AMERICAN COLLEGE OF TECHNOLOGY DEPARTMENT OF BUSINESS STUDIES MASTER OF BUSINESS ADMINISTRATION PROGRAM



A CASE STUDY OF PUBLIC TOILETS FROM THE PERSPECTIVE OF USERS IN THE CITY OF ADDIS ABABA

A Project Submitted to the Department of Business Studies of
American College of Technology
As a Partial Fulfillment of the requirement of the Award of
Master of Business Administration

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July, 2024 Addis Ababa, Ethiopia A case study of public toilets from the perspective of users in the city of

Addis Ababa

DECLARATION

I, Addisu Seyoum hereby declare that a project work entitled a case study of public

toilets from the perspective of users in the city of Addis Ababa submitted to The Department

of Business Studies of American College of Technology in partial fulfillment of the requirements

for the award of the Master of Business Administration is a record of original work done by

me during 2024 G.C academic year under the supervision and guidance of **Dr. Yirgalem** and it

has not formed the basis for the award of any Degree/Diploma/Associate ship/Fellowship or

other similar title of any candidate of any university.

Addis Ababa

Date: July 12th, 2024 G.C

Signature of the Candidate

CERTIFICATE

This is to certify that the project work entitled a case study of public toilets from the perspective of users in the city of Addis Ababa submitted to the Department of Business Administration, OMBA Program in partial fulfillment of the requirements for the award of the Master of Business Administration is a record of original project work done by Addisu Seyoum during the period 2024 G.C academic year under my supervision and guidance and the thesis (a case study) has not formed the basis for the award of any Degree/Diploma/Associate ship/Fellowship or another similar title of any candidate of any University and it complies with the regulation and accepted standards of the College.

Name of Advisor:	
Signature:	
Date:	

APPROVAL SHEET

AMERICAN COLLEGE OF TECHNOLOGY DEPARTMENT OF BUSINESS STUDIES MASTER OF BUSINESS ADMINISTRATION PROGRAM TITLE OF PROJECT

A case study of public toilets from the perspective of users in the city of Addis Ababa

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Executive summary

Public toilets are essential infrastructure to guarantee the right to sanitation in public spaces and, in more general terms, the right to inclusive and sustainable cities. Moreover, since the equipment has a direct user interface, it is important to understand their demands and needs. Given this, the present research aims to understand the perspective of public toilet users on the City of Addis Ababa, Ethiopia. For that, observations and semi-structured interviews were carried out with different public toilet users. In addition, different NGO and INGO journals and other related documents were used as a secondary database for understanding user's experience of COA (City of Addis Ababa) toilets. The analysis made it possible to identify aspects related to availability, quality (health and hygiene), security, and accessibility. Collected data showed how the contradictory choice of whether or not to use the toilet was directly related to the health and conservation of the urban equipment and interfered with social and leisure prospects. On the whole, the importance of the user's perspective was highlighted in this study with emphasis on

elaborating adequate urban planning with regard to health, sanitation, and accessibility issues.

1. Introduction

Public restrooms are crucial urban infrastructure for upholding the human right to sanitation, which needs to be guaranteed outside of the home in all contexts. In actuality, a lot of people live in unusual places (like jails) or outside of their houses for the majority of the time. However, little is currently known about the state of sanitation in places that are not homes. Concerns about cleanliness outside of the home, including in workplaces, schools, hospitals, clinics, prisons, and public spaces, were highlighted in a recent different health institutions.

The paper concentrated on public spaces that are defined as places for social interaction and inclusion, despite the fact that there are many other areas of life that may be studied in relation to cleanliness. The text states that these areas should guarantee human growth, foster social inclusion, and advance human health and well-being. According to this viewpoint, the research (case study) highlights the marginalized populations that are especially affected by a shortage of restrooms in public areas.

Street workers and homeless peoples are one of a good example of a vulnerable social group that was mentioned. The absence of restrooms has been identified by these workers as one of their primary concerns. There aren't enough hygienic options available, these users can end up with health issues or perhaps have to quit their jobs. Given that a large number of them work for themselves, this fact may cause financial loss. When it comes to homeless individuals, poor sanitation might exacerbate the prejudice against them stemming from their poor hygiene. These users may also be reprimanded for looking for alternate locations, including malls, shops, or restaurants, where they can obtain water or restrooms.

Another important group of users are women and girls are maybe also neglected when there are risky toilet solutions in public places, as several studies have shown how women use toilets more frequently than men and have particular physiological needs.

Finally, another public group harmed by inadequate sanitation solutions in public spaces is people with physical disabilities or mobility difficulties, like the elderly. The lack of appropriate solutions for their needs limits their ability to use public spaces and to engage with social activities.

