

Toilet Tales:

“A holistic research on the phenomenon of public toilets”

-by Recycle bin

A toilet is the most intimate space within a building- a space where one can be alone. It is also one of the most overlooked components in a building. Just the way architecture has a history, toilets have a parallel and interesting history. In due course it got integrated with architecture. It is an interesting component in architecture which shows the change in the perception of personal privacy of people.

Toilet – A fluid word

The word toilet has a certain ambiguity to it. It sometimes refers to the device into which one excretes and sometimes it refers to the room which houses the device. Tracing back to the origin of the word, it is interesting to see that the word referred to various other things and some of it are barely associated with the current usage. The term ‘toilet’ came from the French word ‘toile’, which is a piece of clothing. From toile, originated the French word ‘toilette’ and its English variant ‘toilet’, both meaning a cloth that is put over the shoulder while dressing. It later alluded to a cloth put over a dressing table. Eventually it began to denote the whole process of washing, grooming and dressing, especially for a special occasion. During the 18th century, the word was also used to denote the process of cleansing after a surgery. By the 18th century, it was used to denote the room where washing, cleansing and grooming is done, a precursor to the current usage.

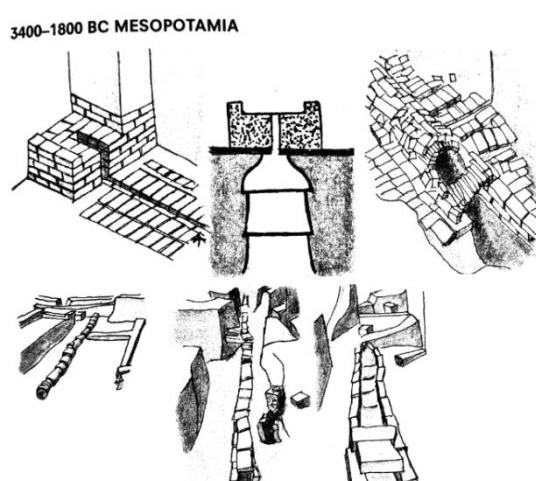
Evolution of toilets

The present typology of toilets has gone through a chronological set of developments. The toilet culture has evolved from squatting in the open to being alone in a personal space. The current type of toilets is a convergence of three processes- bathing, excretion



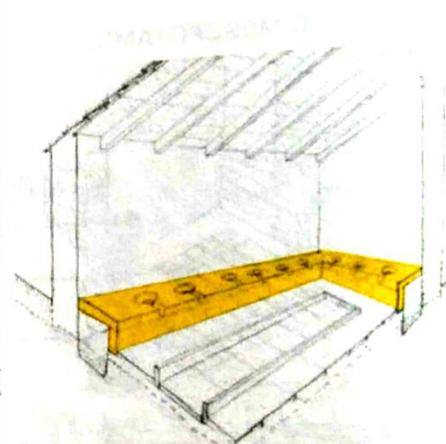
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and sewage disposal. Earlier the processes of bathing and excretion were never considered to a private matter; rather, there were public baths and latrines where people would socialize with each other. Some of the earliest toilets and sewage systems that are recorded are those in Mesopotamian and Indus valley civilization. Remains of both these civilizations indicate elaborate waste disposal systems. Habuba Kabira in Mesopotamia is the earliest known drainage system (3600BC) with stormwater drainage into wells. Mohenjo Daro (2450 BC) was famous for its covered sewers from each house that opens into a larger sewer. The palace of Minos at Knossos had elaborate system of stone drains for sewage, rain water and general drainage. Latrines were flushed by emptying jars of water, showing a far resemblance with the present day toilet. In Greece, from the 6th to 2nd BC, communal toilets were prevalent. In Greece, from the 6th to 2nd BC, communal toilets were prevalent.



Drains in Mesopotamia

Source: Toilet, Rem Koolhaas



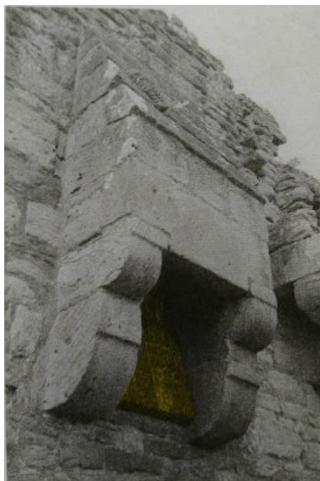
Communal toilet in Greece

Source: Toilet, Rem Koolhaas

Earlier the processes of bathing and excretion were never considered to a private matter; rather, there were public baths and latrines where people would socialize with each other. But gradually the thought of privacy during excretion began to emerge. This at first began with the royalty and priests. The chariot latrines in the public latrines of Rome are considered to be the trail blazer in the start of private toilets. Garderobes were another

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highlight in the run for private toilets. These were small protrusions on the walls of towers with a hole in the floor. The waste would be directly discarded to the moat around these towers. With the beginning of privacy, the sewage system slowly began to disappear from the equation, which made a comeback only after the 16th century.



Garderobe



Chariot latrine

Source: Toilet, Rem Koolhaas

Source: Toilet, Rem Koolhaas

Throughout the years the character of toilets has changed tremendously. With more people using the same toilet, the public lavatories might have started producing unsanitary conditions, thus forcing people to make the process of excretion and bathing more of a private affair. Toilets began to be located in closer proximity with the residence. These were individual buildings within the compound. Then they were incorporated within the residence and became an element of architecture. Each residence started having multiple toilets to cater to the people residing in it, consequently making toilets more individualistic. Gradually the nature of toilets changed from public to rigidly private. This western model slowly crept into the social construct of other parts of the world as well, with additions and alterations to accommodate the cultural differences.

The Indian scenario

The situation of sanitation in India is a rather bemusing one. India is home for one of the ancient and advanced civilizations of the world, the Indus valley civilization, with sewage

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systems and waste disposal systems that were superior for the period. But now one could easily say that this culture has been turned somewhat upside down. Somewhere along the lines of history, Indians began to be accustomed with defecating in the open. The very uneven range of development in India is also a cause for this issue. The societal structure of India is such that only a few people always enjoy the benefits of development. While the people in the higher end of the spectrum have access to improved sanitation facilities, most people in the lower end goes in the open. According to the Australian charity Wateraid, India has the largest number of people without access to basic sanitation (732 million).

Open defecation and unimproved latrines

India has the largest number of people who openly defecate. Open defecation is a main cause of health issues among rural people, with more than 60000 children under five years of age dying due to related diarrheal diseases. Whenever the issue of open defecation is discussed, it is automatically thought of as an issue prevailing in just the rural areas of the country. But the truth is not the same. Majority of the urban slum dwellers defecate in the open. When we consider a city as large as Mumbai with a very high slum population, it is not very hard to imagine the status of open defecation in the city.

One of the major reasons for open defecation to exist in such a level in the country is surprisingly not the economic stature of the people or the lack of water, but the sheer low priority given to the need for a latrine. Of course, economy is an important factor, but with the incentives and support provided by the various governmental and non governmental organizations, this is no arduous task. An article, *Revealed Preference for Open Defecation; Evidence from a New Survey in Rural North India* that came in the Economic and political weekly on 2014 provides proof for this. According to the research conducted by the authors of the article, 47% of the people who defecate in the open do so because they find it “pleasurable, comfortable and convenient”. These people who are



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accustomed to go in the open, find defecating in an enclosed space rather strange. Another puzzling fact is that majority of the members of households with toilets also prefer to go out to defecate, limiting their use to situations when they can't go out. Some rural households, especially in the northern India, have unimproved toilets. These are toilets that do not hygienically separate human waste from contact (latrine over pit or water etc). Constructing toilets with the basic facilities are often considered as a luxury or an unwanted expense by most people in these areas. Electronics and vehicles are mostly given more preference than building toilets.

Toilets and politics in gender

Out of the people without basic sanitation, 355 million are women and girls. Most women without access to a proper toilet go out for defecation when it is dark, in order to protect their dignity. They are often prone to physical attacks and encounters during this. Lack of basic sanitation also affects the menstrual health of women. Because of this, women from the lower communities will have to make do with out dated methods like using ash, hay, dry leaves etc. These insanitary methods lead to health issues like reproductive tract infection, urinary tract infection and in the worst case can cause cervical cancer. Public toilets in most places also repel women due their lack of hygiene and facilities.

The location and the businesses around the public toilets tend to make women feel insecure. The transgender community is one of the most ostracized communities in India. They often live in very areas with limited facilities and mostly do not have access to public toilets. Even though the centre have ruled in favour of the transgenders in using the toilet they prefer, they are often questioned when they do so. They end up going in the open and in unhygienic situations.

Toilets and politics in caste

Manual scavenging is the worst form in which the caste system has penetrated into the social fabric of the country. It is the process of manually removing the excrement and



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sewage from the toilets and drains. This is done or is enforced on the people from the lower rungs of the society. Women from these communities usually clean the latrines and the men clean the septic tanks and sewers. These people do the cleaning work without proper protection, thus exposing themselves to huge health risks. They are often tormented by nausea, headache, skin and respiratory diseases, anemia and diarrhea, to name a few.

Even though manual scavenging is banned in the country through the legislations *employment of manual scavengers and construction of dry latrines (prohibition act), 1993* and *prohibition of employment as manual scavengers and their rehabilitation act, 2013*, it is still practiced in the states of UP, Tamil Nadu, Madhya Pradesh, and Rajasthan. More than the impacts on their health, it is the impact on their social stature that is threatened by this evil process. They are stigmatized by the society and do not get much resources to start their life over. Because of the difficulty to find other employment opportunities, they often go back to doing the same job.

Regressing toilet culture – an alarming situation

The toilet culture in India have regressed to such an extent that it is now felt necessary to make people aware of the need for toilets and the risks and effects of open defecation. The issue of open defecation is too big to be ignored. The politicians and bureaucrats are finally giving the issue its deserved importance and are bringing about initiatives to cope with the same. Reducing the extent of this issue in a country like India is indeed a herculean task. Nevertheless, initiatives and campaigns like the Swachh Bharath abhiyan (SBA) have helped in reducing the open defecation, even if by a small margin. The SBA aims to nullify open defecation in India by the year 2019. The recent Swachhtha status report by NSSO claims that over 90 percent of rural households have toilets of their own, as result of SBA. Even though this claim is too farfetched and there are too many implementation errors in the scheme, it can't be ignored that SBA have encouraged many people to build their own toilets. According to the report by Wateraid, the open



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defecation in India has dropped from 78.3% to 56%. This is a positive result considering the large population of India. Organizations like UNICEF India, Sulabh international and several NGOs are also working towards making India open defecation free.

