9.14 **Recommendations to Improve Adequacy of PTs.** The recommendations are given below :-

- (a) **Vegetable Market near Palam Railway Crossing.** The PT under construction in the area needs to be made operational on priority.
- (b) **Sadar Bazaar Cantt Metro Station.** There is a need for constructing a PT complex near the area.
- (c) **Sadar Bazaar.** The newly constructed PT near DCB Office (Near Kripa School) should be made operational on priority. The Urinals at Kranthi Chowk and near DMS shop need to be repaired and renovated. Both the E toilets for women deployed in the area should be made serviceable and opened for usage.
- (d) **Shastri Bazaar.** The old PT should be renovated into a new SBM type PT. The E toilets for women should be made serviceable and opened for usage.
- (e) **Kirbee Place Junction.** The PT complex near District Employment Exchange should be opened daily and made available for public use.
- (f) Automatic Self cleaning single seat toilets should be provided in the areas of Hanuman Mandir Junction (near AF Stn Palam) and Parade Road Junction (Water Tank) for use of Police Personnel deployed in those areas and other minor floating public in those areas.
- (g) **Maude Lines.** Once the newly constructed PT at Maude lines is made operational, the urinal complex at Maude lines be made non operational and demolished.

9.15 **Recommendations to Improve Facilities of PTs.** The recommendations are given below :-

- (a) Telephone numbers of the Supervisor and Sanitary Inspector responsible for the PT should be clearly displayed at all PTs. In addition a complaint/ feedback book to be kept with the caretakers of all PTs. The action taken on the complaints should also be recorded along with the dates by the supervisor and counter signed by the sanitary inspector in the register.
- (b) All PTs should be provided with leading in signboards in the vicinity of the PTs.
- (c) Caretakers should be deployed at all the PTs and they should be in uniform while on duty for easy identification by the users.
- (d) There should be a small platform provided in the PT for keeping the personal belongings by the users at all PTs.
- (e) Water supply to the PTs should be ensured at least thrice daily.
- (f) All the urinal flushes should be made serviceable.
- (g) All the sanitary vending machines, Tissue dispensers and soap dispensers should be refilled with the consumables as and when they get exhausted.
- (h) All the PTs should have an earmarked store room and proper containers for stocking the consumables.
- (j) All the PTs should display the operations timings and name of the caretaker.
- (k) All PTs should be listed in Google Maps toilet locator.

9.15 **Recommendations to Improve Maintenance of PTs.** The recommendations are given below :-

- (a) All the maintenance staff deployed at the PTs should be formally trained in toilet maintenance practices. Help of Sulabh International could be taken for imparting the training.
- (b) There is a need to attach specific accountability of maintenance to the concerned individuals as given below :-
 - (i) Caretaker for safeguarding inventory, general upkeep and cleanliness of the PT.
 - (ii) Supervisor for monitoring the functioning of caretaker, coordinating the repairs and ensuring availability of sufficient stock of consumables at all times.
 - (iii) Engineering Department of DCB for water and electricity supply.
 - (iv) Sanitary inspector for auditing the O&M of PTs, for ensuring that the contractor is delivering as per the contract terms and for ensuring timely follow up action on the complaints.
- (c) The urinals at Sadar Bazaar and Shastri Bazaar should be cleaned at least thrice in a day. All the broken tiles and flush valves/pipes should be repaired/ replaced.
- (d) All the PTs and Urinal walls should have either paid advertisements or public health messages to ensure they are not littered with unauthorized posters.
- (e) All PTs should be equipped with all standard cleaning tools,

agents, disinfectants and sanitizers at all times.

(f) A standard cleaning schedule with minor variations specific to the PTs should be drawn out, briefed to the caretakers and ensure meticulously followed by them.

(g) Random and surprise inspections should be carried out by the senior sanitation/ health officials of DCB and strict action to be taken against erring individuals responsible for bad maintenance if any.

(h) All broken fixtures in the PTs especially at the Old PTs at Shastri Bazaar and Kirbee Place Junction need to be repaired/ replaced on priority.

