

Availability, Accessibility and Satisfaction with Public Toilets in Metropolitan City

Islamabad



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CERTIFICATE

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DEDICATED TO

MY PARENTS (LATE)

MY LOVING FAMILY

AND

MY RESPECTED MENTORS

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All praises for Almighty Allah, who enables us to know about certain unknown things in the universe and helps us to overcome a lot of difficulties. All respect for Holy Prophet Muhammad (PBUH) who clearly mentioned the difference of right and wrong path, to ensure the success in our lives.

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List of Acronyms

APT- Automated Public Toilet

BS- British Standards

CVM- Contingent Valuation Method

CLTS- Community Led Toilets Sanitation

CDA- Capital Development Authority

DHSS- Department of Health and Human Services

FATA- Federally Administrated Tribal Areas

GLASS- Global Antimicrobial Resistance Surveillance System

GDP- Gross Domestic Product

HSs- Household Size

KPK- Khyber Pakhtunkhwa

MCI- Metropolitan Corporation Islamabad

MDGS- Millennium Development Goals

NSP- National Sanitation Policy

OPP- Orangi Pilot project

OSHA- Occupational Safety and Health Administration

ODF- Open Defecation Free

PACOSAN- Pakistan Conference on Sanitation

PT- Public Toilets

PKR- Pakistani Rupee(s)

PSLM- Pakistan Social and Living Standard Measurement

PATS- Pakistan Approach to Total Sanitation

SADP- Sothern Area Development Project

SLTS- School Led Toilets Sanitation

SDGs- Sustainable Development Goals

UNICEF- United Nations International Children's Emergency Fund

UNDP- United Nations Development Programme

USA- United States of America

USC- University of South California

UK-United Kingdom

UTIs- Urinary Tract Infections

WTP- Willingness to Pay

WB-World Bank

WHO- World Health Organization

WTO-World Toilets Organization

WASH-Water and Sanitation Hygiene

Abstract

This paper examines the availability, accessibility and satisfaction of people with public toilets in metropolitan city Islamabad. This research presents the perception of people on various aspects (like availability, hygiene, location etc.) and what appeals more to the consumers. The study also estimates elasticities for different aspects across gender, educational level and income. Study is based on primary data and semi-structured questionnaire were administered to 300 end users of public toilets, using two stage stratified random sampling technique from different strata's i.e. Markets, Parks and Bus terminals. This study further analyse the consumer's willingness to pay and its determinants. Contingent valuation Method (CVM) is used to get consumer's willingness to pay for public toilets.

Results indicate that markets showed relatively lower willingness to pay for improved services as compared to bus stations and tourists spots. Public toilets facilities are poor at the bus terminals as compared to the markets and Tourists spots. 197 respondents were dissatisfied with hygienic situation of public toilets and 127 respondents were dissatisfied with toiletries at public toilets. 217 respondents were in favour of publically provided toilets. 46.3 percent respondents were willing to pay 20 rupees for toilets with all basic facilities, 26.3 percent respondents were willing to pay 10 rupees for cleaned toilets after short intervals and 27 percent respondents were willing to pay 10 rupees for aesthetically furnished public toilets. On average each respondent was willing to pay 14.47 rupees for toilets service improvement. Proper monitoring, adequate sanitation and hygienic facilities can improve health and reduce diseases. In addition, cities will become more ecologically sustainable and impartial for all type of people. Being the federal capital, there are many young people (students, on job and looking for jobs) who might be dependent on such public facilities, absence of facilities can make their health vulnerable. It could be a strong business case in Islamabad because tourists, shoppers, visitors will feel comfortable and can stay outside for longer time. Capital Development Authority (CDA) and Metropolitan Corporation Islamabad (MCI) should look over the public toilets in Islamabad. MCI should allocate more funds for renovation of public toilets

Keywords: Public Toilets, Public Toilet facilities, Hygienic situation, Willingness to pay, Contingent Valuation Method, Metropolitan Corporation Islamabad.

Chapter 1

Introduction

1.1 Background of the Study

Developing countries have issues of insufficient sanitation and hygiene facilities, and facing the challenge of ending open defecation (Peprah et al.,2015). Every country has different financial and governance arrangements for public restrooms to facilitate people but issues of maintenance, gender discrimination and cleanliness were found (Greed, 2014). Urban planning in developing countries has lack of attention on sanitation and hygienic environment. World Health Organization, UNICEF and NGOs are helping to improve the sanitation facilities of developing countries. In National sanitation policy of Pakistan 2006, goals were set to meet MDGS target till 2015 with reducing half open defecation and zero by 2025. Objective of policy was “safe disposal of excreta through the use of latrines formation to make open excretion free environment”. It was expected that world will reduce the poor sanitation condition by 50 percent till 2015 but target was not accomplished successfully (UNICEF, 2015). 19th November is observed as global day for toilets. World Health Organization urged for improved sanitation condition and set target in SDG 6. Second target of SDG 6 addresses directly that by 2030 we have to achieve adequate and equitable sanitation for all and end open defecation. World Toilet Organization is also focusing in different countries for improved sanitation facilities both for male and female according to population ratio.

Some economies have focused on the provision of public toilets and strongly financed like China, Japan, Malaysia and Singapore. Currently Beijing has more restrooms than New York, which are rich in art, size and variety. The majority of the world’s open defecators (64 percent)

live in South Asia. On global scale India has the highest number of people defecating in the open which is 597 million. In South Asia, 93 percent of the open defecators belongs to India. To overcome the problem Indian government planned to build 110 million toilets in country from 2014-19 through “Swacch Baharat Mission” (Banerjee et al., 2017). Few of the poorest rural households have toilets in Nepal, India and Pakistan. Pakistan, Nepal, Afghanistan and Bangladesh have very low number of people without toilets.

A decent standard of living includes basic needs of survival and social services. People need parks, public spaces, improved physical and social environment for decent living. Public’s choices vary for decent living among societies, however commonly improved facilities needed include pleasant environment, open spaces and social utilities by government. If environment is not sociable and sanitation problem exist, it can have impact on children and human life, and it will is not be socially acceptable as well. Especially sanitation is essential for pleasant and sustainable development. Nevertheless, open defecation and inadequate sanitation is widespread in different developing countries of South Asia.

Public toilets have crucial character in shaping the level of access, mobility and usability of modern cities. Men, women, children as well as disabled need this facility. By considering non availability of toilets women and disabled are forced to limit their mobility for long tour. Improper urination facilities can create problem of urinary tract infections (UTIs), renal damage, abdominal pain and serious threat for pregnant women. Open defecation poses serious threat of Mortality, Morbidity and diarrhea.

Government of Pakistan enacted 18th amendment on April 2010 and 17 ministries were devolved to provinces including all social services. After decentralization, Climate Change division now serving as a central point for management of WASH (Water And Sanitation Hygiene) Pakistan, also upholder of “National Environmental policy 2005”, “National

Sanitation policy 2006”, “National Water policy 2009” and “National climate change policy 2012” (GLASS, 2012). Local governments are responsible for water and sanitation with collaboration of all NGO’s, provincial governments and federal governments. Funds are allocated in every fiscal year and many programs are initiated to improve water and sanitation hygiene for public. Instead of all programs, improved sanitation and ending of open defecation is still a challenge for Pakistan.

Under climate change division, Pakistan Approach to Total Sanitation (PATS) was established with backing of UNICEF, provincial governments and civil societies Partners (PASCON, 2013). PATS programs are designed to overcome sanitation issues for the public health and it demands from supply side for nurturing and 100 percent hygienic environment of sanitation facilities. Provincial governments of Pakistan have taken different initiatives for WASH development plans with the help of NGO’s and organizations, (details are specified in APPENDIX 1). To cover the sanitation and water related problems provincial governments allocate budget every year for different programs of water and sanitation. In fiscal year 2017-18 detail of budget allocation is given in Table 1.1

TABLE 1.1: BUDGET OF FOUR PROVINCES FOR WATER AND SANITATION IN FISCAL YEAR 2017-2018

Province	Population (Millions)	Water & Sanitation Budget (PKR Millions)	Per Capita Spending (PKR)
Punjab	110	5740	52.14
Sindh	47.89	1200	25.05
KPK	30.52	9584	314.02
Baluchistan	12.34	4974	403.07

Source 1: Provincial budget documents FY 2017-18. Source 2: Pakistan Bureau of Statistics

Inadequate sanitation in Pakistan costs the country PKR 343.7 billion every year, equal to 3.94 percent of GDP (UNICEF, 2015). Due to poor sanitation, often children are affected with diarrheal and other diseases. Every year 39,000 children under the age of five die due to diarrhea in Pakistan (WHO, 2015). In Pakistan 2.5 billion people have no toilets facilities and they are practicing open defecation. Pakistan over all have 73 percent improved flush toilet facilities. Population of Provinces Punjab, Sindh, KPK and Baluchistan has respectively 79 percent, 67 percent, 76 percent and 31 percent flushed toilets facilities that is indicating the need for improvement in sanitation sector (PSLM, (2014-15)).

Key challenge for Pakistan is to achieve the target of zero open defecation zero by 2025 with the increasing population. SDG6 in its 2nd target addressed for ending open defecation and improved sanitation facilities for all. Analyzing the situation of neighboring countries and Pakistan we need to improve the sanitation status for hygienic environment. Large number of open defecators in Pakistan and South Asia are result of poor urban planning for sanitation.

Better sanitation and hygienic environment soften the image of country and provide decent living to citizens. Fully arrayed sanitation facilities brand cities more sustainable, equitable and environment friendly. Islamabad being a capital of Pakistan, it is well planned and a developed metropolitan city. Therefore, Islamabad has been studied to analyze the said situation in Pakistan's capital. Men, Women, Children, Tourists, Shoppers need toilet facility in Market, Tourist spots and Bus stations. This study will help Metropolitan Corporation to understand the real problems and perceptions of people about public toilets. In addition to public perceptions and public participation in ensuring better sanitation facilities is also analyzed by looking at public's willingness to pay for improved services in public toilets. Thus, this study will provide recommendations to ministry of climate change (which is covering sanitation policy) for further steps related to upgraded sanitation.

1.2 Problem Statement:

UNICEF reported 1 out of 3 in world have no access to adequate sanitation facilities till 2015 and in Pakistan 2.5 billion people exercise open excretion. Target to end open defecation in MDG's was not accomplished fully by Pakistan. National sanitation policy 2006 of Pakistan and SDG 6 emphasized on ending open defecation and hygienic sanitation facilities for people equally. Limited sanitation facilities and funds are crafting issues to restrict the mobility of people to visit cities and markets. Modern era's public toilets are mislaid link in urban planning of metropolitan and other cities. Due to lack of awareness, inappropriate facilities of sanitation and lack of funding people practice open defecation. Open practicing is origin of diseases like polio, diarrhea and infection. Proper monitoring, adequate sanitation and hygienic facilities can improve health and reduce diseases as well as cities will become more ecological and impartial for all type of people. Moreover, being federal capital, there are many young people (students, visitors, on job and looking for jobs) who might be dependent on such public facilities, absence of which will make their health vulnerable. It would be a strong business case in Islamabad because with improved facilities tourists, shoppers and visitors will feel comfortable and can stay for longer time. Improved and hygienic sanitation impact metropolitan cities economically and socially and create soft image worldwide. Inadequate attention has been given in past to public toilets in Pakistan and limited research was done on public toilets. It was neglected sector in urban planning in many metropolitans' cities. Analysis of metropolitan city Islamabad's main markets, parks (and tourists spots) and bus stations for public toilets is main distinction of this study.

1.3 Objectives of the Study

- To explore the importance attached to public toilets by public.
- To measure the satisfaction with availability (number of units), location (accessibility) and hygienic situation at public toilets.

- To quantify the willingness to pay from demand side.

We achieved our objectives through the perception of people about availability, accessibility and satisfaction of public toilets. Also what aspects (hygiene, location etc.) appeals more to the consumers of public toilets and does willingness to pay vary across locales, gender, educational level, age and income?