The Kerala Paradox

Kerala is said to the most progressive states in India and is lauded as the front runner in many development parameters, be it literacy, health, sex ratio etc. When it comes to sanitation, the state been declared as open defecation free. This makes Kerala the third and the largest state to do so. This means that every person in the state is said to have access to basic sanitation facilities.

This said, it can be very well seen from our day to day life that this is not true to its entirety. People still urinate out in the open, affirming the innate hypocrisy of Malayalis. The fact that men don't have any inhibition or guilt for openly urinating in the so called state with highest literary rate is utterly hypocritical. This same attitude is seen in the case of public toilets as well.

Public toilets are important especially in the city areas, as there are a wide range of people passing through the cities in a day. The norms and types of public toilets differ according to the place. Most of these toilets are in bad conditions lacking hygiene, facilities and even safety. According the survey conducted by recycle bin on the condition of public toilets in Trivandrum, some inferences that were in stark contrast with the so called superior toilet culture was obtained. The supply does not necessarily meet the demand of the state.

The most puzzling thing is not about the condition of these toilets or open urination, but the sheer indifference that the people have towards these issues. That men will urinate in the open if there are no toilets available, is sort of an accepted norm in the state. The standards that we are conditioned to are so low that even the minimal of the facilities will make us believe the toilet is usable.



Toilet tales

TOILET TALES – Campaign exploring the toilet culture of Kerala

നബ്രത്തിലെ ശുചിമൂരികൾ കണ്ണു തെളിയി യുവ ആർക്കിടെക്ട്സ്‌ലോറ്

അതിവിചിത്രം, അവിശ്വസനിയം



FINDING GOOD TOILETS

Architect Ganga Dileep speaks about the Toilet app she has helped develop and how it is expected to help the public gain access to good and safe toilets in the near future

Princy Alexander

Hrchitect Ganga Dileep and her junior associates were travelling through Chennai in 2016. During the evening, they found themselves suspended on public infrastructures including railway stations and bus depots, and they constatnly heard the sound of people using the toilet. Ganga, who was aware of the notion that many places in Tamil Nadu were not very hygienic, was that shocked to find that the same was true in the capital city. "This was the complete opposite to the situation back home in Kerala. Our toilets are one of the best in the world and we are very good at keeping it clean," she said.

This discovery brought the founder of the 'Recycle bin' campaign, Thiruvananthapuram where she and her firm, who were approached by the Thiruvananthapuram Corporation, started studying the public toilets in the city in 2017.

We discovered that most of the toilets were not even gender friendly. Though there is explicit separation of men and women toilets, it is clearly

gender sensitive. Women have to walk through open public urinals to enter their toilets," Ganga said.

The architect says that the positioning of the toilets in public spaces also show how authorities are least bothered about the placement of the toilets. They are always placed in the back or some place where people can't see it immediately. Daily monitoring of toilets is made mandatory by authorities, where reviews about the kind of toilets and its conditions which is what we are trying to do through our app," said Ganga.



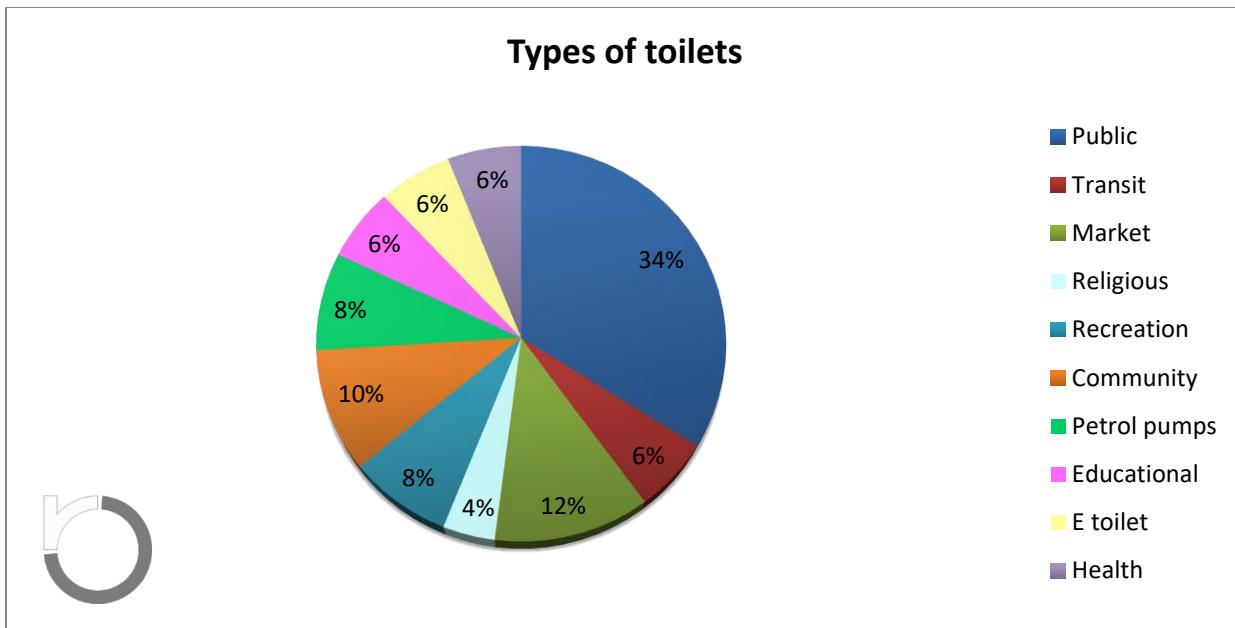
Kakkoos app

True to its name, the Kakkoos app helps users find toilets near their location. Right now, we have documented the majority of public toilets in the capital. We invited volunteers for the project and they send us a report on the condition about space, the lighting in the bathroom and whether it's locked or unlocked. We plan to make all this information public in the coming days," said Ganga. She has now turned to document the rest of the toilets across the state in the near future.

On November 2017, Recycle bin launched a campaign to study, quantify and enhance the toilet culture of the Kerala. The campaign intends to study the situation of public toilets in Trivandrum and to generate a new design paradigm for public toilets that is sensitive to and inclusive of people from all walks of life. The uniformity in the social construct of the state ensures that the pattern or the toilet language identified in any one place in Kerala can be applied throughout the state.

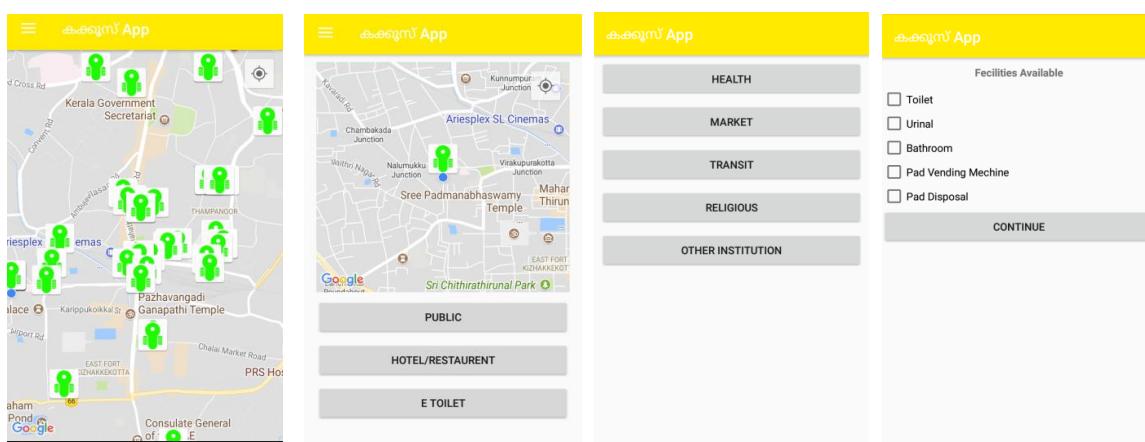
As a beginning phase to the project, public toilets throughout the city were visited and documented. Various types of public toilets like public comfort stations, transit, religious, community and recreational were studied. A total of 50 toilets were surveyed. From this a quantitative inference about the condition of the public toilets was obtained. After the survey, it was inferred that majority of the toilets in the city have insanitary conditions.

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Kakkoos app

In the wake of the campaign for cleaner and accessible public toilets, the kakkoos app was launched. The **phase I** of the app (which is currently available), has features that allow the user to locate and map the toilets. The user can map a public toilet specifying its typology, facilities etc. The app can also be used for locating the mapped toilets in the vicinity.



Kakkoos app

The **phase II** of the app is intended to have the following features:



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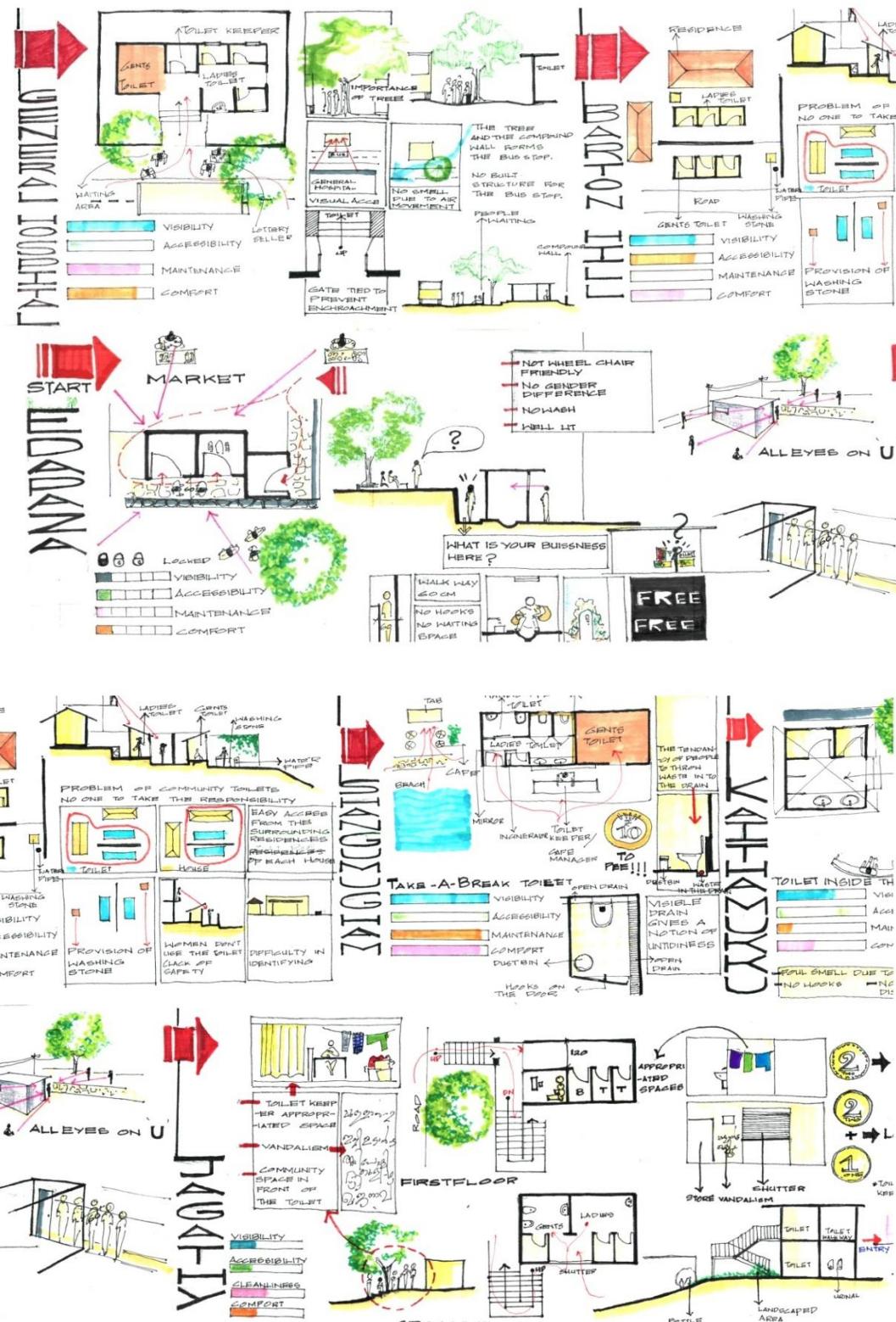
- Locating the nearest toilet and showing the routes to get there.
- Rating the toilets according to its accessibility, maintenance, hygiene and safety.
- Separate flags according to the various categories like *public, e toilets, transit, petrol pumps, health, restaurants, schools and other institutions*. This makes it easier for locating the toilets.
- A feature for locating transgender and gender neutral toilets, along with the existing male and female separation.
- The app currently does not allow the user to fill in the data about the male and female toilets at the same time. One has to locate the toilet twice to include the data about both the facilities. All these should be confined to a single sheet for ease of usage.
- All the data entered about a toilet be visible when it is selected
- The entered data should be made editable. This makes it possible to keep track of the conditions of the toilets.
- A photo gallery for each toilet which can be updated monthly.
- Adding remarks about a toilet.

A **phase III** is envisioned in which the app will be extended to other cities of the state as well. It also aims at transforming toilets into a social platform for toilet related activities, predominantly sustainable activities like the ongoing sustainable menstruation campaign.

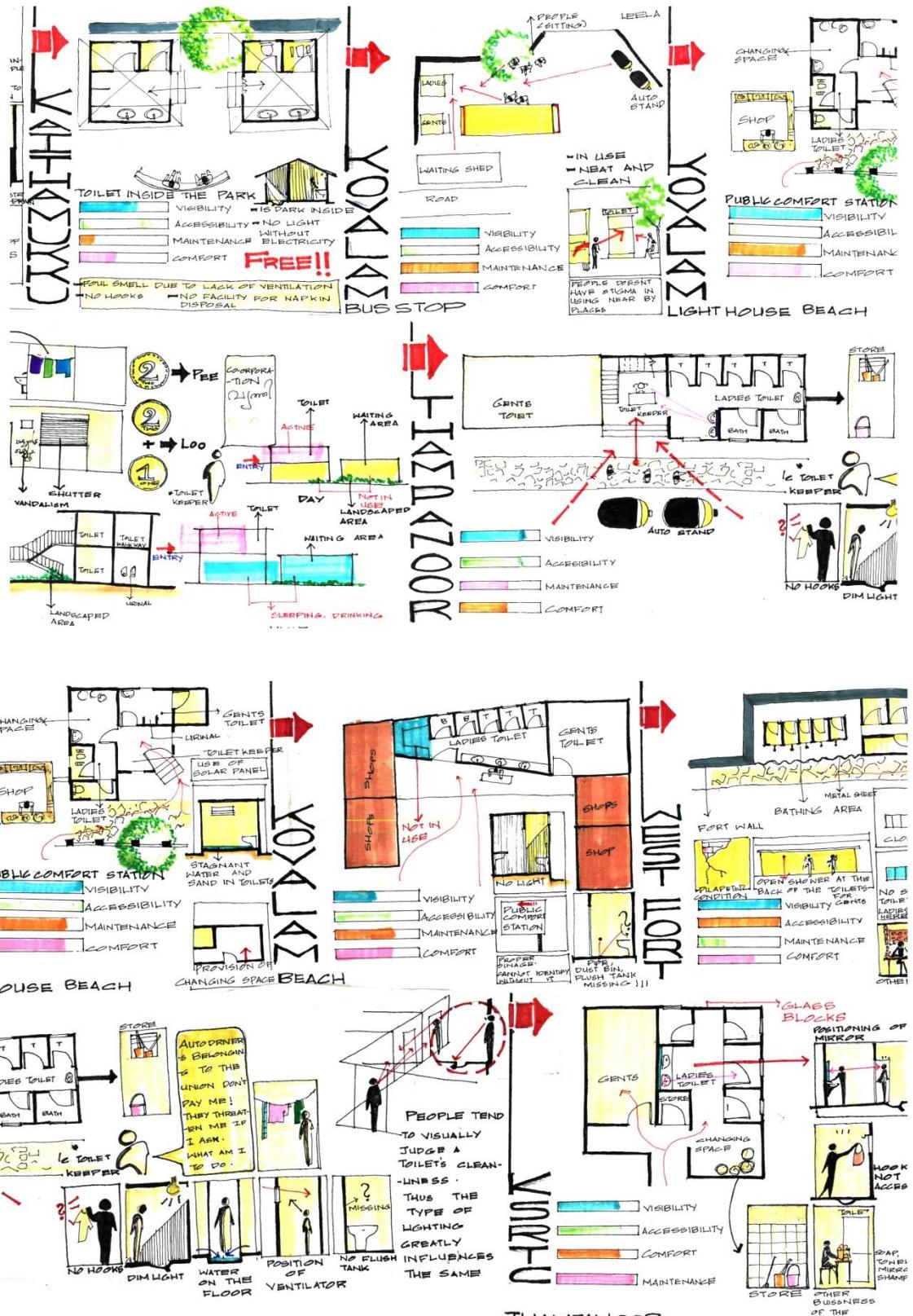


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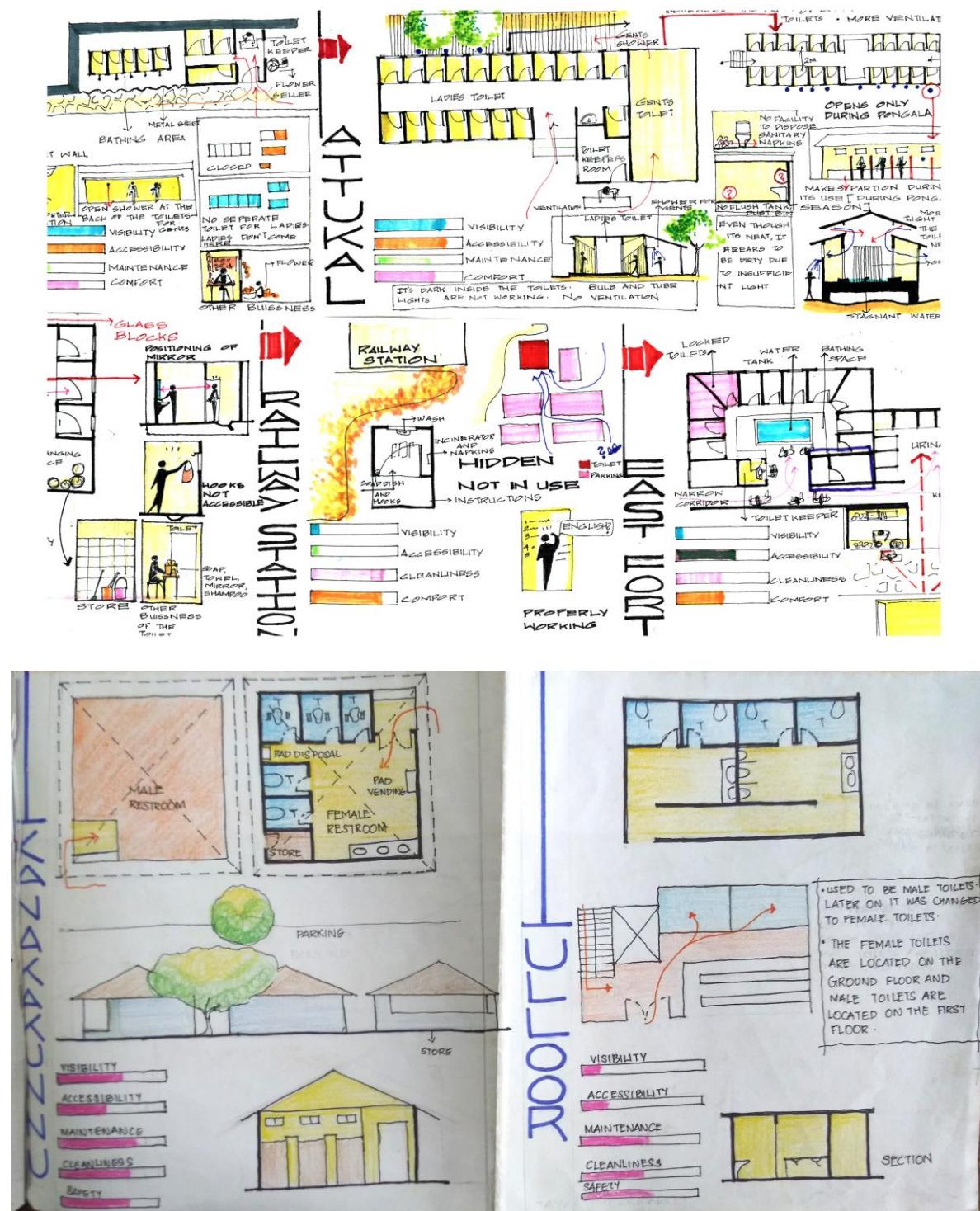
Documentation