(j) A nominal fee for toilet usage could be considered for helping the PT funding and making the users more responsible and demanding.

9.16 **Recommendations to Improve Hygiene of PTs.** The recommendations are given below :-

(a) All caretakers should be trained about hygienic maintenance practices and the associated health hazards. Use of appropriate tools and protective gear should be made mandatory.

(b) Display of Dos and Don'ts on toilet usage must be displayed for the benefit of users in all PTs.

(c) Ensure sufficient stock of all disinfectants and sanitizers and their usage by the maintenance staff.

(d) Public awareness campaigns must be conducted on the health issues related to bad hygiene practices.

(e) All PTs/ Urinals must be provided with touch free flush valves and sensor based taps for the wash basins. It also must be ensured that the sensors are maintained in serviceable condition.

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Annexure I
(Refers to Paragraph 4.8)

FIELD SURVEY OF PUBLIC TOILETS IN DELHI CANTONMENT AREA
[Towards Dissertation of Air Cmde S Sridhar VM, 45th APPPA (2019-20)]

Part I : Basic Data

Reference No		Type of Users	
Date			
Time		Foot fall/ Hour	
Location of PT		Size	
Landmark		Maintained By	
Type of Locality			

Part II : External (Location, Visibility, Signage & Facade)

	Parameter	Observation
1	Approx distance from centre of the public area	
2	Is there a proper approach road to PT?	Yes/ No
3	Is there a ramp facility for the wheel chair?	Yes/ No
4	Is there sufficient lighting around?	Yes/ No
5	Is the PT visible from a distance?	Yes/ No
6	Are there legible signage and display boards?	Yes/ No
7	Are the signboards also in Braille?	Yes/ No
8	Is the external facade aesthetic?	Yes/ No
9	Is there any landscaping, gardening or presence of potted plants?	Yes/ No
10	Are the telephone numbers of maint agency, helpline, user charges, timings, responsible ULB staff details displayed?	Yes/ No
11	Is the PT clean externally?	Yes/ No

Part III : Access

	Parameter	Observation
1	Are there separate entrances for men and women?	Yes/ No
2	Is the privacy of women ensured?	Yes/ No
3	Is it easily accessible to differently abled, elderly and children?	Yes/ No
4	Is there a waiting area or a place to keep personal belongings/ bags?	Yes/ No
5	Is the entry and exit possible without making physical contact with walls, doors or people?	Yes/ No
6	Is there a security door at the entrance?	Yes/ No
7	Is there a guard/ care taker at the entrance?	Yes/ No

Part IV : Internal Facilities

	Parameter	Observation	
		Men	Women
1	Number of Urinals		
2	Number of Indian WC/ Western WC		
3	Number of Wash Basins		
4	Water supply & Electricity connection?	Yes/ No	Yes/ No
5	Do the toilets have individual water taps?	Yes/ No	Yes/ No
6	Do the toilets have flushes?	Yes/ No	Yes/ No
7	Do the Urinals have flush valves?	Yes/ No	Yes/ No
8	Do the toilets have doors with locking facility from inside?	Yes/ No	Yes/ No
9	Is there a mug/bucket/jet spray in the toilet?	Yes/ No	Yes/ No
10	Is there sufficient internal lighting?	Yes/ No	Yes/ No
11	Type of floor (Ceramic,Cement)		
12	Is there a mirror?	Yes/ No	Yes/ No
13	Do the Urinals/ Toilets cater for Disabled and	Yes/ No	Yes/ No

	Children?		
14	Is there emergency lighting?	Yes/ No	Yes/ No
15	Is there a child care space?	Yes/ No	Yes/ No
16	Is there a sanitary napkin vending machine?	-	Yes/ No
17	Is there sufficient overhead water storage?	Yes/ No	Yes/ No
18	Is there a caretaker's room?	Yes/ No	
19	Is there a store room?	Yes/ No	