1.4 Significance of the Study

Enduring research will back policy making for sanitation and will explore the perception of people about public toilets. It will help metropolitan cities of Pakistan for planning sanitation policies to overcome issues related to public toilets. It will help in improving the management for funds and better governance to facilitate people and to meet open defecation target fixed in SDG's. This study will deliver valuable policy recommendations to CDA which covers sanitation. Public toilets are strong business case in Islamabad because tourists, shoppers, visitors feel comfortable and can stay for long time at places where public toilets are available.

1.5 Study Outline

This research work is presented as follows: In section 1 objectives of the study, research questions, significance of the study, problem statement and background of the study has been discussed. Section 2 provides the literature on availability, utility and satisfaction of people with public toilets. In section 3 we described the data and methodology to achieve the objective of this study. In chapter 4 we described results and discussion of our data with tables and graphs. We used frequencies and cross-tabulation to make our data more representable. In chapter five there are conclusion and recommendations of the study.

Chapter 2

Literature Review

Literature reviewed is about public toilets accessibility, utility, satisfaction and maintenance issues. Literature is covering situation of developed, developing and underdeveloped countries about public toilets. In developed countries toilets are on agenda in planning of cities but some issues related to maintenance, limited number of toilets and hygienic environment founded. Some countries have better toilets like New Zealand and China. Studies showed that public toilets have potential to improve and it's a major problem for citizens. Conditions varied country to country like in India people's cultural and religious factors subsists regarding toilets and also leads to avoid the use of public toilets. Developing nations have issues regarding prices, less spaces, gender discrimination and misbehave on public toilets. Diseases related to open defecation and poor sanitation are also part of literature. Gender, culture and people's perception about public toilets is also part of review.

2.1 Provision, Performance, Gender Equality and Policy for Public Toilets in UK:

United Kingdom's 'House of Commons' made legislation for public toilets. British standard "BS6465" for toilets emphasized that there would be accessible toilets for everyone in building and offices. "BS6465" also covers toilet should be in streets and touring places with better designs. Toilets should be double for women and a separate toilet for disable. In 1850 first public toilet was built in UK. However, in spite of legislation about toilets, overall situation of toilets was not satisfactory, inadequate and unclean. In last 10 years 50 % Toilets were closed due to irregular situation (Greed, 2015).

Medically women need more time than men in toilets. Menstruation was major reason of women for time spending in toilets. Accessibility and more provision for female toilets was necessary in UK. Good sanitation facilities brand cities more sustainable, equitable and environment friendly. In urban planning there is omitted link of public toilets because it has no excitement at all, people have more phones but no lavatories on priority list. Researcher said that, there should be no toilet design with steep and slope, simply it should strait for easy use. Supply side should consider the problem of pregnant women, aged people as well as disable (Greed, 2014).

2.2 Provision and Performance of Public Toilets in USA:

USA had two department which cared about people health and occupational safety. “Department of Health and Human Services” (DHSS) cares about health of all Americans and “Occupational Safety and Health Administration” (OSHA) maintained and check health effects. There were 1676 public toilets in New York’s Subways, Railway stations and roadsides for citizens need in 1940. Americans departments understood that public restrooms advance the mental and physical health when they are accessible and proper cleaned. But with improper funds and other security issues reduced public toilets from 1676 to 78 in 2000. After 9/11 extra toilets were sealed due to lack of funds, construction and security issues (Schmidt & Brubaker, 2007).

2.3 Availability and Satisfaction of People for Public Toilets in Turkey:

Local authorities in Turkey managed public toilets. Some toilets provision was also from private side. Research piloted in Ankara (Turkey) with 300 respondents explored that mostly toilets were managed by private sector and local authorities have little control, also analyzed that there was lack of knowledge and awareness in design making. They did not focus on age and gender perspective. Lack of lights and inside toilets facility founded. Accessibility,

familiarity, distinctiveness, comfort and safety was defined for demand side, which supply side should focus on the provision time (Afacan & Gurel, 2015).

2.4 Financial and Governance Arrangements in China:

After independence public lavatories was seen as defamed, illicit activity and much was joking about it in China. Communist revolution regarded it, than norms of people changed about public toilets. In 1980 sanitation ministry in China started work on toilets as a result in 1995 more than 20 lavatories were built for public. Near Beijing in 2000, public toilets were built on one acre. Now currently with the attention of government public toilets in Beijing are more in numbers than New York. They are also rich in variety, size and styles (Geisler et al., 2000).

2.5 Accessibility and Utility of Public Toilets in Thailand:

Research conducted in Thailand discussed the public toilets for user with walking disability. The aim of research was to investigate the problems and barriers regarding public toilets design for disable person in Thailand. Research revealed that accessible toilets increased the mobility of people with disability. The scope of longitudinal problems and solutions, occurred in the designing of public toilets were investigated (Mamee & Sahachaisaeree, 2010).

2.6 Household Toilets Accessibility in India and Cultural impact:

In India a household survey was conducted on public preferences. They set a scale of 21 household's necessary commodities. Toilet was surprisingly ranked by people on 12th number. They have refrigerators, cars and other things but no toilets at home. People said that they have less space at their home for toilet. Mostly Muslims were found having toilets at home. Hindus were at lower rank due to religious factor and less space. Educated women have 3.1 % more awareness about toilets than uneducated (Banerjee et al., 2017).

2.7 Automated Public Toilets Provision for Better Management and Proposal for “Swach” Baharat Mission in India:

Another study in India explored that Mechanical Automated public toilets needed to build for clean and improved toilets. Manually and old toilets spread germs and bacteria which is harmful for health. Due to bad condition people do not want to go in toilets. 246 million people in India have no toilets facilities and 49.8 percent practiced open defecation. Study explored that Mechanical Automated public toilets needed to build clean, hygienic and improved toilets. It can be used vastly in airports, bus terminal, commercial areas and sports complex. This innovation has great communal importance and potential reproduction within India by using in Swach Baharat Mission (Wath, 2016).

2.8 Lack of Financial Arrangement in Pakistan for Sanitation and Water:

A study founded that in Pakistan provinces are responsible for better sanitation provision. Better sanitation has good impact on health, reduce child mortality, and improve water quality and environment. Study founded that poor people were not only penniless financially but also have less access to basic needs like education, health, and water sanitation facilities. Good sanitation facilities reduce the incident of disease like mortality, morbidity, and diarrhea. (Khan & Javed, 2007).

2.9 Governance and Management of Public Toilets in Ghana:

“Privatization policy” in Ghana was cornerstone of urban environment sanitation policy. In 1989 pilot project for public toilet was contracted out in central business district. Study was done to check how improvement should make for better provision of toilets? Random survey from 70 respondents for public toilets in Kumasi (Ghana) revealed that situation is not satisfactory due to less monitoring and evaluation. Public toilets were bad and unclean for

usage. 38 percent people of Kumasi depended for public toilets. Researcher said that financing and governance should increase for better accessibility and facilities. (Frantzen, 1998).

2.10 Situation of New Zealand for Hygienic Environment in Public Toilets:

A research revealed that adequacy of hand washing facility was observed on 60 premises in 90 public toilets in New Zealand. Some cafes and public places were found having toilets facility but no handwashing facilities. Infectious diseases, mortality and morbidity in developing countries are common due to unhygienic washroom. Highly recommended in study that handwashing facilities are much needed because germs from hand were gained by food and transfer to body (Norris et al., 2012).

2.11 Bangladesh Sanitation Financing Issue:

In Bangladesh parks, markets and bus stations were taken for study. Dhaka consists of 6.9 million population as of 2011. Dhaka have only 250 toilets and 50 lakh population were without toilets. They used mosques toilets or do open practices. With high number of population without toilets showed unhygienic environment of Dhaka which is calling for the proper sanitation facilities from government (Hossain & Arfat, 2017).

2.12 UNICEF and World Bank and SDG6:

UNICEF and World Bank investigated better sanitation facilities in different countries. SDG6 also emphasized that there should be equal access to sanitation facilities for all people and aimed to end open defecation by 2020. But still there are issues and more focus is on water issues and polluted water but no body focused on the reason of polluted water that is sanitation & inadequate facilities. In India cultural and religious issues were major cause of open defecation and in public and private toilets misbehave with women reported. Board was hanged on some toilets no women allowed to use toilet in menstruation days. Gender discrimination is still a dilemma in provision of toilets which need to cover with awareness (Ray, 2017).

2.13 Issues in Toilets Provision's Planning in USA:

Planning and designing also creating issues for women, children, disables. Everywhere toilets can see more for men and less for female and long lines in front of washrooms were seen. Reason is simple toilets are less and women cannot do open practice like men. Toilets design also matter for users. Sometimes women cannot go for use if they have not washroom like they used already. All facilities in washroom make comfort for next user for use, if facilities and cleanliness is not proper then issues remained for use of toilets instead of accessibility (Anthony & Dufresne, 2007).

2.14 Space Problem and Provision in Taiwan for Toilets:

Another research in Taiwan was conducted to check the issues of shared toilets. 85.8 percent of people in Taiwan used shared toilets. Normal space of toilets was 5 square meter. There were issues for women, children slipping, old age, less air availability and no proper setting of toilets. Respondents demanded proper family design for accessibility and easy usability. The behaviour of users depicted that they were happy on design and provision where it is good. Efficient time management during such hours was also demanded (Chen & Lai, 2014).

2.15 Complications in Developing Countries:

Issues of developing countries are different from developed countries. Space and income are main constraints to build toilets and to use them. Majority of people do open defecation because cost per use of toilets is not affordable to them and they have less space for it at home. While study revealed they have basic items of need and toilets are not their priority. Toilets observed were not clean. People demanded public provision of we need low cost and clean toilets (Peprah et al.,2015).

2.16 Sanitation Challenges and Public Conveniences:

Public amenities like toilets are frequently discussed in the literature as these permit citizens to use public cosmoses in market, transport terminals and shopping areas. According to researchers fundamental infrastructure includes public conveniences that are essential for social welfare and practical need of functioning city. In a paper challenges related to sanitation are discussed extensively, especially commercial and residential areas of Agege, Lagos and Nigeria. Findings explained that 83 percent users reported that public toilets were in poor conditions, 65 percent users stated that it is difficult to use this public convenience due to unhygienic and disturbing conditions. They recommended that operators should be educated and they should learn the art to keep the toilets clean within resources (Oyinloye & Oluwadare 2015).

2.17 Problems in Management of Public Toilets:

A study discussed issues of a city Brazzaville's which is capital of Republic Congo for public toilets. Due to increasing population of city, human health related problems had increased. Open defecation and population both were cause of poor human health and degradation of environment. Authors expressed that negligence for this facility causes serious disease like renal damage and stress for people of city. They recommended that for comfortable environment public toilet should be on every important place so that people may enjoy their life freely. This study was totally based on observation methodology. They founded that lack of water, cleanliness, lack of management and lack of municipal involvement was found everywhere which is actual cause of unhygienic and poor public toilets service and maintenance (Kevin & Feng 2016).

Hence, the literature has highlighted important aspects related to the use of public spaces. Building upon available knowledge base, this study will analyse public perception and

demands relating to public toilets in Islamabad, Pakistan. This study will also bring to light respondents willingness to pay for better services so that revenue potential is obtained to help the government in provision of better services.

Chapter 3

Data and Methodology

This chapter discusses the sample and data source, collection of data, design of questionnaire and methodology in detail.

3.1 Data Source and Sample:

A survey in form of Semi-structured questionnaire was completed with the end users of public toilets. My research area was metropolitan city Islamabad. Total area of Islamabad is 906 sq.km. Population of Islamabad is 20, 15000 according to population census 2017 (Pakistan Bureau of Statistics). Islamabad is capital of Pakistan, there are headquarters of companies, touring places, shopping malls and embassies where approximately 100000 people visit every day (TheNation, 2017). Being a capital city its infrastructure is well developed. This research included 300 respondents (200 Male and 100 Female), to make the sample representative, data was collected from three different areas i.e. Markets, Parks and Bus terminals; the areas where the need for public toilets is the most. Such a scheme provided us enough randomization to avoid any biasness.