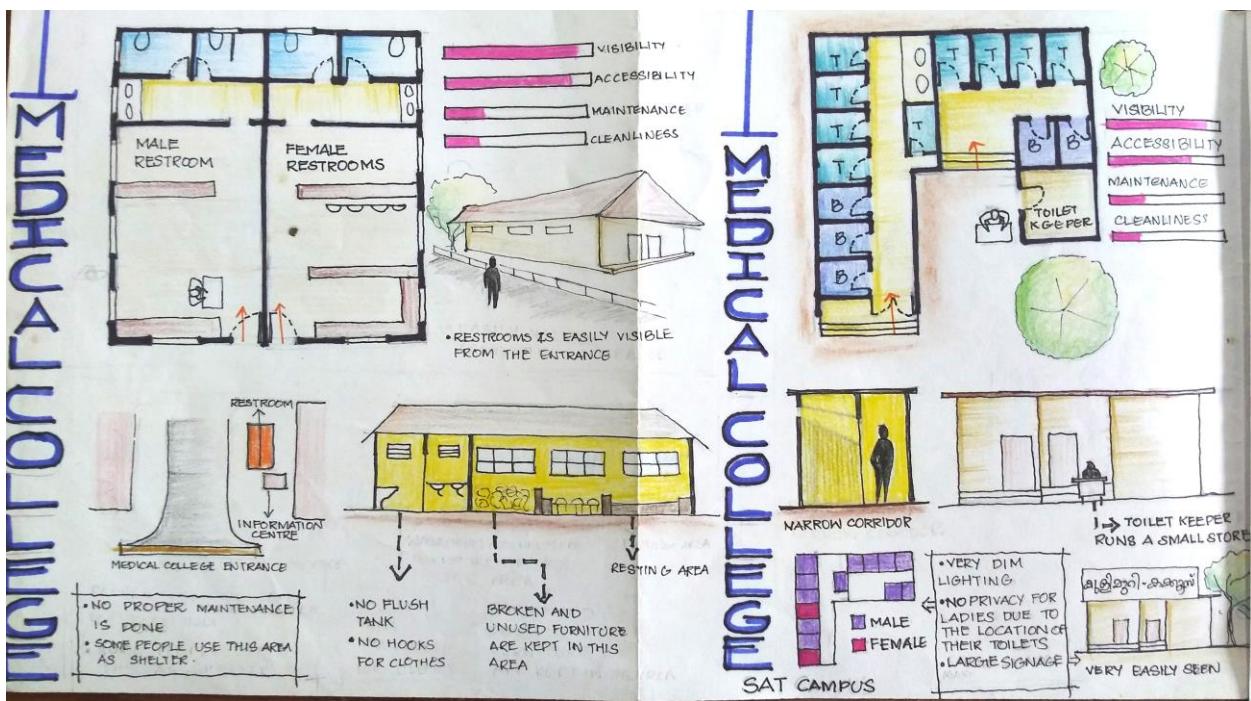
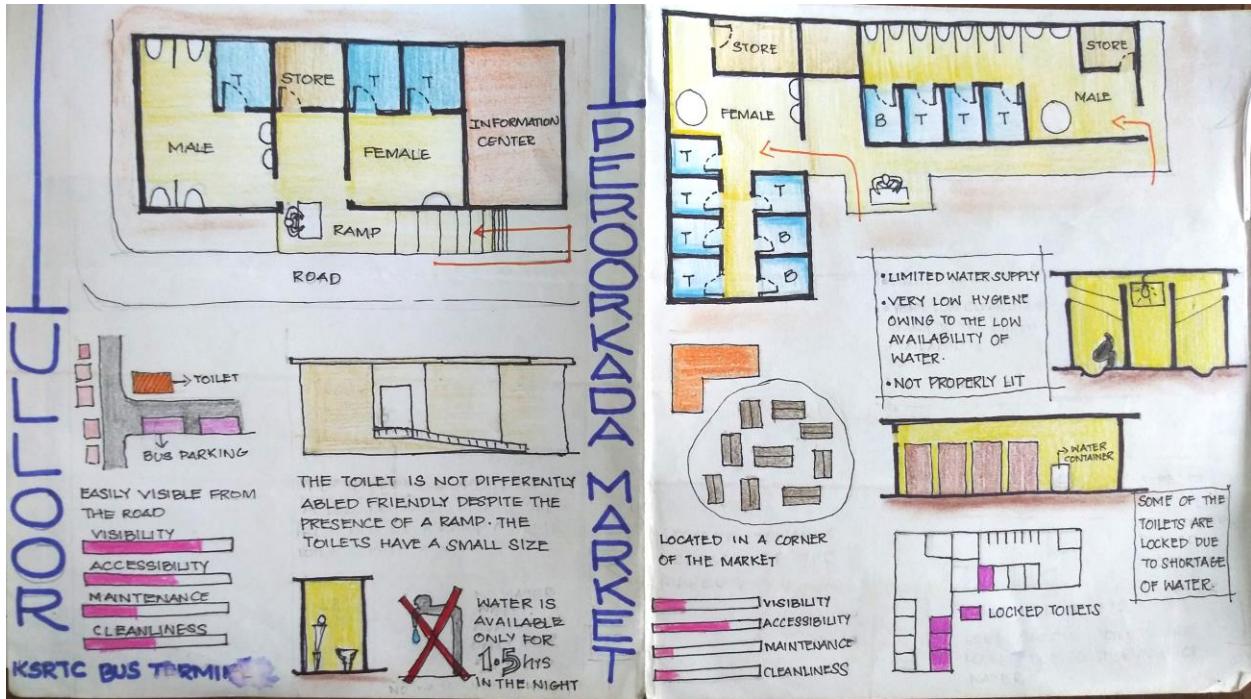
Toilet tales