Part V : Cleanliness & Hygiene

	Parameter	Observation	
		Men	Women
1	Is there any Smell/ Foul Odour?	Yes/ No	Yes/ No
2	Is the floor clean?	Yes/ No	Yes/ No
3	Are the walls, fixtures/ knobs and facilities clean?	Yes/ No	Yes/ No
4	Are the brushes, mop and other cleaning tools clean?	Yes/ No	Yes/ No
5	Availability and usage of disinfectants/ sanitizers?	Yes/ No	Yes/ No
6	Is there an exhaust fan?	Yes/ No	Yes/ No
7	Is there a foot operated dust bin with lid?	Yes/ No	Yes/ No
8	Soap/ Soap dispenser?	Yes/ No	Yes/ No
9	Hand dryer/ Tissue dispenser?	Yes/ No	Yes/ No
10	Are there touch free water taps at the wash basin ?	Yes/ No	Yes/ No
11	Are there touch free flush valves at urinals?	Yes/ No	Yes/ No
12	Aromatic Air Freshener?	Yes/ No	Yes/ No
13	Sanitary Bin?	-	Yes/ No
14	Are the maintenance personnel having basic hygiene knowledge?	Yes/ No	
15	Any Hygiene Do's & Dont's displayed	Yes/ No	Yes/ No

Part VI : Operations & Maintenance

	Parameter	Observation
1	Opening and Closing time	
2	Number of Cleaning Staff	
	Women care taker/ cleaner	Yes/No
3	Uniform for staff	Yes/No
4	Brooms for wet/dry areas	Yes/No
5	Scrubber / Brush for wash basins	Yes/No
6	Brush for cleaning Toilet seats	Yes/No
7	Cloth/mop for floor cleaning	Yes/No
8	Floor Wipers	Yes/No
9	Bucket & Mug for cleaning agent	Yes/No
10	Sponge/ cloth for mirror cleaning	Yes/No
11	Dust collecting pan	Yes/No
12	Sanitary ware Cleaning agents	Yes/No
13	Tiles/ Floor Cleaning agents	Yes/No
14	Glass Cleaning agent	Yes/No
15	Naphthalene balls	Yes/No
16	Hand washing soap	Yes/No
17	Rubber gloves	Yes/No
18	Face masks	Yes/No
19	Boots	Yes/No
20	Apron	Yes/No
21	Disposable garbage bags	Yes/No
22	Is there a cleaning schedule?	Yes/No
23	Cleaning Frequency?	
24	Are the toilet flushes working?	Yes/No

Annexure II
(Refers to Paragraph 4.10)

USER FEEDBACK ON PUBLIC TOILETS IN DELHI CANTONMENT AREA

[Towards Dissertation of Air Cmde S Sridhar VM, 45th APPPA (2019-20)]

Part I : Basic Data

Reference No		Date	
Location		Gender	M <input type="checkbox"/> F <input type="checkbox"/>
Type of User	Shop keeper/worker <input type="checkbox"/> Customer <input type="checkbox"/> Others <input type="checkbox"/>		

Part II : User Feedback

	Question	Response
1	Do you use Public Toilets (PT) in Delhi Cantt area?	Daily <input type="checkbox"/> Often <input type="checkbox"/> Never <input type="checkbox"/>
2	Are the PTs adequate in your area of Delhi Cantt?	Yes <input type="checkbox"/> No <input type="checkbox"/> Can't say <input type="checkbox"/>
3	Do you have to wait for your turn for using PTs?	Always <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/>
4	Do you feel there should be more PTs in your area?	Yes <input type="checkbox"/> No <input type="checkbox"/> Can't say <input type="checkbox"/>
5	Are you satisfied with the facilities in PT?	Yes <input type="checkbox"/> No <input type="checkbox"/> Can't say <input type="checkbox"/>
6	Any other additional facilities required in PT?	
7	Are you satisfied with the maintenance of PTs?	Yes <input type="checkbox"/> No <input type="checkbox"/> Can't say <input type="checkbox"/>
8	Rank the Maintenance problems in the order of severity (Most Severe as 1 and Least severe as 5)	No water <input type="checkbox"/> Fixtures broken/not working <input type="checkbox"/> Dirty <input type="checkbox"/> Foul Smell <input type="checkbox"/> No Lighting <input type="checkbox"/>
9	Who is responsible for bad maintenance of PTs?	Public <input type="checkbox"/> DCB Officials <input type="checkbox"/> Care Taker Staff <input type="checkbox"/> Contractor <input type="checkbox"/> Can't Say <input type="checkbox"/>
10	Do you know whom to complain about PTs?	Yes <input type="checkbox"/> No <input type="checkbox"/>
11	Do you find any improvement in PTs after implementation of SBM?	Yes <input type="checkbox"/> No <input type="checkbox"/> Can't say <input type="checkbox"/>