For the sake of making this research more specific we chosen different toilets sites from Markets, Tourist spots and Bus Stations located within the metropolitan boundary. We have collected data from the users of public toilets. These sites we obtained from list of public toilets which was delivered by Capital Development Authority (CDA).

3.2 Data Collection:

As described above, this research is based on primary data. We designed the semi-structured questionnaire and did pilot study from different types of respondents i.e. educated, uneducated,

job holders and with different income groups. After the pilot study, we recognized mistakes and flaws in our questions designing. We incorporated some new question and removed repeated and unnecessary questions. We also added some valuable input by respondents to frame our questionnaire precise and understandable. After amendments and corrections, we made a reasonable questionnaire and added a hypothetical scenario for the willingness to pay at the end of the questionnaire. We want to know the willingness to pay of users for the betterment of services in addition to existing charges. Different people responded with different answers and provided a valuable feedback. Data was collected on different time and days for a good representation of respondents.

3.3 Questionnaire Design:

The semi-structured questionnaire had five parts in which the majority of questions were closed-ended also some open-ended questions were part of it.

Part One: Personal Information of Respondents

The first part was about personal information of respondents including, gender, age, marital status, employment status, nature of employment, monthly income and education (schooling in years).

Part Two: General Practices/Performances

In second part of questionnaire information regarding general practices/performances were gathered. Respondents were asked about visit to locale in previous two months, need of toilet and options available for usage.

Part Three: Problems with Existing Public Toilets Availability:

Part three of questionnaire was about satisfaction with existing toilets. Respondents were asked about location, toiletries (things for usage), hygiene situation (cleanliness & ventilation), water

availability and they have provided scale about their satisfaction with these facilities. As well as there was asked about required time, luggage and most disturbing things.

Part Four: Preferred Services:

In this part of questionnaire, respondents were asked about services like mobility limitation, types of toilets, provision of services and one table was included in which from these four i.e. cleanliness, wash basin, hand wash and tissues, asked to set first and last priority. Two questions were added in which first was related to suggestions and second was about their comfort with luggage, children to use the toilet.

Part Five: Willingness to Pay for Improved Public Toilets Facilities:

In this section of questionnaire a hypothetical scenario was assign to respondents. They were asked about willingness to pay in addition of existing charges. There were three question related to this; first one was:

” Having discussed the issues related to public toilets if government provide public toilets that are located at convenient places, visibility, signboard, with adequate water supply and toiletries availability; will you be willing to participate in making financial contribution to such initiative”.

Second question was: “in addition to first question how much you will pay if toilets were cleaned after short intervals (two hours)”.

Third question was about “aesthetically furnished public toilets with soap, hand wash, tissues and towels.” They were asked these questions and inquired their willingness to pay in addition to existing charges that was 10 rupees at all locales. Hence, WTP for different types of customers can be obtained by adopting three types of questions.

3.4 Research Design:

Descriptive research design was undertaken which provide answers to the questions of who, what, when, where, and how, associated with a particular research problem. It is about the people's perception, knowledge, attitudes and their intended meanings which are described. "Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation" (USC Libraries, 2018).

3.5 Methodology:

This research used two stage stratified sampling technique. In the first stage different strata's (Markets, Parks and Bus terminals) was randomly selected from the list of public toilets facilities available in metropolitan corporation Islamabad. In the second stage, a subsample of 100 respondents (66 Male and 34 Female) was randomly selected from parks/tourists spots 66 male data was collected from bus stations and 134 respondents data were collected from markets with 66 female and 68 male respondents. Moreover, when data was collected than quantitative method analysis was used to analyze the willingness to pay and other important factors discussed in the objectives. Afacan & Gurel, (2015) did analysis of research and they used frequencies and cross- tabulation for results description. Contingent valuation Method (CVM) was used to estimate willingness to pay to provide results about people's maximum and minimum willingness to pay for public toilets (APPENDIX 2).

3.5.1 Contingent Valuation Method (CVM)

CVM is a valuation method that is based on questionnaire and bids constructed by author. This method provides opportunity to the respondents to make their economic decision on a good that has no market price in common or their market pricing is not efficient (Geleto, 2011). World Bank (2002) states that Contingent valuation is a method of estimating the value that a person places on a good that has no market value such as environmental quality or good health,

that are mostly environmental and economic public goods. Haq et al. (2007) used contingent valuation method to know the households Willingness to pay for safe drinking water in Abbottabad. Mustafa et al. (2010) used CVM to know the willingness to pay for improved solid waste management of household in Abbottabad. Current study has follow the methodology of Mustafa et al. (2010).

3.6 Calculation of Data

1. We calculated data of satisfaction level with three point scale as:

Scale:

Dissatisfied = -1.0, Neutral = 0.0, Satisfied = +1.0

$$I = \frac{1.0 * f_s + 0.0 * f_o - 1.0 * f_d}{N}$$

Where

I= Satisfaction index such that $-1 \leq I \leq +1$

f_s = Frequency of responses indicating satisfaction

f_o = Frequency of responses indicating neutral

f_d = Frequency of responses indicating dissatisfaction

N = total no. of observations

2. We calculated the list of priorities ranked by respondents via this formula and scale:

In this case computational formula is as follows:

$$I = \frac{\sum s_i f_i}{N}$$

Where,

I = Priority index in such that $0 \leq I \leq 1$

s_i = Scale value at i th priority

f_i = frequency of i th priority

N = total number of observations

$= \sum f_i$

Chapter 4

Results and Discussion

4.1 Age Composition of Respondents:

According to our 300 sample data, 198 were male and 102 were female respondents. Table no 4.1 shows that the Age ratio of different age groups in our respondents is very diverse. Youth of a country is considered high potential, and is energetic that's why most of the respondents of our study are at age range of 16-45 where, People of this age group are mostly job seekers, job holders, working class, students and businessmen. The Respondents with the age group of 16-24 were 27.7 percent. Highest number of respondents were at the age range of 25-33 with percentage 42.3, however there were 20 percent respondents at the age group of 34-42 and 7.3 percent respondents were at age group of 43-51 years. Only .3 percent recorded above 60 years of age. Hence, our sample has proper presentation from different age groups.

TABLE 4.1: AGE COMPOSITION OF RESPONDENTS

Age groups	Percentage
	N=300
16-24	27.7
25-33	42.3
34-42	20.0
43-51	7.3
52-60	2.3
61-69	.3
Total	100.0

Source: Field Survey

4.2 Marital Status of Respondents:

Table no 4.2 showing marital status of study respondents. In parks majority of people come with family from different areas and cities. They spent their time for entertainment and need the public toilet facility and with children it is always very difficult in rush hours to use. In markets and in bus stations few respondents argued that it is very important, that these facilities are provided to every common man. But its matter a lot for families in Parks. Out of 100 percent respondents, 53.3 percent were married, and 46 percent were unmarried. Businessmen, shopkeepers, drivers, shoppers, visitors, students, job holders' were the respondents of current study. This diversity in the data set also made our data better representative of our user's population.

TABLE 4.2: MARITAL STATUS OF RESPONDENTS

Marital Status	Percentage
	N=300
Single	46.0
Married	53.3
Widowed	.3
Separated	.3
Total	100.0

Source: Field Survey

4.3 Employment Status of Respondents:

A city like Islamabad is full of opportunities, multiple companies, universities and shopping areas and also many countries embassies are located in main areas. People from all over the Pakistan come to Islamabad for jobs, visa apply and for touring the city. Table no 4.3 data is clearly showing that 43 percent respondents were job holders, 16.3 percent were self-employed,

26.7 percent were students and 13 percent were doing different work (laborers, daily wages worker).

TABLE 4.3: EMPLOYMENT STATUS OF RESPONDENTS

Employment Status	Percentage
	N=300
Job Holders	43.0
Self-Employed	16.3
Dependent	1.0
Student	26.7
Other	13.0
Total	100.0

Source: Field Survey

4.4 Employment Nature of Respondents:

The sites of our selected respondents are within Islamabad, where different people from different classes can be found. People of different abilities like job holders, private business holders, and small business holders can be found in markets. There are plazas, shops, food corners and different type's things for common people usage and that's why aged, younger, job holders, people with family come there as described. According to table no 4.4 our data frequencies showing that 13.7 percent respondents were government employees, 29 percent respondents were private job holders, 15.7 percent respondents were doing their own business either small, medium or large. 41.7 percent respondents were in others category in which include daily wages worker, student but doing internship or part time jobs holders.

TABLE 4.4: NATURE OF EMPLOYMENT

Nature of Employment	Percentage
Government	13.7
Private	29
Own Business	15.7
Other	41.7
Total	100.0

Source: Field Survey

4.5 Monthly Income of Respondents:

We categorized monthly income of people in 4 main categories. According to the data, income of the respondents do not matter for toilet use. Because it's a natural phenomenon. People who, have luxurious facilities or upper class are less frequent users of public toilets. Only tourists spots are the places one can see people with larger income come but in market and bus stations only people with normal income, low than normal or daily wage workers can be observed using public toilets. May be due to luxurious life style for elite class, its not a good option. They prefer to use at their homes. So monthly income does not matter for usage, public toilets. It can be used by any body at any time but life style of living matter for public toilet demand. According to table no 4.5 there are 106 respondents with zero monthly income, which are students and other non earning members of household.. Respondents from 5000-50000 rupees income category were 159 , from 50001-10000 rupees were 33 and more than 100000 rupees were only two respondents. The information affirms that our sample is fairly representative.

TABLE 4.5: INCOME CATEGORY OF RESPONDENTS

Monthly Income Range	No. of Respondents
0	106
5000-50000	159
50001-100000	33
More Than 100000	2

Source: Field Survey

4.6 Education of Respondents:

Public toilet is not a matter of being educated but it is matter of better use and civic sense. There are two types of visitors of public toilets i.e. frequent users and random users. Shopkeepers and business holders may not have other option and they have to use the public toilets. On the other hand, People who come in 2, 3 times in a month, most probably they are permanent or temporary residents of Islamabad. It was observed that people with higher education are more concerned about unhygienic and cleanliness of toilets. They think that it is disturbing and difficult to use and few suggestion were given by them for betterment of public toilet service. In our sample there were people from different educational background. Education does paly its role in creating awareness in common masses. In the field survey, majority of people were with education above graduation. It is depicting that the respondents were educated. Table number 4.6 is showing that 46.3 percent respondents were post-graduates, 19.3 percent were graduates, 13.3 percent were lying in intermediated category, 13 percent were with metric and 6.3 percent were under matric.

TABLE 4.6: SCHOOLING CATEGORY OF RESPONDENTS

Schooling level	Percentage
	N=300
Under-Primary	1.7
Primary	6.3
Metric	13.0
Intermediate	13.3
Graduate	19.3
Post-Graduate	46.3
Total	100.0

Source: Field Survey

4.7 Need for Public Toilets of Respondents:

As obvious, society need to have public toilet facilities for people out of their homes, on jobs, shoppers and people travelling in city need public toilets facilities. It is the basic need of every one in city. Absence of toilets facilities may cause serious health issues as it pose significant threats of renal damages, urinary infection and it is also dangerous for pregnant women. People with disabilities are not covered as we could not get some during field survey. According to our survey results in table no 4.7 majority of our respondents (91.4), did feel need of public toilets during timings out of their homes, and 4.7 percent said that they do not feel the need of public toilet, while only 4 percent respondents did not confirm the need for public toilets.