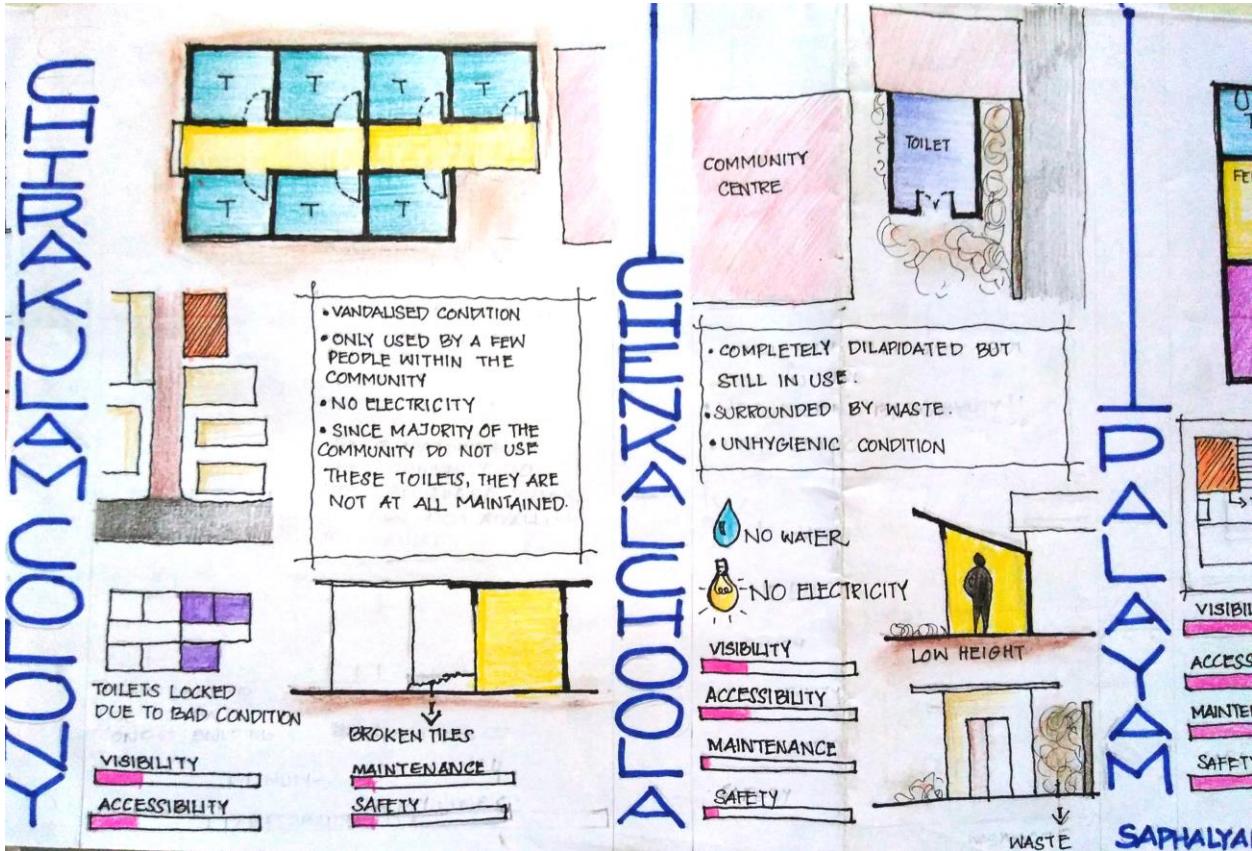
Toilet tales



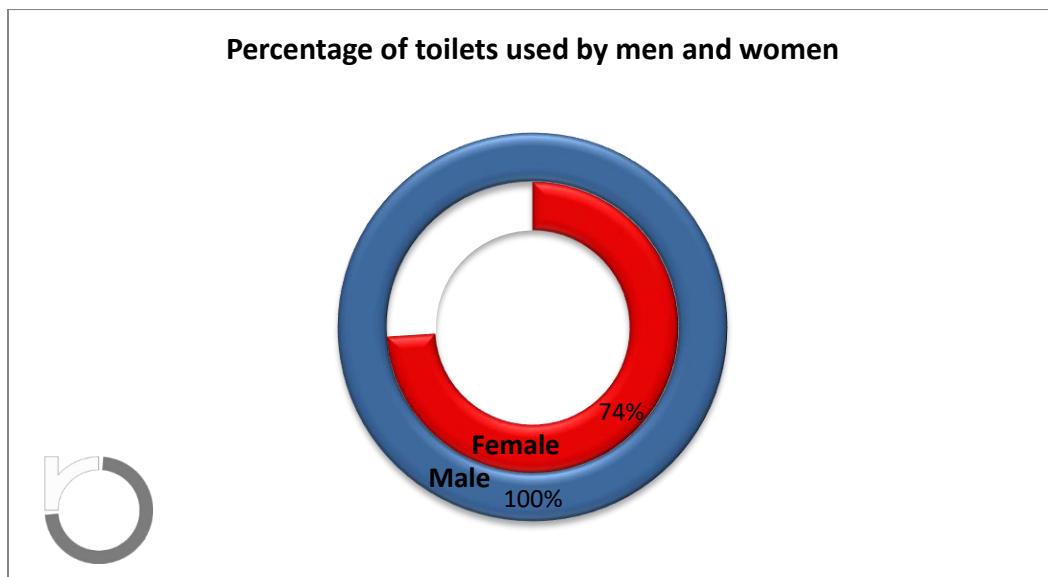
Toilet tales



Toilet tales



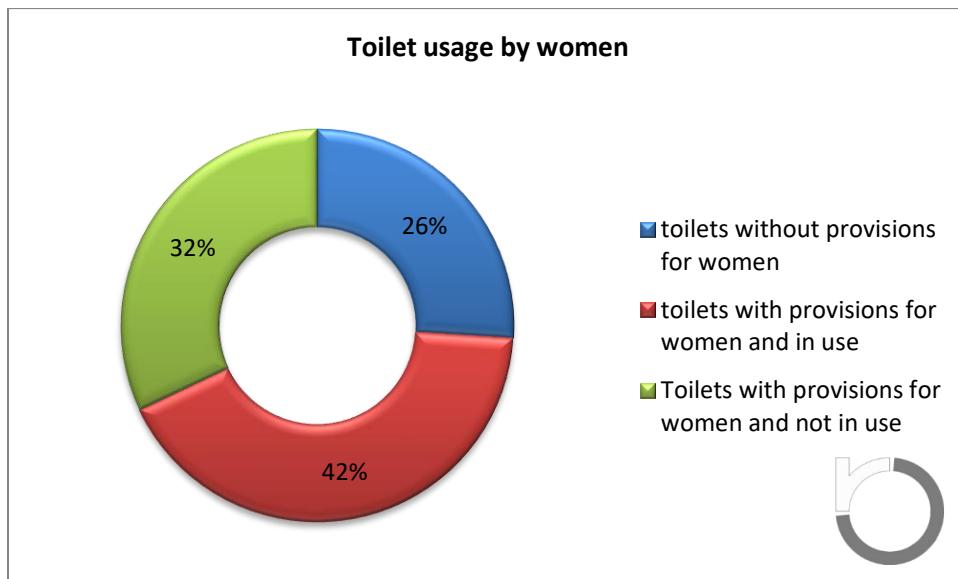
Readings of the documentation



Out of the 50 toilets surveyed, only 37 of them are usable by women while men can use all 50 of them.

- ***Female usage***

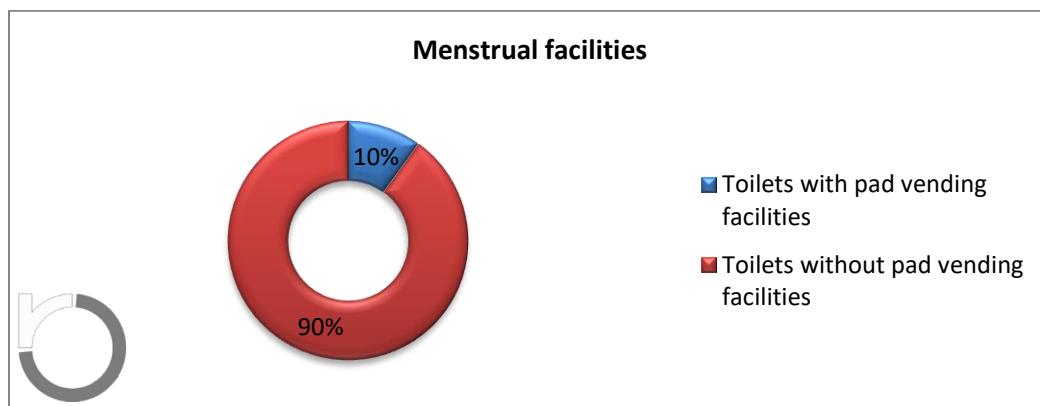
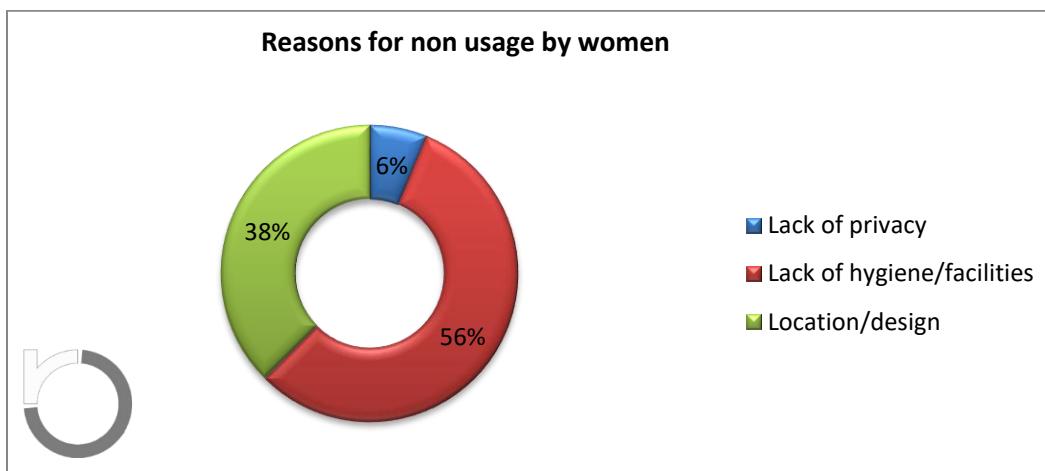
Out of the toilets surveyed, **26%** (10 toilets) do not have any provision for women to use. Most of these toilets are the public comfort station by corporation. Even out of the rest 40 toilets, most of them are not used/ used rarely



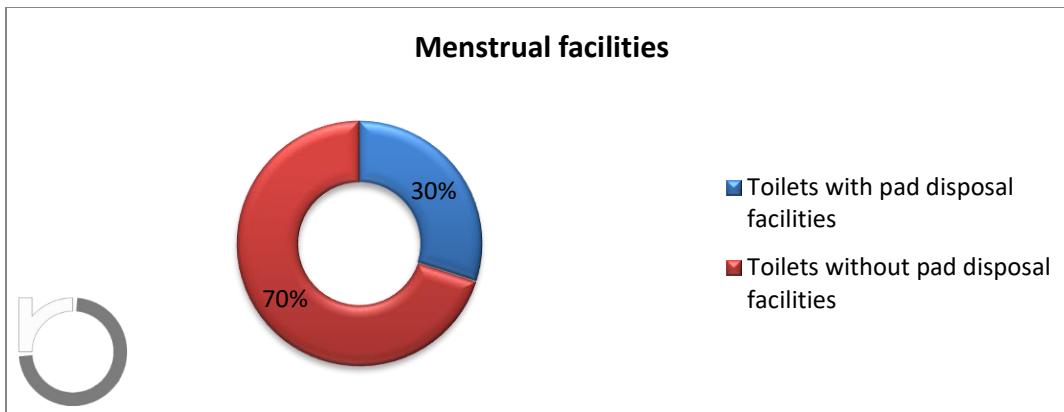
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Reasons for non usage-

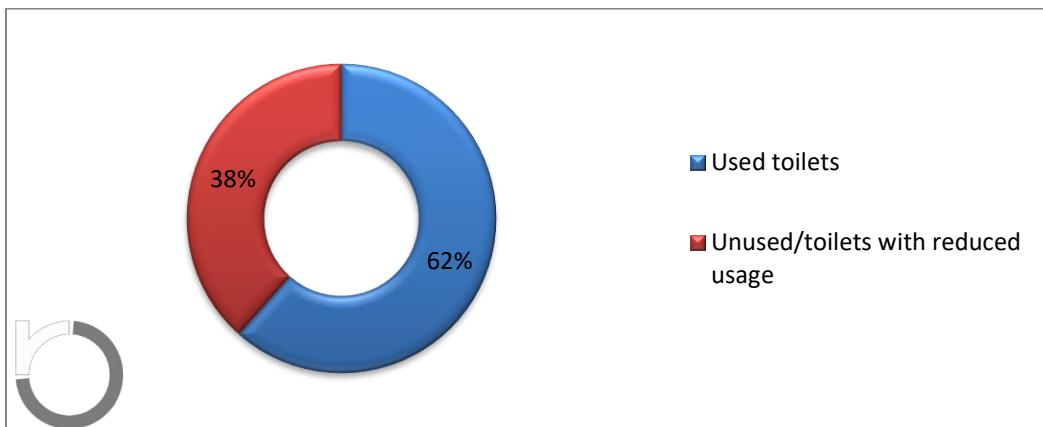
- i) Privacy
- ii) Hygiene
- iii) Location – Location is another reason why women refrain from using public toilets. If the toilet is placed in a secluded location (Public comfort stations in Sreekandeshwaram and Thycaud), then they will hesitate to use these due to safety reasons. This is also the reason why women mostly depend on restrooms in transit stations (KSRTC terminals and railway stations). Another location that makes women vulnerable are areas which predominantly have males like autorickshaw stands (Sulabh in Thampanoor and comfort station in Chalai).
- iv) Facilities during menstruation – One of the difficulties that women face during travels are the lack of proper disposal provisions for sanitary napkins. Due to this, they tend to shy away from changing the napkins. This in turn causes many health issues. Often this issue is very conveniently ignored in most public toilets.