12	Do you mind paying a small amount as fee for using a PT, if maintained clean?	Yes <input type="checkbox"/> No <input type="checkbox"/>
13	Your suggestions for improvement of PTs	
14	Miscellaneous Points/ Observations	

Annexure III
(Refers to Paragraph 4.13)

**QUESTIONS FOR INTERVIEW OF DCB OFFICIALS ON PUBLIC TOILETS
IN DELHI CANTONMENT AREA**

[Towards Dissertation of Air Cmde S Sridhar VM, 45th APPPA (2019-20)]

Part I : Basic Data

Name of the Official		Date	
Designation		Working Since	
Responsible for (in brief)			
Guidelines/ Norms being followed for management of PTs			

Part II : Adequacy of PTs

1. How many Public toilets (please mention Urinal complexes, Toilet Complexes, E toilets for women, Specific Child toilets separately) are operational in Delhi Cantt area, which are under the jurisdiction of DCB? A list of the same with location be provided. A map of Delhi Cantt area with PTs marked on it be provided. Also, please mention which of the operational PTs are listed in Google Toilet locator? Any plans to include the remaining PTs?
2. Please give a list of PTs with location which are under construction and how many PTs have been constructed but not operational along with the reasons if any.
3. Please give a list of any planned construction of new PTs in future with location and planned time period for completion.
4. Any plans to convert the old urinals/ PTs into new SBM type Toilet complexes. If yes, please specify in which locations and by when?

Part III : Operation and Maintenance of PTs

1. Is the Operation and Maintenance of PTs out sourced? If yes, please specify which specific areas are out sourced? Please provide a copy of current contract as a sample. Please specify what are the responsibilities of Contractor and DCB towards O&M of PTs.
2. How is the DCB funding the O&M of PTs? Any user charges? Any revenue being generated through advertising at the PTs? If no, any plans for the same in

future? Any fund being collected from public towards SBM? If yes, is it being used towards O&M of PTs? If no, what is the fund being used for? Please specify.

3. Any list of inventory being maintained for the fittings/ facilities (like bucket, mug, cleaning tools, protective gear etc) provided at each of the PTs? If yes, please provide a copy as sample.

4. What is the mechanism of issuing/ providing the consumable cleaning agents/ tools like Phenyl, Harpic, Acid, soap, tissues, mops, wipers, brooms etc to the caretakers by DCB/ Contractors? Please provide a sample record if any.

5. What is the mechanism for maintenance repairs of the PTs? Please specify who is responsible for repairs of sanitary ware fittings, electrical fittings etc. Please provide a sample record if any. Any provision to take action against responsible individuals for any shortcomings in the maintenance of PTs?

6. Who is responsible for ensuring water supply and electric supply at the PTs? Please specify.

7. Whom should the caretakers and users report/ complain if there any unserviceabilities or short comings in the PTs? Are the contact details available with caretakers/ displayed at PT? Please specify.

8. What is the mechanism for inspection and monitoring the functioning of PTs? Is there a schedule and recording of inspection and monitoring? If yes, please provide a sample record.

9. Is there a mechanism for getting user feedback? Please specify.

10. Is there any training given to the caretakers/ cleaning staff in good hygiene practices to be followed during cleaning of PTs? Please specify.

11. Is there any awareness programme/ campaign conducted for educating the public in good hygiene practices to be followed while using the PTs? Please specify.

12. What are the problems you face in O&M of PTs?

13. What are the new initiatives being planned for further improvement of the maintenance of PTs?