TABLE 4.7: NEED OF PUBLIC TOILET

Need of Public Toilet	Percentage
	N=300
Yes	91.4
No	4.7
Don' have Idea	4.0
Total	100

Source: Field Survey

4.8 Options Available For Respondents:

If there is no toilet facility available then people prefer open defecation, which can create an unhygienic environment for others and cause disease like diarrhea, polio etc. According to our sample, the respondents used to go to nearby toilets, masjids, shopping plaza or prefer to go home. If toilets are not available than local residents prefer to go home and those whom are not local user nearby options or do open defecate. Table no 4.8 is showing that 30.3 percent respondents said they returned home if they feel the need of a toilet, while 47.8 percent respondents used public toilets, 17.8 percent respondents find nearby facilities in a shopping mall and mosques etc. However, it is obvious women cannot use such facilities. Hence demand is established by the response of 47.8 percent people that used public toilets, and these included people like shoppers, shopkeepers, visitors, tourists, and passengers

TABLE 4.8: OPTIONS AVAILIABLE TO RESPONDENTS

Options	Percentage
	N=300
Returned Home	30.3
Open Defecation	3.4
Use Public Toilets	47.8
Find Nearby	17.8
Public Toilet	
Others	.7
Total	100.0

Source: Field Survey

4.9 Satisfaction Level for Location, Toiletries, Hygienic Situation and Water Availability in Different Locales:

In the questionnaire, we set five options scale in which satisfied, strongly satisfied, normal, dissatisfied and strongly dissatisfied were asked to respondents. Then in results, we added the first two options which were strongly satisfied, satisfied and after that strongly dissatisfied and dissatisfied with the more representative table.

TABLE 4.9: LEVEL OF SATISFACTION WITH EXISTING PUBLIC TOILETS

AVAILABILITY

Satisfaction	Satisfied	Neutral	Dissatisfied	N
Location	107	147	46	300
Toiletries	42	131	127	300
Hygienic	29	78	193	300
Situation				
Water	128	118	64	300
Availability				

4.9.1 Level of Satisfaction with Location

Location of toilets is the genuine concern for users. If toilets are not built at the convenient place, then people use other options available for them nearby. Aged people and those who are with children, have mobility problems and they are not able to spend more time to find the toilet in the market or tourists spots. Similarly, women commonly hesitate to use public toilets if it is located on the rush place, or in the congested market or far away. Women also have reservations about security and protection. Therefore, a convenient and accessible toilet must be the foremost priority while government or private owner have the plan to construct public toilets. While toilets have no proper signboard and direction then it creates confusion for users. The directional guideline can reduce the confusion of people for toilets locating. It was observed that public toilets were not at the suitable place for the female, because there was the common entrance. Respondents' response about the location was not satisfactory as 107 respondents were satisfied and 147 respondents were in the position of neither satisfied nor dissatisfied. While 46 respondents were dissatisfied that is shown in table no 4.7.

4.9.2 Level of satisfaction for Toiletries (things for usage)

Toiletries are essential for every toilet. Toiletries included soap, hand wash, wash basin, tap, tiny shower and alike non fixed items. Absence or compromised quality or availability of such facilities causes unhygienic environment inside of toilets. Some people think, there should be a mini shower or tap and things that are needed. Some think we cannot use soap if other used it already, there should be liquid hand wash for use. However, some other respondents argued that it is unsafe to use the soaps that were already used, therefore, liquid hand wash should be provided. Few were of the view that there should also be tissues or hand dryer for users provided. For toiletries, 42 respondents were satisfied, 131 respondents said they were neither satisfied nor dissatisfied and 127 respondents were dissatisfied. Table no 4.7 is clearly showing response regarding satisfaction level with toiletries.

4.9.3 Satisfaction level with Hygienic Situation

The hygiene situation of public toilets depends upon the availability of water, frequency of cleaning and number of users. Commonly, some people spit “Paan” (betel leaves) and do smoke cigarettes inside of toilet that creates discomfort for the next user. The most prominent thing, which people feel in every locale and toilet is the hygienic status which is about cleanliness and ventilation. According to the table no 4.7 data is showing that 193 respondents were dissatisfied with the hygienic situation, 78 respondents were neither satisfied nor dissatisfied. There were 29 respondents who said they are satisfied with the hygienic situation of a public toilet.

4.9.4 Level of Satisfaction for Water availability

Water availability is the most basic and necessary element, which is attached to public toilets provision. At most of the visited places, public toilets were functioning with storage of water, by water tank or directly linked with supply pipelines. Mostly the public toilets were facing the

issue of water availability. If the water was available, then another issue was low pressure, leaked taps and literally no water pumps for backup of water. When water ends for some time immediately smell increases and nobody is able to use them (except in emergency situations). It is needed everywhere to wash and clean toilets for usage of people. Table no 4.7 is showing that 128 users were satisfied with water availability, 118 respondents' reaction was about neither they satisfied nor dissatisfied and 64 respondents were dissatisfied. It indicates that water is not a serious issue but lack of willingness to cleaning toilet has made worst.

We calculated values of satisfaction level via formula mentioned in methodology part and got the table. Table 4.10 is showing that majority of respondents were dissatisfied with hygienic situation and toiletries.

TABLE 4.10: SATISFACTION INDEX WITH PUBLIC TOILETS FACILITIES

Satisfaction with facilities	Index	Rankings of satisfaction in order
Location	0.20 ¹	II
Toiletries	-0.28	III
Hygienic Situation	-0.54	IV
Water Availability	0.21	I

$$^1 I = \frac{1.0 \times 107 + 0.0 \times 147 - 1.0 \times 46}{300}$$

$$I = .20$$

Note. 1.0 = Satisfied , 0.0 = Neutral , Dissatisfied = -1.0

4.10 Issue of Required time:

When respondents were asked about the required time for toilet use without any disturbance. Majority of people, with 212 respondents replied they felt no disturbance. 88 respondents said yes, and they felt uncomfortable due to disturbance. It was observed that at Lakeview central toilets, and at Daman-e-Koh numbers of units were limited, hence due to tourists and trips rush, disturbance was created. Almost on each of the selected locale, the number of units (toilets) were two for male and two for female, and the size of a toilet was small. Although, the provision of service at tourists' spots was better than other selected locales. But every area has their own specific demands according to the situation of visitors. Joint entrance, at Abpara, was an issue for both genders and at G-10 Markaz, the majority of men were using both toilets due to the low number of female users and if a female visit, then they have to wait.

4.11 Availability of Luggage Place facility:

Shoppers, tourists or on jobs persons in the market have some luggage with them most of the time. Hence, due to inappropriate facilities such people feel difficulty due to luggage. This refers to safety which means people like to use the public toilet and urban environment without any fear, falling, losing something. Respondents were observed complaining that there is no place for hanging and no cupboards. They said they felt unsafe due to fear of losing their sensitive and precious items. Mostly respondents marked that there was no place for their luggage. Table number no 4.13 is explaining that 77.3 percent respondents said there was no place for luggage like the wall hanger or cupboard. 22.7 percent respondents replied that there was a place for them (mean in some toilets the wall hanger and in many toilets).

TABLE 4.11: LUGGAGE PLACE

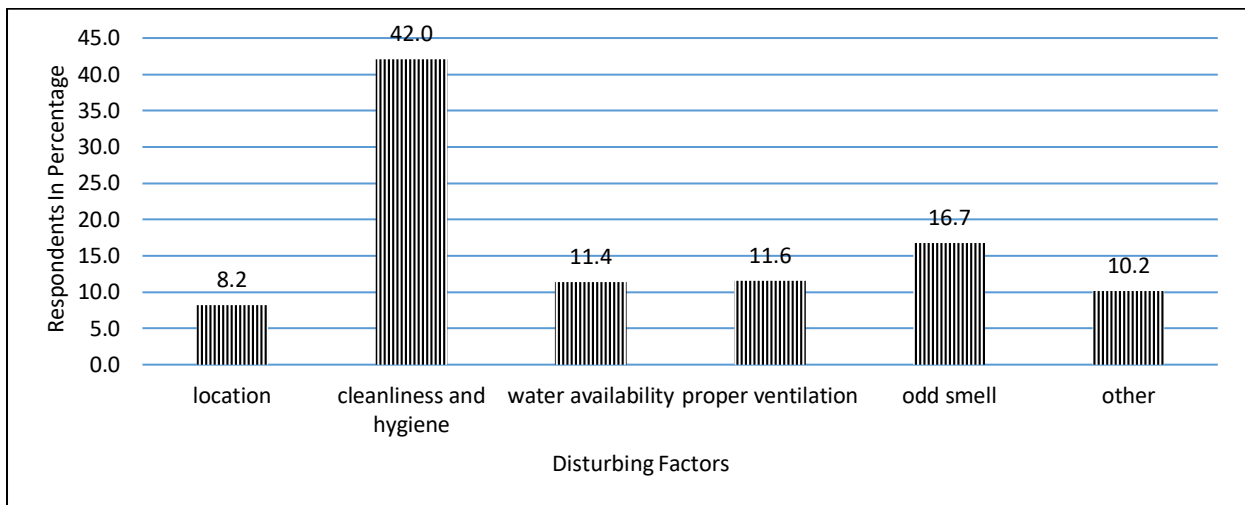
Response	Percentage
Yes	22.7
No	77.3
Total	100.0

Source: Field Survey

4.12 Problems Faced By Community in Public Toilets:

It is not necessary that people are only facing the problem of toiletries and unhygienic environment. There are many other things which can disturb them like issues of poor quality paint, toilet design, and plumbing. Many people were found saying about paint and maintenance of a building and other materials. These things provide satisfaction and comfort to users. People were given six options to explain what disturbing thing was for them in toilets and they can pick one or two options. Majority of respondents said that cleanliness and hygiene is the most disturbing thing for them following odd smell also. According to figure 4.1 users freely responded and 42 per cent of total users said about cleanliness and hygiene disturbance and 16.7 per cent said about the odd smell.

FIGURE 4.1: PROBLEMS FACED BY COMMUNITY IN PUBLIC TOILETS

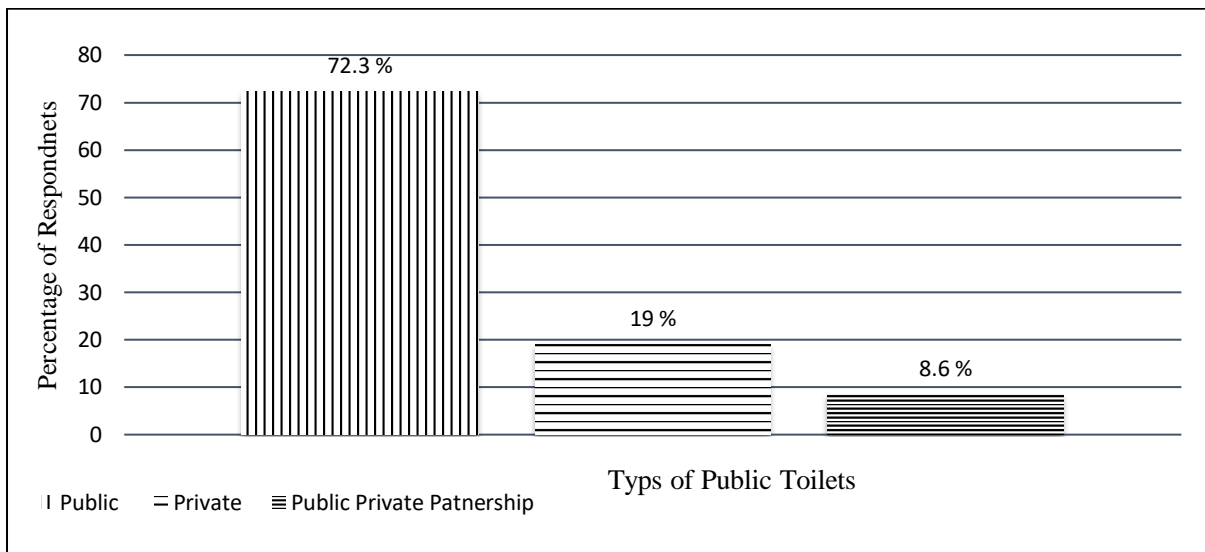


Source: Field Survey

4.13 Respondents Opinions about Provision of Public Toilets:

Provision of public toilets is either from the private side or from government matters a lot for citizens. Privately people can use toilet facility in plazas and mosques or any other nearby, (if there is charging and privately owned) then people prefer governmental toilets. Some people presented an argument that as the government is not able to run efficiently, there should be the role of the private sector, and they can run efficiently and keep them cleaner. However, majority of individuals responded that public toilets provision should be by government. According to many, it is the responsibility of government for the provision, some prefer privately managed toilets for better service and very few said about the public-private partnership. Figure number 2 is clearly showing that 72.3 percent respondents were in favour of publically provision of public toilets, 19 percent respondents were favoring private service and 8.6 percent respondents were in favour of public-private partnership. Figure no 2 is depicting the response of the users.