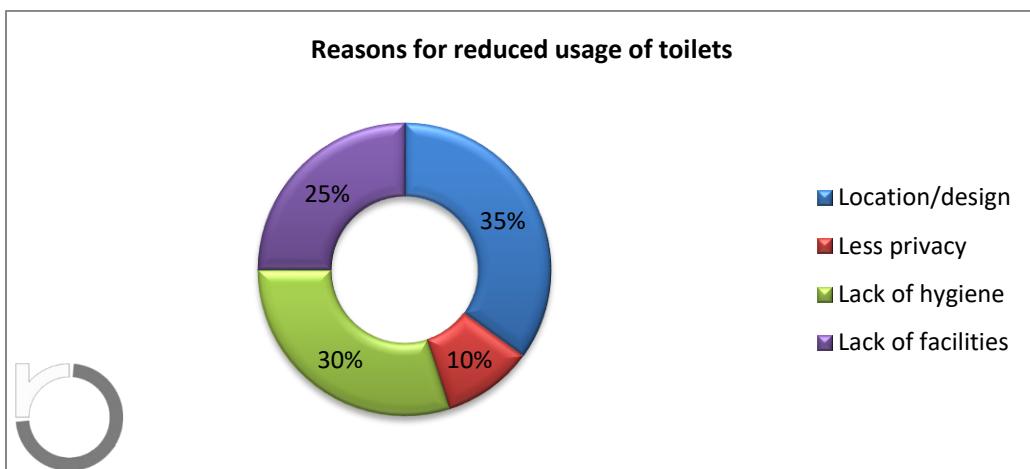
Toilet tales



- **Total usage (by men and women)**



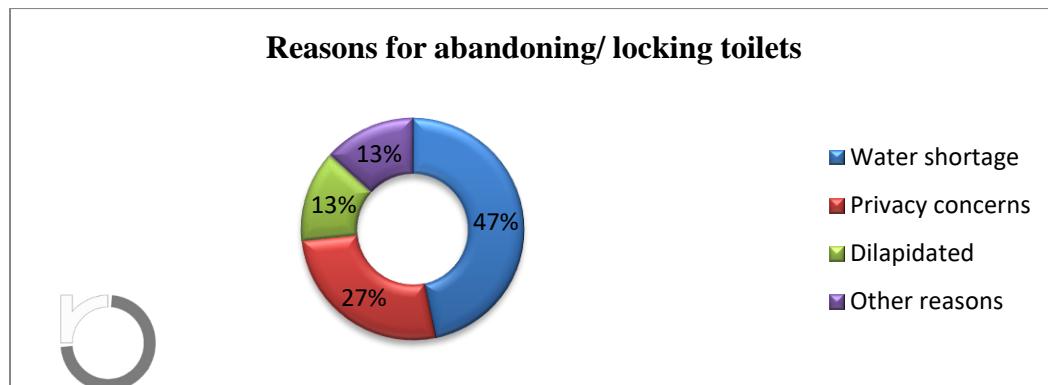
Out of the 50 surveyed toilets, 19 toilets are either have a reduced usage or is not used at all. The reason for this is their location, less privacy, lack of hygiene and facilities. Most of the toilets are unused or used moderately due to the lack of hygiene. This again could be accounted to lack of timely monitoring and maintenance, behaviour of the people using it, dearth of basic facilities and also sheer ignorance.



Toilet tales

- Locked or abandoned**

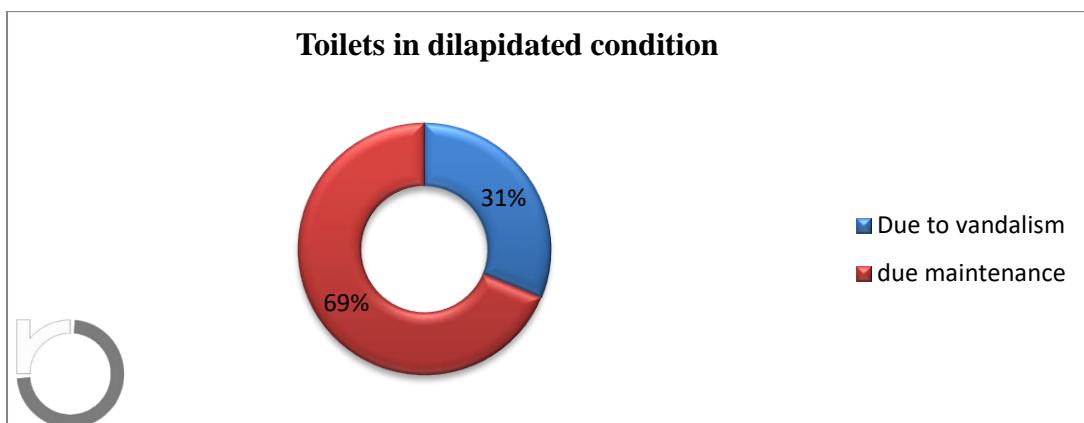
There are 26 toilets either locked or abandoned from the total of 330 toilets. These are locked due to water shortage, privacy concerns, dilapidated conditions or unspecified reasons.



- Dilapidated toilets**

Toilets could be dilapidated either due to vandalism or due to the lack of proper maintenance. Out of the 50 toilets, 11 are in dilapidated condition. Public property can be vandalized in the following ways:

- i) Stealing- Stealing of gadgets and fixtures are the most prevalent type of vandalizing seen in public toilets. Some toilets have light fixtures missing, some have missing flush tanks and even missing commode.
- ii) Attacking- Destroying the public facilities and rendering them useless is a very common mentality in India. Damaging plumbing, fixtures and purposefully making toilets filthy have made some toilets either less used or defunct.
- iii) Graffiti- Graffiti and lewd writings on the walls of the toilets often bar people from using these toilets especially women.

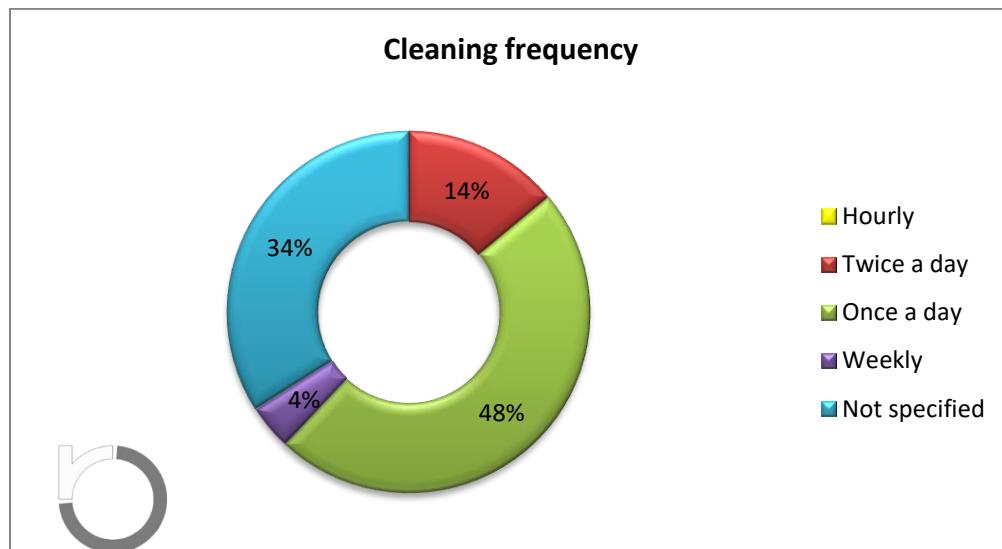


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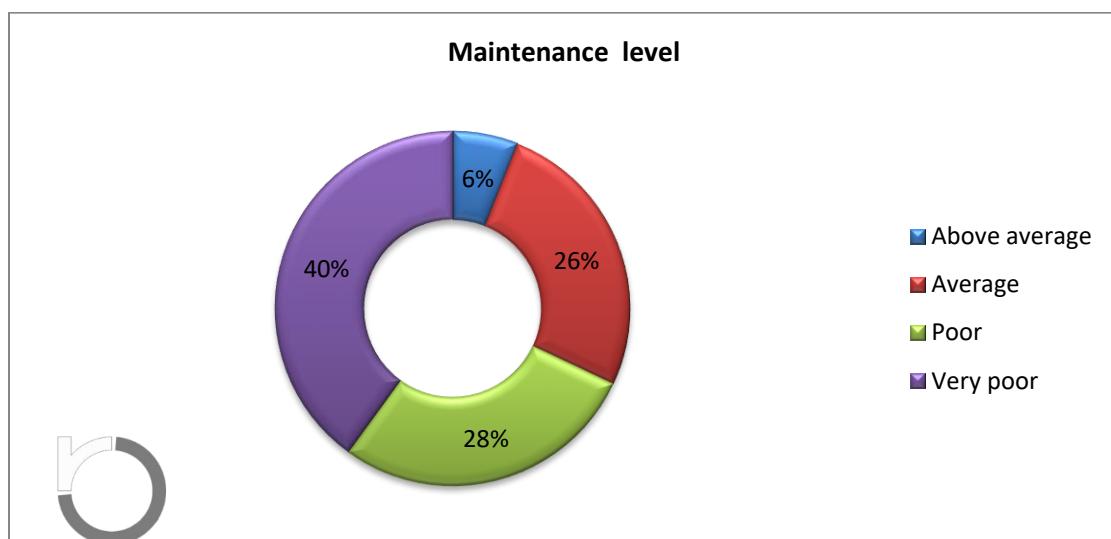
- **Hygiene**

- i) **Disinfecting**

Disinfecting of toilets should be done daily and the frequency of cleaning depends on its usage. If the toilet has a higher usage (for eg, in educational institutions, railway stations, hospitals etc) there should be hourly cleaning. Every public toilet should be cleaned at least twice a day. A proper record should also be kept regarding the number of times a toilet is cleaned. However from the survey it was inferred that most of the public toilets do not have a proper protocol for cleaning.



- ii) **Maintenance**



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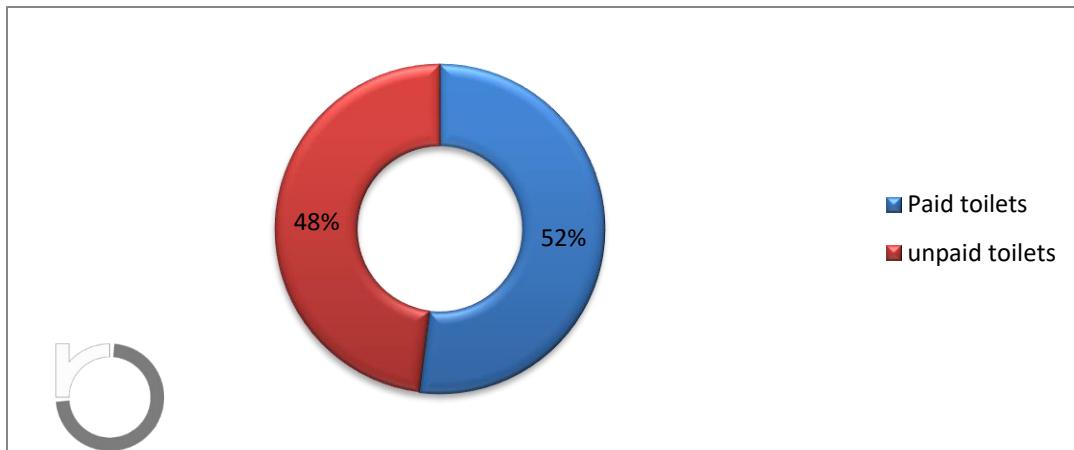
The maintenance level of the buildings can be categorized according to the following criteria.