FIGURE 4.2: PROVISION OF PUBLIC TOILETS



Source: Field Survey

4.14 Priorities of Things for Public Toilet Services:

Every user has their own opinion about the use of public toilets. Actually, this is their own satisfaction level by toiletries or use of the toilet. At the household level, aesthetically people have different norms to use the toilets and do furnish their toilets according to their own wish and resources. Some people do not prefer to use other toilets, and some do this due to no other options when they are out of the home. Respondents were asked to prioritize the things, from the given list in which cleanliness, hand wash, wash basin and tissues included. Also, it was disclosed that first priority is the highest priority, and the fifth is the lowest priority. 218 respondents said that cleanliness and hygiene is their first priority. 127 respondents marked, hand wash is their second priority. 144 respondents said wash basin is their third priority, and 180 respondents prioritize tissues as fourth priority. Data is explaining that cleanliness matters more for people and hand wash on second priority. Figure number 4.3 is explaining the priorities that were set by the respondents.

TABLE 4.12: FREQUENCY OF PRIORITIES FOR PUBLIC TOILET SERVICE

Priority	Cleanliness	Hand wash	Washbasin	Tissues
1	218	59	12	7
2	46	127	98	30
3	23	88	144	39
4	10	25	41	180
5	3	0	5	42
0	1	0	2	0

Source: Field Survey

Index in table is showing that cleanliness is priority of 0.91 out of 1, hand wash is their second priority, Washbasin is third priority and Tissues are fourth priority ranked by respondents which is shown in table 4.13

TABLE 4.13: PRIORITIES OF RESPONDENTS FOR PUBLIC TOILETS

<u>FACILITIES</u>		
Components of Priorities	Priority Index	Ranking in Order of Priorities
Cleanliness	0.91 ²	I
Hand wash	0.74	II
Washbasin	0.64	III
Tissues	0.45	IV

4.15 Willingness to Pay of Respondents for Public Toilets:

Willingness to pay is a necessity for running and maintenance of the public goods. Willingness to pay is an established factor in many countries for functioning and efficient delivery of public goods. In most of the world, public goods are for the public but there are slight charging for their operations and maintenance. It is the price, where both consumer and supplier are agreed. Consumers show their maximum willingness to pay, and supplier adjusts it for better services. Social services in developing countries are difficult to run without a heavy budget. So developing countries with financial crisis are not able to build infrastructure for sanitation without any external aid.

2

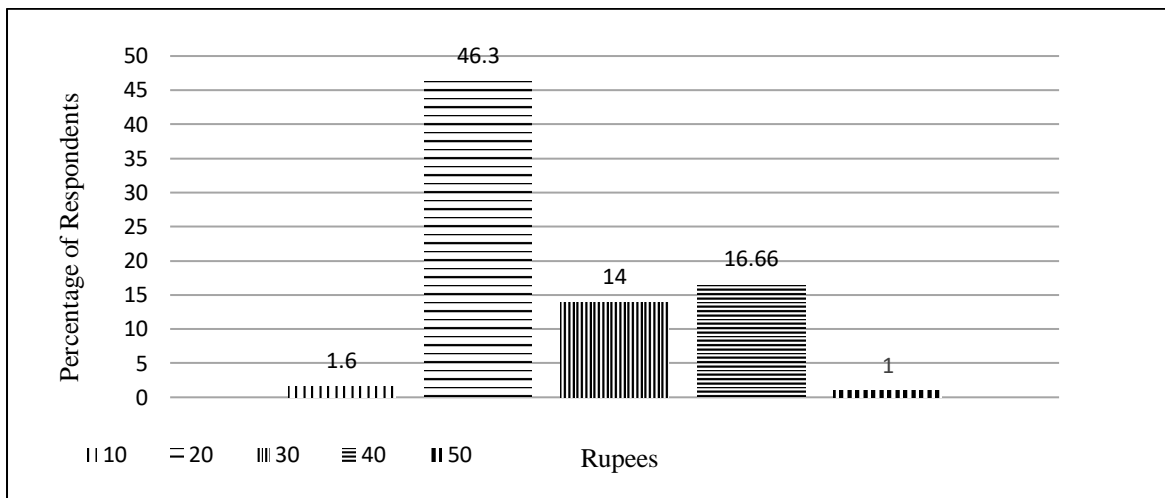
<i>First Priority</i>	<i>Second</i>	<i>Third</i>	<i>Fourth</i>	<i>Fifth</i>	<i>No Priority</i>
1.00	0.80	0.60	0.40	0.20	0.00

$$I = \frac{1.00 \times 218 + 0.80 \times 46 + 0.60 \times 23 + 0.40 \times 10 + 0.20 \times 3 + 0.00 \times 1}{300}$$

I=0.91

Respondents were asked will they pay, in addition to existing charges of public toilets if the government make it the convenient place, with good service, toiletries and visible signboard.. Figure 4.4 is presenting that, 46.3 percent respondents said they will pay 20 rupees in addition to existing charges. As well as 14 percent respondents said they will pay 30 rupees in addition to existing charges if it is provided with basic facilities in the convenient place.

FIGURE 4.3: WTP FOR PUBLIC TOILET WITH ALL BASIC FACILITIES



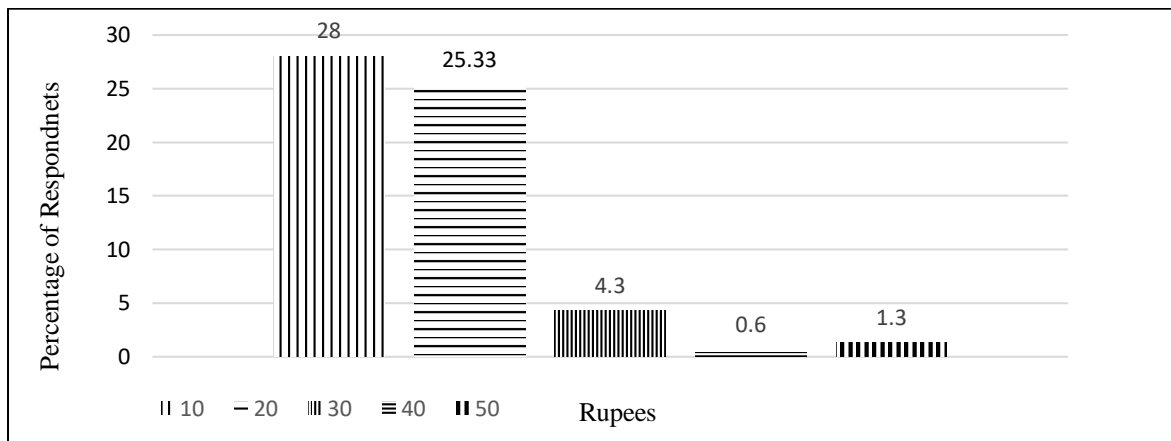
Source: Field Survey, Note: N=300 and 64 percent were willing to pay

4.16 Willingness to Pay for Cleaned PT after Short Intervals:

In addition to the first question, another hypothetical scenario was added to check the willingness to pay of respondents for clean and hygienic toilets. When it was asked from the respondents that if in addition to the facilities mentioned in the first question, will you pay if toilets are cleaned after short intervals (every two hours)? 172 respondents marked that they would like to pay for these type of toilets.

Figure 4.5 clarifying that 28 percent respondents said they will pay 10 rupees, 25.33 percent respondents marked they will pay 20 rupees, 4.3 percent respondents replied that they will pay 30 rupees for cleaned toilets. Figure number four is showing the willingness to pay of respondents for clean and hygienic toilets.

FIGURE 4.4: WTP FOR CLEANED AFTER SHORT INTERVALS TOILET



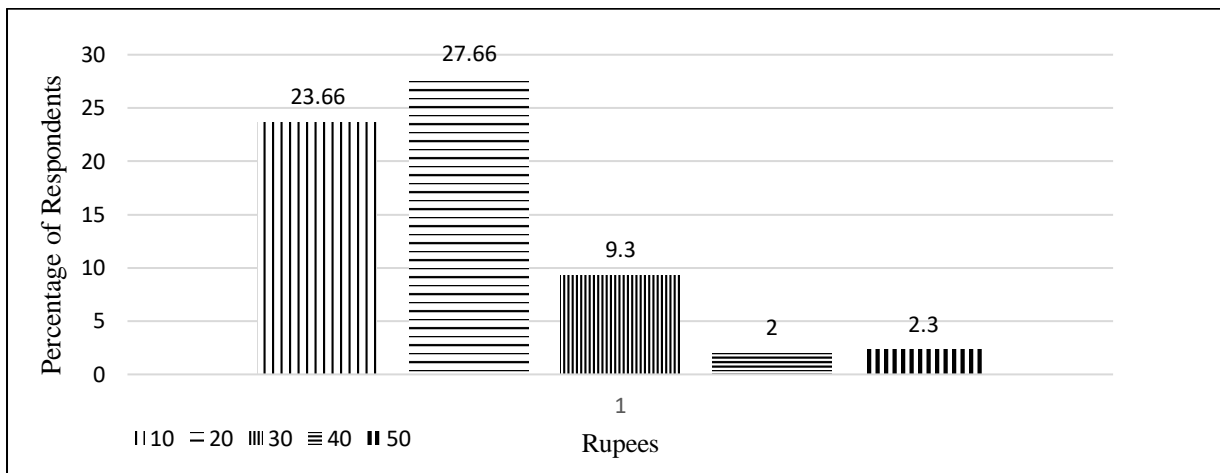
Source: Field Survey, Note: N=300, 57.33 percent respondents were willing to pay

4.17 Willingness to Pay for Esthetically Furnished Public Toilets:

People were asked in addition of first two questions related to willingness to pay that will you pay, if toilets were esthetically furnished also with soap, hand wash, towels and tissues. The reason was that many people use toilets at the household level, in offices or in plazas with their own civic sense about toilets. They have their own norms and esthetics about toilets. They may do not like simple toilets or squat toilets and they may like WC (water closet) toilet. They may use furnished toilets and do not like the toilet located in public places. So by considering these things again, a hypothetical scenario was articulated for respondents. It is the maximum service provision, that one can provide a public place, especially in developing countries to satisfy the public.

Figure no 4.6 is revealing that 23.66 percent respondents were willing to pay 10 rupees in addition to existing charges, 27.66 percent respondents were willing to pay 20 rupees and 9.3 percent respondents were willing to pay 30 rupees additionally for the aesthetically furnished toilet if it is provided. Figure number 4.6 is clearly depicting that the majority of people are willing to pay for fully furnished public toilets rather than the previous two hypothetical scenarios.

FIGURE 4.5: WTP FOR AESTHETICALLY FURNISHED PUBLIC TOILETS



Source: Field Survey, Note: N=300, 65.66 percent were willing to pay

4.18 Respondents Willingness to Pay for the Basic Toilets Facility, Clean and Esthetically Furnished Toilets:

4.18.1 Willingness to Pay and Locales

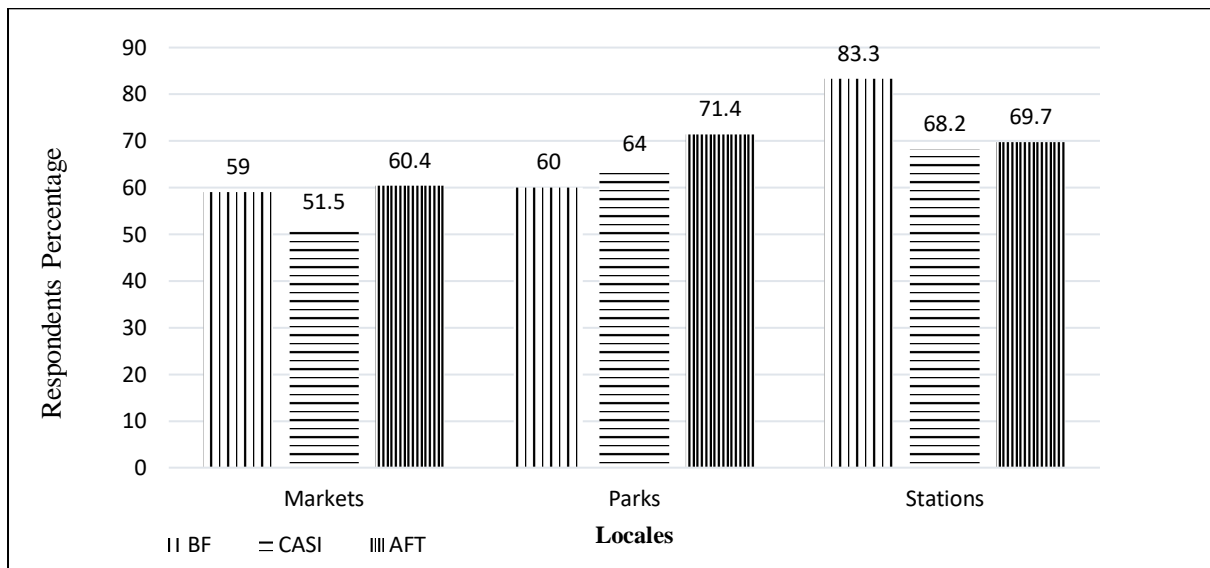
Islamabad is the capital of Pakistan and has many beautiful places, well designed urban structure and diverse population from all over Pakistan. Tourist's spots are the famous and superb piece of natural beauty and architectural art. On the daily basis, thousands of people visit markets, tourist spots and travel to Islamabad for their routine work, to visit the city or for embassies related matters. In Parks, many people from outside the city come for the tours. There are different types of markets, where people belonging to all types of income groups purchase the daily life products or go out for eating something. Sunday Bazaar and G-10 Markaz, attract diverse income groups and supermarket F7 is majorly visited by elites and foreigners. We designed three questions for willingness to pay with three different categories. In question number 16 we asked people if a public toilet at the convenient place is built with signboard and all basic facilities will you pay for this service. Question 18 was designed in addition to Question 16 by asking will you pay for toilets, if they are cleaned after short

intervals (approximately after two hours). Question 20 was asked in addition to question number 16 and 18 that if toilets are made fully furnished having all basic toiletries (like soap, hand wash, tissues) will you pay for it. We cross-tabulated question number 16, 18 and 20 to check how much people were willing to pay for described hypothetical scenarios.

4.18.1.2 WTP for Toilets with Basic Facilities, Toilets Cleaned After Short Intervals and For Aesthetically Furnished Toilets at Locales

In markets willingness to pay was lower than parks and bus stations for all three hypothetical scenarios. Respondents with 59 per cent were willing to pay for basic facilities toilets, 51.5 per cent were willing to pay for toilets with cleaning after a short interval and 60.4 per cent were willing to pay for aesthetically furnished toilets. In parks, willing to pay was lower than bus stations and 60 per cent respondents were willing to pay for toilet with basic facilities, 64 per cent were willing to pay for toilets with cleaning after short interval toilets and 71.4 per cent were willing to pay for esthetically furnished toilets. At bus stations, the majority of users were willing to pay toilets with basic facilities because there were poor facilities and people wanted improved facilities.

FIGURE 4.6: WTP AT LOCALES FOR DESCRIBED HYPOTHETICAL SCENARIOS



Source: Field Survey

BF= Basic Facilities Toilet, CASI= Cleaned after Short Interval, AFT= Aesthetically Furnished Toilet, Markets= 134 respondents, Parks = 100 respondents, Bus Stations= 66 Respondents

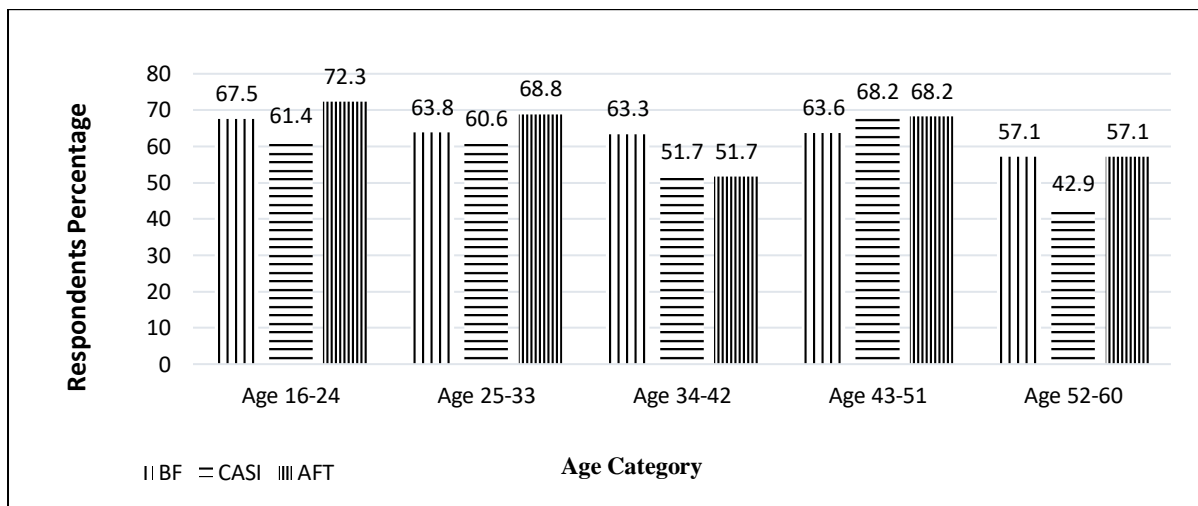
4.19 Willingness to pay and Age groups:

A country with having 64 percent youth below the age of 30 years (UNDP, 2016). One can expect that majority of young people will be found everywhere. Without any evidence, it is admitted fact that people with mid-career jobs, recently graduated or newly appointed job holders and labour class belonging the age below than 45 years. This age group is effective and energetic to do work and to fulfil the heavy task. They were mostly visitors of tourists spots, shoppers of market and one can find them on bus/van stations for travelling to their destinations.

4.19.1 WTP for Toilet with Basic Facilities, Toilet Cleaned After Short Intervals and For Aesthetically Furnished Toilets of Age Groups

Figure no 4.8 presenting that for toilets with basic facilities, age group 16-24 and age group 25-33 were willing to pay more than all age groups with 67.5 and 63.8 respectively. For cleaning after short intervals toilets, age group 43-51 were more willing to pay than other age groups 68.2 per cent respectively. Age group of 16-24 and age group 25-33 were more willing to pay for aesthetically furnished toilet with 72.3 and 68.8 per cent ratio. Moreover, the age group of 16-24 and age group 25-33 were willing to pay more, than others for improved toilets.

FIGURE 4.7: WTP OF AGE CATEGORIES FOR DESCRIBED HYPOTHETICAL SCENARIO



Source: Field Survey N=300

4.20 Willingness to Pay and Income Groups:

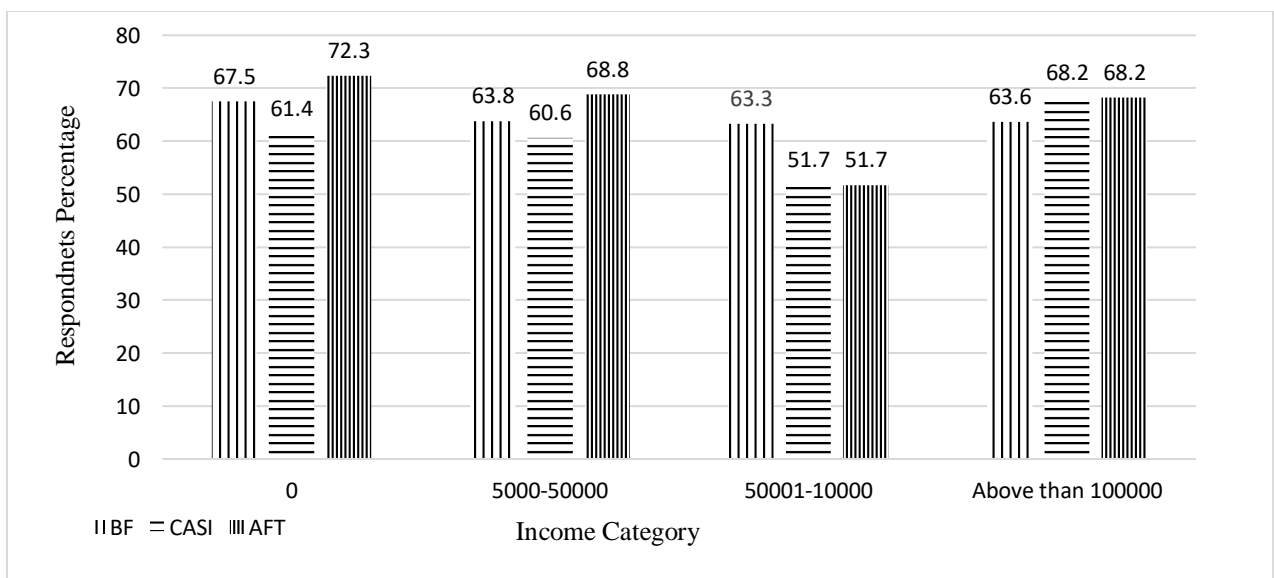
Income also effects for willingness to pay for anything. People with the income of 5000-50000 rupees were our respondents with major share. Our results were showing that income is affecting too much for higher willingness to pay or not willing to pay, it is all about to know what the real problem is and how with public collaboration it can be solved. Maybe there was

a difference of opinions. People know about the provision, facilities and about budgets and consciousness of government.

4.20.1 WTP for Toilet with Basic Facilities, Toilet Cleaned After Short Intervals and For Aesthetically Furnished Toilets of Income Groups

Zero income category, in which most of the respondents were students, people waiting for jobs, housewives and dependents were willing to pay that means monthly income does not matter for willingness to pay. Figure 4.9 is showing that for toilet with basic facilities, respondents with zero income were willing to pay more than other income categories with 67.5 ratios. Respondents with income above than 10000 were more willing to pay for cleaning after short intervals toilets than others with 68.2 per cent ratio. For aesthetically furnished toilets respondents with zero income and income between rupees 50001- 10000 were willing to pay more than other income groups with the 72.3 per cent and 68.8 per cent respectively.