Maintenance level	Criteria
Above average	Building in good condition
	Proper electric connection and water supply
	Fixtures are intact
	Daily cleaning
Average	Building in average condition
	Proper electric connection and water supply
	Fixtures are present
	Regular cleaning
Low	Building in mediocre condition
	No proper water supply or electric connection
	Fixtures missing or not proper
	Cleaned according to use
Very low	Building in dilapidated condition
	No electric connection and proper water supply
	Missing fixtures
	No timely cleaning

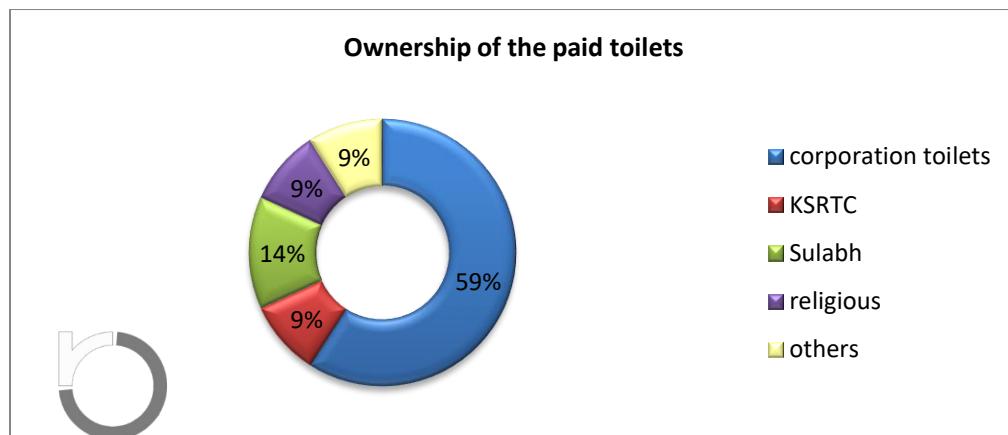
Paid toilets and maintenance

Out of the 50 surveyed toilets, **26 are to be paid an amount for their use**. This amount is in turn supposed to be used for the maintenance of these toilets. These include the public comfort stations by corporation, the sulabh comfort stations and toilets by KSRTC. The income from this goes to the maintenance of the toilets. The unpaid toilets in the survey are mostly community toilets and private ones.

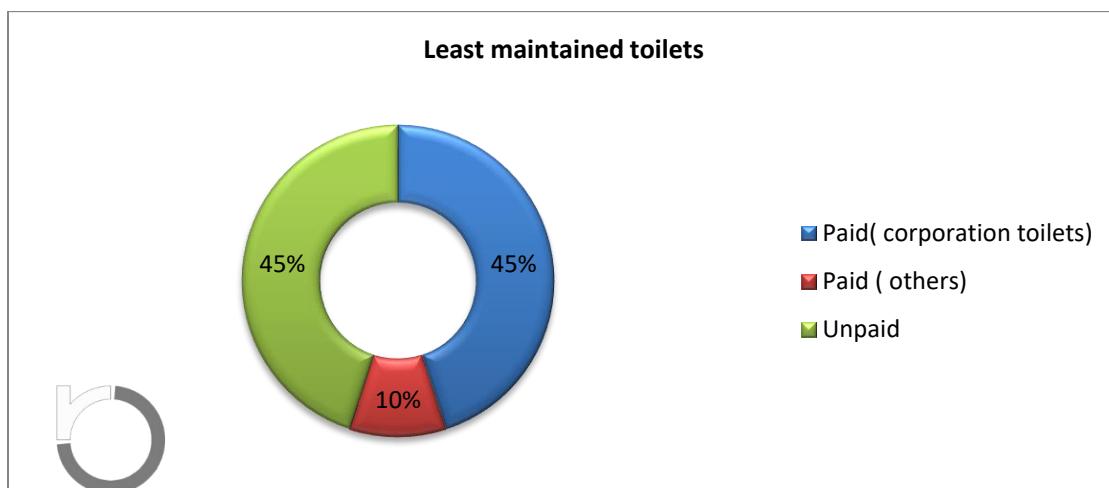
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The ownership divisions of these paid toilets are as follows:



From the maintenance level graph, it can be seen that a whopping 68% percentage of toilets have low maintenance. Even in this, 40 %(20 toilets) of the toilets are very poorly maintained.

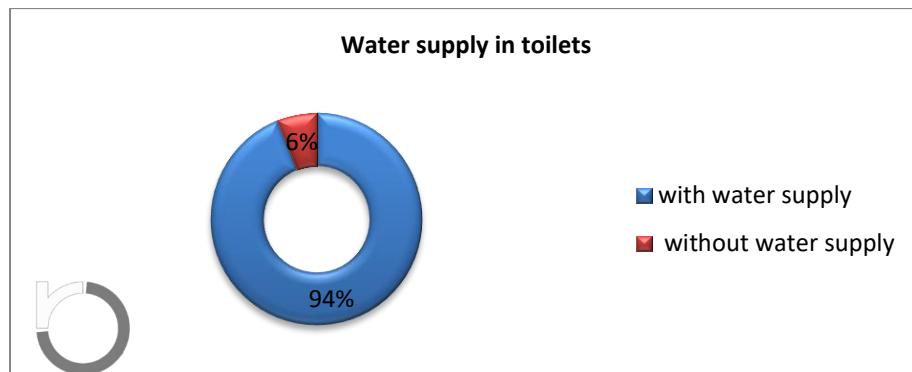


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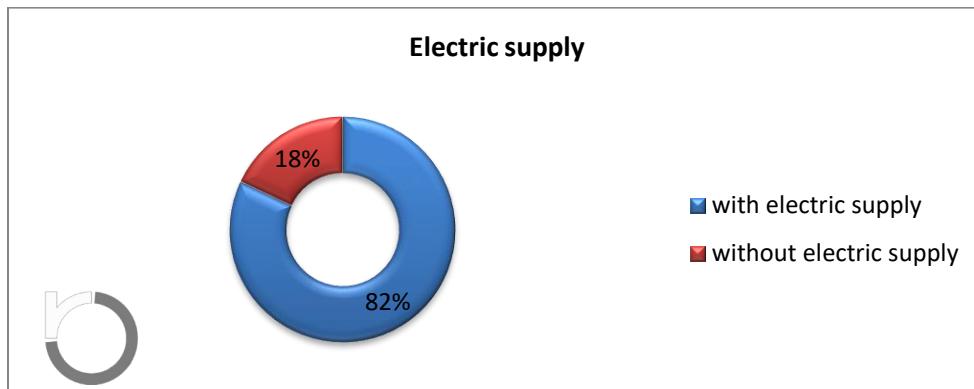
As seen, **55% of the least maintained toilets are paid**, which brings us to the conclusion that the money (supposed to be for the upkeep of the toilets) are not necessarily being used for the same.

- ***Infrastructure***

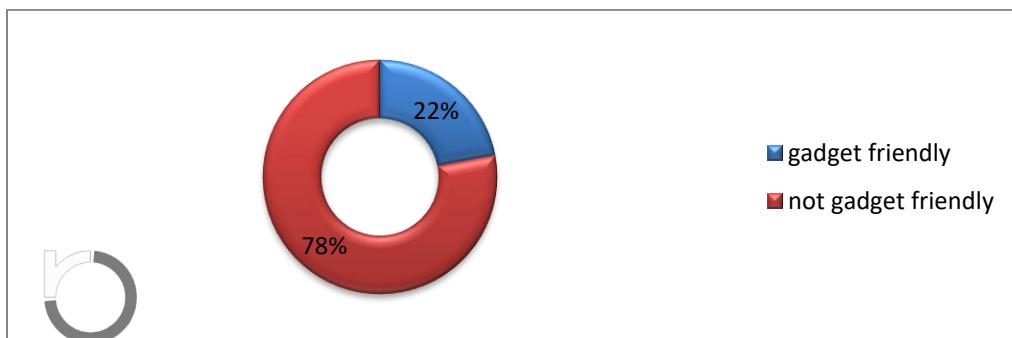
- Water supply*- majority of the toilets have continuous water supply. Those without water connection depend on the corporation water.