FIGURE 4.8: WTP OF INCOME CATEGORIES FOR DESCRIBED HYPOTHETICAL SCENARIO



Source: Field Survey, N=300

4.21 Willingness to Pay and Education:

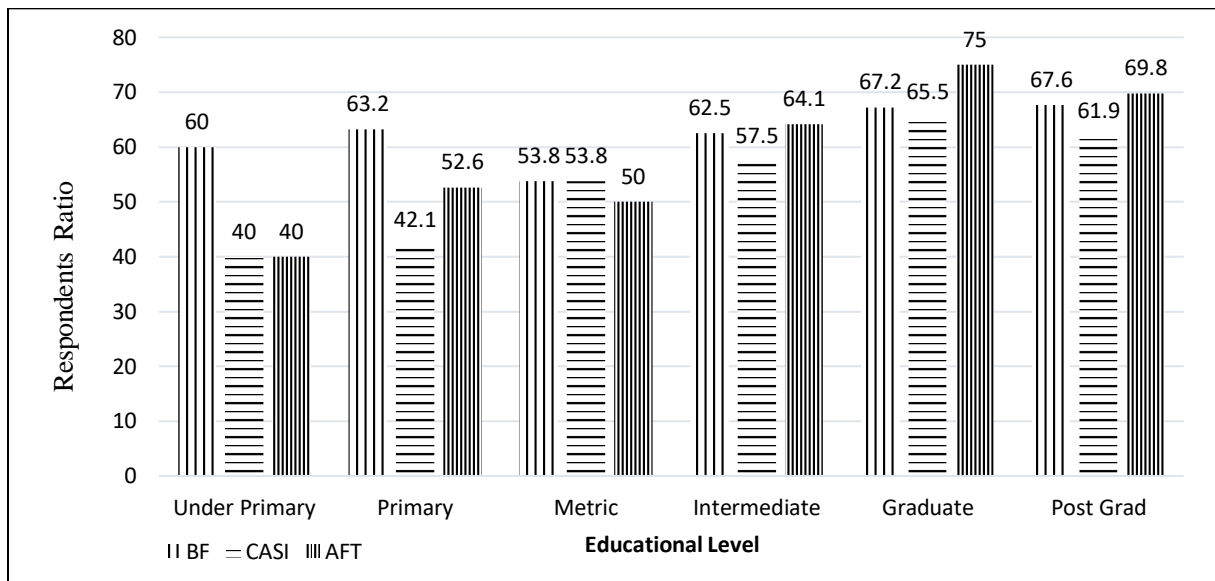
Education plays a role to understand the genuine issues related to society, civic sense, urban development and citizens' rights. But latterly described things vary from city to city. People's attitudes and wisdom tells a lot about governance models, facilities and development in the area. In Islamabad, the majority of people would be found educated, job holders and very well familiar about governmental departments. The reason is that Islamabad is capital and there are many people from all over Pakistan come to see the city, for job seeking, for visa application and many others purposes. Islamabad is divided into different sectors, people are living according to their income, business and job status in these sectors.

4.21.1 WTP for Toilet with Basic Facilities, Toilet Cleaned After Short

Intervals and For Aesthetically Furnished Toilets of Educational Level

Figure no 4.10 is showing that graduate and postgraduate respondents were more willing to pay for basic facilities toilets with 67.2 and 67.6 respectively than others. For cleaning after short intervals toilets, graduate students were more willing to pay than others with 65.8 per cent. Graduates respondents were more willing to pay for aesthetically furnished toilets and postgraduate were lower willingness to pay than graduate with 75 per cent and 69.8 per cent. Hence, it is cleared that as much as the education level increases the willingness to pay for improved toilets facilities also increased.

**FIGURE 4.9: WTP OF EDUCATIONAL LEVEL FOR DESCRIBED
HYPOTHETICAL SCENARIOS**



Source: Field Survey , N=300

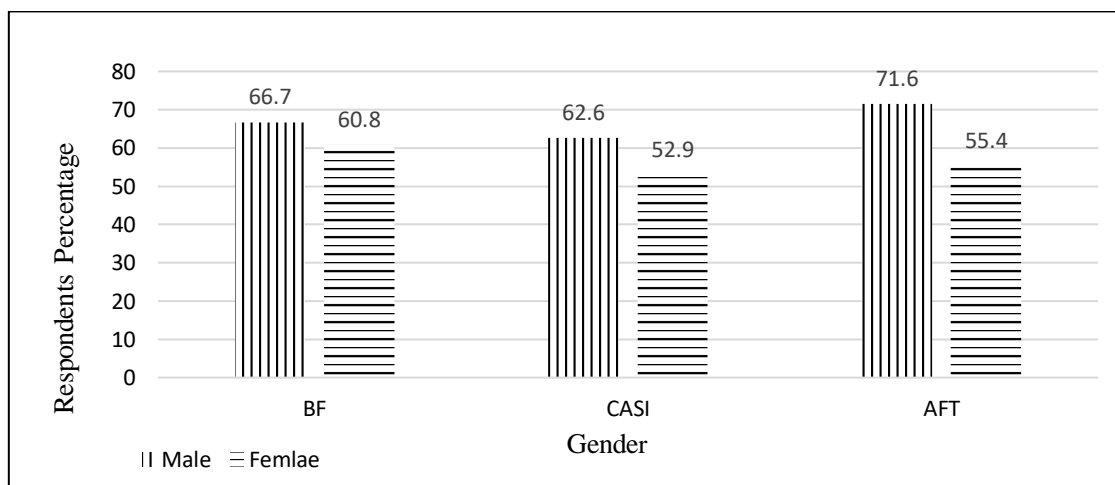
4.22 Willingness to Pay and Gender Perspective:

Male and female respondents have taken for the survey. Majority of men were willing to pay for improved facilities of public toilets. Male are more independent in their expenditures and mostly come alone or with some friends. Response of women was divided for willing and not willing to pay for basic facilities of toilets, cleaning after short intervals toilets and for aesthetically furnished toilets. Female were responding at every locale for public provision and free of charges toilets. Female mostly come in markets with family or some girls on trips to visit the parks or for an outing. Though, they may not be happy with facilities of toilets or they think basic facilities are enough for public toilets. Female, when coming with family, they hesitate to pay for the toilet because male workers are there for the collection of charges. Female may have some issues of financial reliance on men or any other reason but overall they were seen by data not willing with higher ratio.

4.22.1 WTP of Genders for Toilet with Basic Facilities, Toilet Cleaned After Short Intervals and For Aesthetically Furnished Toilets:

Figure 4.11 is clearly showing that for basic facilities toilets male are more willing to pay than female with 66.7 per cent. In case of cleaned after short intervals toilets male were also more willing to pay than the female with 62.6 per cent. A major difference in willingness to pay was shown in the table, female were less willing to pay than male for aesthetically furnished toilets. However, female were willing for improved facilities but not willing to pay in addition to existing charges. They were willing to pay more only for basic facilities toilets and were not willing to pay more for other facilities as they have shown their willingness to pay for basic facilities.

FIGURE 4.10: WTP OF GENDERS FOR DESCRIBED HYPOTHETICAL SCENARIOS



Source: Field Survey , N=300

4.23 Willingness to Pay and Household Size of Islamabad:

We described earlier about WTP, now summed up WTP for each question separately, so that we may be able to find the revenue potential for public toilets in Islamabad using average WTP for improved facilities. As discussed before, for toilets with all basic facilities and signboard

visibility, on average respondents were willing to pay 14.46 rupees in addition to existing charges. When the respondents were asked about their WTP for some added services like cleaning service for public toilets after short intervals (after two hours), in addition to previously described facilities, respondents were willing to pay on average 10.1 rupees for this facility in addition of existing charges.

Similarly, to know about public preferences for hygiene and aesthetics, the survey presented another hypothetical scenario. We added some facilities like fully furnished facilities, availability of hand wash, soap, tissues and towels (in addition to previously promised facilities, as discussed before). In response, respondents were again willing to pay on average 37.2 rupees in addition to existing charges.

However, given the information, here we estimate the revenue potential for Islamabad by using maximum WTP of HHs as described in the first hypothetical situation. Using the population census data for 2017, there are 335408 households in Islamabad. Let's assume, within two weeks, on average if only one person of each household is out of the home and need to use public toilet facility, according to our data, he/she is willing to pay 14.47 Rupees. Hence, given this assumption, the revenue potential for Islamabad would be Rupees. 4,853,354 (see table 4.15) in addition to existing resources. This revenue may enough for improving the public toilets with basic facilities for all.

TABLE 4.14: WILLINGNESS TO PAY FOR HOUSEHOLD IN ISLAMABAD

Total Population	2001579
Total House hold Size	335408
Average Willingness to Pay of Respondents	14.47 Rupees
Total Willingness to Pay for HHS	$14.47 \times 335408 = 4853354$ Rupees

Sources: Pakistan Beaur of Statistics, Field Survey

4.24 Themes for Open Ended Questions:

4.24.1 Perception about Service

Majority of people were disquieted about the hygienic situation of public toilets. The reason is that due to rush, human waste, shortage of water and other activities of people like smoking and “Paan” spitting disturb the environment inside of toilets. After some time, it would be good if workers do clean them and make it hygienic with anti-germ liquids. Respondents suggested that deployed workers are not effectively doing their duties and CDA itself should monitor the situation for the betterment of service. Users recommended that if these toilets are managed by contractors, then the government should monitor because the unhygienic environment is disturbing and not acceptable for any user. If the CDA team monitor it properly then it may improve because workers will work efficiently for these public toilets.

Due to rush at tourist’s spots and Mandi More van station, people recommended that there should be more toilets. So that people can easily use them and may cover unhygienic environment due to the excessive burden of existing toilets. When recreational trips arrived, rush increases then it disturbs both individual and group of a trip for use. At Mandi More Bus/Van stations people have also complained about the low number of units and unhygienic

environment and poor service delivery by owners/contractors. The fourth point was adopted by the majority that was an absence of toiletries. The female respondents advised, there should be combs, mirrors and number of toilets should be increased. Majority of users either male or female suggested there should be liquid hand wash and this service structure should be like the private sector. Female were more concerned about privacy due to joint entry side in Abpara and G-10 Markaz majority of the female proposed that this should be separate for female and they felt insecure.

The fifth point, which was recommended to exempt the charges for bathroom use. The government should invest in this to facilitate people. Female on almost every point was not in favour of charges and male especially in markets were not in favour of charges. They think that privately owned shopping Centers and plazas, provide this service free and customers go there freely. The provision and functioning of toilets should be by CDA the point also emphasized by shopkeepers (whom were frequent everyday users).

4.24.2 Quality of Service

When people were asked that, is it easy to use public toilets facility if you are with luggage, children or with aged people? Majority of respondents said that it's difficult to find this in public toilet facility. There is no baggage place inside of toilets. With children and luggage, if we have no partner, then it's difficult for us. Female users show more concerns than male for insecurity and luggage lost. One person shared that *"in Addah (Bus Stations) I have lost my luggage I handed over to someone but after usage of the toilet there was no luggage and no man whom I handed over my bag"*. This insecurity and no proper management and inefficiency of service provider caused the low number of users and may increase open defecators near the roadway, in open fields and near bus stations which is unhealthy for society and environment. During data collection, it was commonly observed that male were waiting outside toilets with female purses due to lack of proper luggage spaces inside. There is a need for cupboards or the

wall hangars according to the opinions of respondents so that they can use public toilet with comfort. This facility increases the comfort level of users, make toilets accessible, shoppers move freely and tourists can visit the city easily.

4.25 Researcher Personal Observations:

Apart from the results, it was personally observed in the markets especially in G-10 Markaz that toilets were not having proper signboards for the public guidance and sanitation issues were very inadequate in almost every toilet visited. Water and sanitation issues were very inadequate in every toilet. Even no storage of water and no water pump functioning was observed, only government water supply was connected to toilets. Plumbing situation was unsatisfied. In Abpara Market toilets were inside the market and there was no signboard for direction and water availability issue was observed. The water issue, was almost on all locales and the workers were not efficiently caring for toilet cleaning. These both things were major reasons for higher displeasure with hygienic conditions because for some time there was no water and urine excretion causing for smell and people were displeased. Toilets facilities in G-10 Markaz market were also not in visible place of Markaz. Similar situation was at Daman-e-Koh however toilets were in good conditions. It was also perceived, the civic norms of people also matter for cleanliness. People do smoke inside the bathroom, spit “Paan” on floor of toilets. Due to the rush for the next person, there was smell and dissatisfaction. Toiletries like soap water, mirrors and sinks on the most of locales were not in proper conditions. Contractors, at toilets, were bounded with government supply water or they have to purchase water tank on daily basis.

Major Findings

- Most of the respondents explained that they needed public toilets, when they are out of home.
- When respondents needed public toilets, 47.8 percent respondents said they used public toilets.
- 147 respondents were satisfied with location, and 147 respondents were neither satisfied nor dissatisfied with location.
- 127 respondents were dissatisfied with toiletries in public toilets and 131 were neither satisfied nor dissatisfied.
- 193 respondents were dissatisfied with hygienic situation and 78 respondents were neither satisfied nor dissatisfied with that in public toilets.
- For water, 128 respondents were satisfied and 118 respondents were neither satisfied nor dissatisfied.
- 232 respondents replied that there was no luggage place inside toilets. This was uncomfortable for public toilets users.
- 42 percent respondents said cleanliness and hygiene was issue for them and 16.7 percent said odd smell disturbed them
- For provision of public toilets, 217 respondents said it should be provided by government to facilitate the citizens.
- For list of priorities, 218 respondents prioritize cleanliness and hygiene as their first priority and 144 respondents marked washbasin as second priority, 127 respondents marked hand wash as third priority and 180 respondents said tissues was their fourth priority if these service provided at public toilets.

- For public toilet with all basic facilities 46.3 percent respondents were willing to pay 20 rupees in addition to existing charges.
- 28.10 percent respondents were willing to pay 10 rupees for cleaned toilets after short intervals in addition to existing charges.
- There were 27 percent respondents, who were willing to pay for aesthetically furnished public toilets, hence from findings of the study, most of the respondents were willing to pay for aesthetically furnished toilets than others.
- People with higher education and with age 25-45 were mostly willing to pay for better facilities.
- On average each respondent was willing to Pay 14.47 rupees for better facilities toilets in addition to existing charges.
- Water issue and inefficiency of workers and management were founded at every locale.
- Absence of toiletries and unhygienic environment were founded at every toilet site. No facility for handicapped and aged people were found and less number of public toilets were with WC (water closet) installation.

Chapter 5

Conclusion and Recommendations

5.1 Conclusion:

The social need for public toilets is not deniable by anybody. They are the reflection of culture and civilization of a country and city. SDG6 in its second goal, directly indicated that equitable access to safe drinking water and sanitation should be for everybody in the World. Due to an increasing population, the demand for sanitation and improved amenities is also increasing. Sanitation-related facilities needed a huge investment for its mega plans, infrastructure and functioning. Basically, it's a core public policy supply side issue. In many countries bodies, authorities and committees are operating these public toilet services.

In developing countries, due to less wisdom of political leadership, lack of funds, scimmages between institutions and lack of trained staff, sanitation provision is still on the last frontier with many unsolved issues from years. In this research, the perception of people was evaluated by public toilets conditions, quality and service standards. In this research, Willingness to pay by CVM was analyzed, and its variation was gauged across gender, age and education through frequencies. Study concluded that, condition in public toilets were not satisfactory according to our respondents.

Mostly respondents were uncomforted with unhygienic conditions and odd smell. According to findings there were two main reasons, first was water shortage and the second was the inefficiency of workers as well as management. The workers were not trained to keep toilets clean within resources. Most of the respondents were in favour of publically provided toilets. Some public toilets in markets, tourist spots and on Bus stations were not convenient and accessible to the public. Location of those toilets was far away from the center of the main public area. Some visitors were not familiar with toilets location and they were confused.

At tourists spots public toilets conditions were satisfactory but problem of hygienic environment and absence of toiletries were prevailing. In Markets, except super market, condition of public toilets were not meeting the standards. Their environment was very unhygienic and had leaked plumbing. People were dissatisfied with location, hygienic situation, water and toiletries.

An absence of hand wash and problems of the unhygienic and tainted environment was a real problem for people. Respondents described that in service provision cleanliness and hygiene would be their first priority and hand wash would be second. Moreover, People may compromise on toiletries but they are sensitive to cleanliness and hygiene as well as the hand wash.

Majority of public toilets were facing the shortage of water, because there was no water pumps or inefficient backup of water for the crisis need. Contractors were using supply water that was provided by the government or purchased privately water tank for use. Water is a basic and essential requirement at toilets if there will be the shortage of water than it will lead towards the unhygienic environment. Young and educated were mostly willing to pay for the betterment of services, and randomly they were the major part of our respondents. Their willingness to pay was for toilets with basic facilities, cleaned after short intervals and toilets who were aesthetically furnished. Furthermore, willingness to pay was varying across gender, education and age.

At every visited locale, one worker was deployed and was inefficient for cleaning and running the public toilets. There was an issue of monitoring by the competent authority like CDA. Majority of toilets were contracted out for operating to the private sector by MCI. Contractors are responsible for minor maintenance, toiletries facilities and operating of toilets. While CDA was only responsible for the infrastructural development of toilets. For public policy domain

problem of public toilets can be solved through strong citywide infrastructural, policy level approach and legislation by government. Inclusive public toilets play a role in urban life in decreasing diseases, increasing social participation and sustainable urban development. There may come cultural, psychological and sociocultural problem which need to solve with solid policies and planning for a better urban environment and comfort of citizens.

5.2 Policy Recommendations:

- Toilets should be on accessible point and if not satisfying the people then it should be built on other most demanded side for the convenience of people.
- Workers should be trained by sanitation department of CDA to overcome the cleanliness and unhygienic environment inside public toilets within given resources.
- CDA should repaired toilets where is demand and for equitable and accessible toilets there should focus for advance technologies and architectural aspects.
- There should be fix rate for users at toilets and monitoring teams should be for the inspection of toilets. It will help to overcome the inefficiency of workers.
- There should be publically accessible, affordable and usable toilets with water availability for everyone without any discrimination.
- CDA should think alternative model for better provision and service like private plazas and other privately owned stations and can get help initiatives taken by other countries for public toilet service.

5.3 Limitation of the Study:

Due to financial, physical resources and limited time we were able to get data from selected locales of markets, tourists spots and bus/van stations. One bus station was however outside the metropolitan boundary to make our sample representative. Another issue faced was that, limited female users were found for data on bus/van stations. After struggle of many days we

decided to replace sample from bus/van stations by getting female respondents from model Sunday Bazaar near Peshawar more interchange Islamabad.

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Appendices

Appendix 1

Initiatives Taken By Provincial Governments

Provinces/ Regions	Initiatives taken by Provincial Governments
Punjab	WASH development plan 2014-2024 with UNICEF. Saaf Paani project, T-Square (Toilets square) application. Open defecation free (ODF) villages with UNICEF, Lady health Workers (LHW's) campaigns for behavior change through Public Health Engineering Department. Sanitation improvement of flood affected areas. Community & School led toilet sanitation (CLTS), (SLTS).
Sindh	Sanitation Policy 2017. Community and School led toilet sanitation (CLTS), (SLTS). Solid Waste Strategy 2011. Wash in Schools (WinS) 2015. 13 district to make Open Defecation Free till 2018. 36000 ladies health workers for behavioral change campaign. Orangi pilot project (OPP).
KPK	Community and School led toilet sanitation (CLTS) & (SLTS) approaches used and through CLTS 300 villages were made open defecation free. Media campaign 2013. Community driven local development project with collaboration of European union worth of 60 million euro. Southern area development project (SADP) with World Bank.
Baluchistan	CLTS and CLTS derived through UNICEF for improved sanitation. In 2017 signed agreement with UNDP on 50:50 ration water and sanitation hygiene
AJK	Pakistan red crescent society and prime minister special program for water and sanitation is help communities.

FATA	Sarhad rural development program and UNICEF also covering with political agent support for development schemes in Waziristan and agencies.
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Sources: PASCON 2013, UNICEF country Paper, 2013 &2015, Government of KPK

Appendix 2

Survey Questionnaire

Pakistan Institute of Development Economics (PIDE), Islamabad

PIDE School of Public Policy

Availability, Accessibility and Satisfaction with Public Toilets in

Metropolitan city Islamabad

This survey is being conducted as part of MPhil degree at the Department of Public Policy at PIDE, Islamabad and is mainly concerned with the utility and satisfaction with public toilets. The following questions are thus purely for academic purposes and mainly concerned with users perception about the public toilets and their willingness to pay for it. Your input is very important for this study and I will be obliged if you could please take few minutes out to express your views in this regard. The information and identity of respondent will be kept confidential. This information will only be used for this research and not for any other purpose. Your cooperation is highly appreciated.

I- Personal Information of Respondent:

1. Gender: _____ 2. Locale: _____

3. Age (*In Years*): _____

4. Marital Status: Single Married Widowed Separated Other

5. Employment Status: Job Self-employed Dependent Student Other

6. Nature of Employment: Government Private Own Business

Other _____

7. Monthly Income: _____

8. Schooling (*In Years*): _____

II- General Practices/performances:

Q1. How many times did you pay visit shopping centers/markets during last two months? (*Skip for bus stations and touring places*).

1 2 3 4 Other _____

Q2. How many times did you pay visit touring places during previous two months (*Skip for shopping and bus stations*).

1 2 3 4 Other _____

Q3. How many times did you pay a visit outside of city during last two months? (*Skip for shopping and touring place*).

1 2 3 4 Other _____

Q4. Do you feel need of public toilet during your timings out of your home?

Yes No sometimes often don't have idea

Q5. If yes, what will you do?

Returned home Do open practice Use Public toilet Find Nearby other _____

III- Problems with existing public Toilets availability:

Q6. How would you describe your satisfaction level with given situation in table?

_____ Satisfaction Level _____

Situation	Strongly Satisfied	Satisfied	Normal	Dissatisfied	Strongly Dissatisfied
Location					
Toiletries (Things for usage)					
Hygienic situation (Cleanliness & Ventilation)					
Water availability					

Instructions: Please tick only one box in a row and column.

Q7. Are you given required time without disturbance at public toilets?

- Yes No

Q8. Are there any place for your luggage in toilets?

- Yes No

Q9. What is disturbing thing for you at public washrooms?

- Location cleanliness and hygiene Water availability Proper Ventilation
 Odd Smell Other: _____

IV- Preferred Services:

Q10. What type of public toilets you will prefer to use?

WC



Squat



Q11. Have you ever limited your mobility due to unavailability of washrooms facility in public places?

- Yes No

Q12. Do you think availability of Public toilets is adequate according to demand at this particular place?

Yes No Somewhat

Q13. Should this services provided publically or privately?

Publically Privately PPP

Q14. How would you prioritize the facilities in a public toilet? Please tick preferences given in table.

Facilities	Preferences					
	none	1 st	2 nd	3 rd	4 th	5 th
Cleanliness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hand Wash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tissues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Instructions:

- *First priority is highest priority and 5th priority is lowest priority*
- *In case if any facility is not among the five priorities, it should be recorded as “none” priority.*
- *Please tick only one option in one column and row*

Q15. Time used for accessing the public toilets facility?

1-5 Minutes 6-10 Minutes 11-15 Minutes Others _____

Q24. How these public toilets service can be improved? *Please suggest:*

Q25. Do you think with family (*children, luggage, aged*) it’s easy to use public toilet facility?

V- Willingness to pay for improved public toilets facilities:

Q16. Having discussed the issues related to public toilets if government provide public toilets that are located at convenient places, visibility, signboard, with adequate water supply and

toiletries availability; will you be willing to participate in making financial contribution to such initiative ?

Yes No 1= Yes (*continue sequence*)

0=No (*go to Question number 18*)

Q17. If yes, how much will you be willing to pay in addition to the existing charge (*If Any?*)

0 10 20 30 40

Q18. In addition to the qualities stated above (Q 16) if, these public toilets are properly cleaned with short intervals (every two hours), will you be willing to pay any amount in addition to stated earlier (in Q16)

Yes No 1= Yes (*continue sequence*)

0=No (*go to Question number 20*)

Q19. If yes how much are you willing to pay?

10 20 30 40 50

Q20. In addition to above facilities at Q 16 and Q 18, if toilets are esthetically furnished (with toilets, soap, tissues) will you willing to pay any amount in addition to stated earlier at Q16 and/Q 18

Yes No 1= Yes (*continue sequence*)

0=No (*go to Question number 22*)

Q21. If yes how much are you willing to pay additionally?

10 20 30 40 50 other (how much) _____