- Electricity*

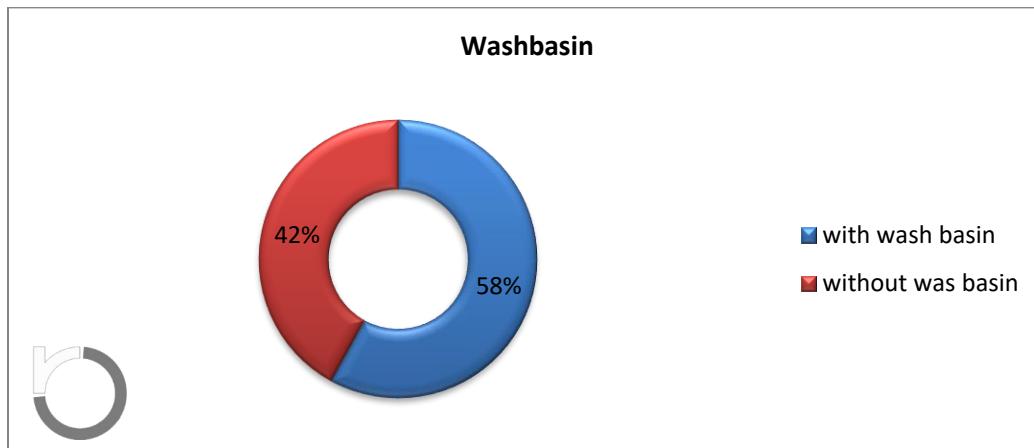


- Gadget friendly*

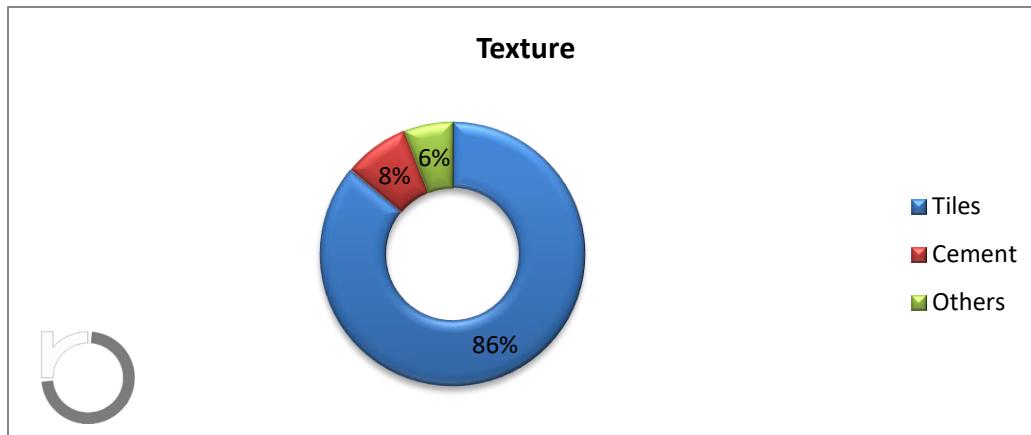


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iv) Wash basin

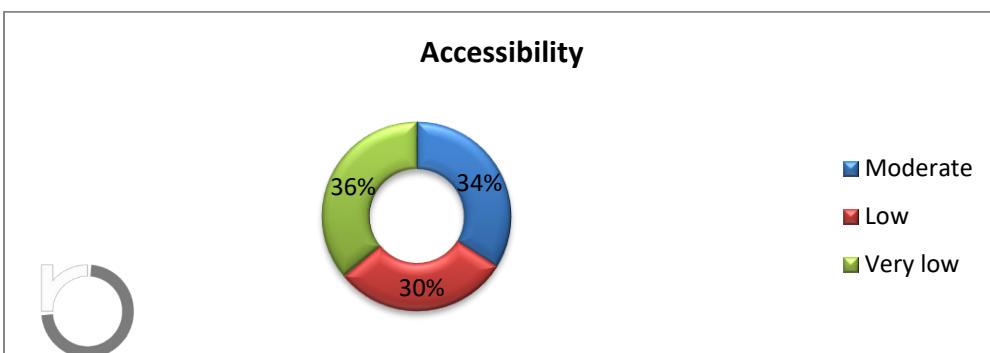


v) Texture



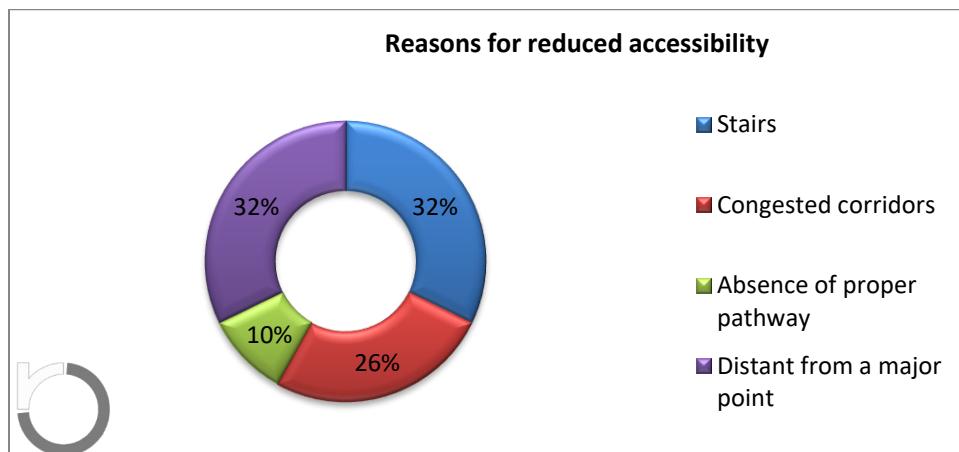
Texture or material plays an important role in the hygiene perception of the toilet. Materials like cement form mould easily when exposed to water. This will reduce the hygiene of the toilet (Public comfort station in south fort and Manacaud) It is also harder to clean than tiles.

- *Accessibility*



Toilet tales

Accessibility to toilets is often an overlooked aspect. For the toilet to be useful to all it should be located at grade or the access should be provided through ramps. Stairs should not be provided as an access. However in the survey, it was found that 66 % of the toilets have limited accessibility.

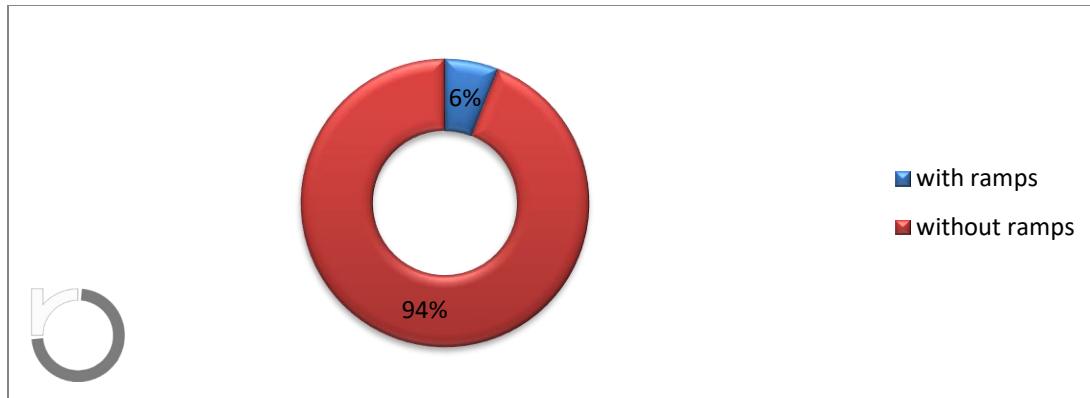


The major reasons for the reduced accessibility are because of stairs and also because of the distance in reaching them from a major point. The community toilet in Paund colony has a lower accessibility as it is located at a higher level than the colony. The sulabh toilets inside and outside the Napier museum also has the same issue. Despite being maintained and usable, the toilets in saphalyam complex and the supermarket in ulloor have a lower accessibility.

- ***Differently abled friendly***

Almost all of the public toilets are not differently abled friendly. There is a notion everywhere that the presence of a ramp automatically makes a space differently abled friendly, which is hardly the case. Among the surveyed toilets had only 5 of them had proper ramps (*bus terminal in Ulloor, e toilet in museum,fine arts college, SP fort hospital and railway station*), which is merely used as an alternative for providing steps and not for the advantage of the differently abled. The e toilet in museum has a ramp and handles for assistance but the toilet itself is very congested.

Toilet tales



- ***Child friendly***

None of the toilets surveyed are child friendly.

- ***Transgender toilets***

Even though Kerala flaunts its pro transgender policies and outlook, when it comes to the case of public toilets, they are very conveniently ignored. The gender segregation in these toilets is limited only to male and female. Not even a single toilet assigned for transgender people were identified during the course of the research.

Toilet debate

Usability of a toilet can be to an extent enumerated by factors such as hygiene, maintenance, availability of facilities etc. These quantifiable parameters however are not the only ones to be considered while discussing the working of a public toilet. The social factors of these toilets are as important as the infrastructure, as it is intended to cater to a larger and heterogeneous user group. It was in order to ascertain this sphere of public toilets, the toilet debate, one of the principal parts of the campaign, was held.



Toilet tales

The toilet debate had participants from different strata of the society. Architects, urban designers, transgender activists, differently abled and psychologists took part in the discussion, each and every one of them adding a new layer to the discussion. Various other events like photography, poster making and logo design were also organized in association with it.



The plight of transgender people was brought to light with the debate. They are one of the most stigmatized groups of people within the social fabric of the country. They have limited to no access to the public amenities. For them, public toilets are the only option available, the inaccessibility of which is a violation of their human rights. The existing public toilets, which are segregated into male and female, are mostly of no use to them as their identity and dignity gets questioned. This is even worse for trans women. Due to these they either end up holding it in or going in the open, both of which creates health issues.

Almost all public toilets in the state are insensitive and insufficient for the use of differently abled people. The main reason is the limited accessibility. The ingrained notion with everyone is that the toilet is something that should be placed in a less prominent area. Many public toilets are located in desolate corners or in the leftover space. These toilets would not have provisions for a comfortable usage by differently



Toilet tales

abled people. Most public toilets do not have ramp access and are not gadget friendly either.

An important concept pitched in the discussion was the need for gender neutral toilets. One argument in this direction was that while people do not have any issue using the toilets in trains, which are not segregated according to the gender, then is it necessary that there be gender segregation in other public toilets. The need for more sensitive and inclusive public toilets came as a strong take away from the debate.

Directions

There are three main aspects that dictate the proper functioning and success of public toilets- **Public behavior, toilet character and governance**

- ***Public behavior – The need for toilet literacy***

Being one of the frequently used public spaces, a public toilet can provide a clear testimony about the culture and mindset of the people of that region towards public property and wealth. If that is the case, then the image the public toilets in Kerala give off is a rather shady one. One can very easily observe that at the crux of this issue is the distorted civic sense of the people. On one hand we preach in great lengths about personal hygiene while on the other we show total disregard to the public amenities. A major reason for this sort of behavior is the lack of awareness and training for proper toilet behaviour. A child, who uses a toilet with a lack of basic facilities like water and hygiene, grows up into an adult who finds it is not his duty to keep the toilet clean for others to use. In order to shift this way of things, children should be taught proper toilet behaviour from a young age and at school levels as well. Toilet literacy campaigns can be organized in schools and make them aware and responsible about using the public infrastructure.

- ***Character of the toilet- Toilet manual***

When compared to most other districts of the state, Trivandrum can boast to have a larger number of public toilets. But that is as far the credits will go. When one



Toilet Tales



Toilet tales

looks at these toilets, it can be found out that these are built just for the sake of having that physical entity and not considering its usability. The locations of some of these toilets are not very people friendly. Some of these are not easily visible while the others are not easily accessed. The designs of some toilets compromise the privacy of the user. Most of the developed and even some of the developing countries have proper guidelines for constructing public toilets. In India we don't have any well-defined guidelines for toilet design. Hence it is vital that there be some proper guidelines to designing public toilets that make them effective. The toilet manual should have specifications for location, size, ventilation, lighting, texture and essential toilet gadgets. It should also be contextual, respecting the character of the location.

- ***Governance – Toilet protocol for proper maintenance***

It is obvious that the lack of civic sense among the people is one main reason for the detrimental state of the public toilets. An equally culpable reason is the utter apathy of the concerned officials towards the state of these toilets. For any public venture to work efficiently and in a proper manner, it is imperative that there be timely monitoring of them. The case in hand is however the opposite. The corporation toilets are run on tenders. The incomes from these are to be used for the maintenance of these toilets. But that is not what actually takes place. Once the operation of the toilets is handed over to someone, no monitoring or maintenance is done. Due to this, these toilets are managed according to the will of the toilet keepers and many unsolicited businesses crop up in them. Proper governance and regular monitoring schemes should be implemented for the successful and effective operation of these toilets. A standard toilet protocol should be implemented for the proper monitoring of the toilets. This should include details regarding cleaning frequency, sequence of cleaning, usage of disinfectants, basic cleaning equipment and also the expected degree of performance. Only with proper monitoring and timely maintenance can the public toilets be deemed as effective.