According to human rights to sanitation, to adequately serve all people, five elements of the normative content must be attended to: (i) availability, an adequate number of facilities

according to the public attending the public site; (ii) accessibility, equipment available to all on an ongoing basis considering their security; (iii) affordability, access not limited for the use of people independent of their socio-economic status; (iv) quality and safety, no damage to the user's health; and (v) dignity, acceptability, and privacy, ensuring that all users' demands are attended to without embarrassment or insecurity.

Research has shown public toilets as an important infrastructure for sustainable, accessible, and inclusive cities. The provision of these facilities was also shown to be crucial for public health and cleanliness of the cities since, in the absence of toilets on the streets, people urinate on walls and walkways.

As can be seen, there are different users of toilets in public spaces and this diversity and vulnerabilities must be taken into account when making decisions and developing a public policy for attending to all needs. Additionally, the public perspective is an important tool to identify demands and problems in the provision of these services, as public toilets are the equipment of direct user interface.

To date, scarce literature is available on linking human rights to sanitation and public toilets from the user's view. In Ethiopia, there is no federal law or regulation that makes the public toilets provision compulsory. It is the municipality's responsibility to determine this issue. But there is a guideline prepared by Ministry of health Ethiopia in June 2021. The guideline clearly stated that how to manage public toilets, Minimum requirements and standards, how to handle public toilets, how is the responsible person and so on. But the public toilets in the capital city of the country no one of them match these requirements.

Thereby, the present work aimed at studying the particular case of a touristic and public space in the city of Addis Ababa, Ethiopia, regarding the perspective of local public toilet users. To this end, interviews were carried out on-site, and secondary data were used to complement the argument raised.

2. Materials and Methods

2.2 Site Characterization

The public spaces in the Capital city of Addis Ababa were chosen as the target of this case study since it is a space of tourism and leisure of great importance for the city. It is part of an architectural complex recognized as a Capital city of Africa and it was planned by Queen Tayitu Betul 125 years ago.

The reason the chosen sites have had the same problems throughout my living years in Addis Ababa I observed this problem. Some reasons 1. There are the large movements of the people in these areas 2. No alternative restrooms 3. People are forced to urinate any place when they feel.

4. Public toilets in these areas are very poor facilities and they don't met the minimum requirements of the Ministry of Health-Ethiopia.

Unlike the chosen sites does not have many alternative toilets nearby, such as in malls, stores, or shopping centers. This fact makes the city of Addis Ababa an ideal place to evaluate the experiences and attitudes that people have in situations where there are no solutions around or when they do not consider the current solutions adequate.

2.2 Methodological approach

The qualitative methodological approach used in this research comprised data collection and analysis. Given the scarcity of experimental research in this field of study from the perspective of sanitation and human rights, a case study was chosen to allow a deeper understanding of the subject complexity. The case study was focused on the individual and their experiences related to the object of study, with a flexible approach to eventual modifications led by the data collected in the field.

2.3 Sampling and recruitment

The primary database was surveyed through semi-structured interviews and observations at the five points that had operating toilets with passers-by and street vendors, between March and June 2024 (i.e. Winget square; Torhaylochi round about; Legahar; Stadium area; Ayer tena bus terminal). In total, 55 people were interviewed at the chosen points (5 street merchants and 50 passers-by). All interviews in this work were recorded and had the interviewee's consent.

2.4 Secondary database

To complement the fieldwork, comments on public toilets at each of the five chosen points were gathered through the different documents from INGO & NGOs, from research papers, from guidelines and other necessary related to the case documents.

2.5. Data analysis

The data used in this work comprised primary and secondary data information. The primary database was analyzed according to Content Analysis. Moreover, the categorical thematic type was predetermined by HRWS-PS elements, as known: availability, accessibility, quality/safety, and affordability. The normative element 'dignity, privacy, and acceptability' was not covered as it would require longer and deeper interviews, which was not the purpose of this study. Two categories emerged from the interviews which were not predetermined: health and conflicting choices. To guarantee privacy,

The secondary database was analyzed according to the discourse of collective subject (DCS) technique for analyzing self-expression and/or collective opinion. The methodological steps to form a DCS consist of identifying central ideas or anchors and their corresponding key expressions. In this sense, central ideas equipped with key expressions allow the formation of a DSC. Therefore, every comment was read and categorized by its central idea, of which there were three: (i) availability, (ii) accessibility, or (iii) quality and safety. After that, the key expressions of comments were grouped to form a discourse that flows and converges. The comments edition gathered the key expressions of each key comment together.

3. Results

3.1 Overview of a case study

The five points investigated in this study were those with the most engagement at the city and that had public toilets. Their infrastructure and management characteristics are summarized in Table 1, and the toilets can be seen in Figure 1.

As can be observed, 2 of the five points with physical toilets built in the points were out of order and closed. Considering the remaining solutions, all of them had opening hours limited to business hours, which did not represent the busiest time at the city on weekdays (from 7 am to 11 am and from 5 pm to 9 pm). During the weekends, the city hall provided chemical toilets all along the City to meet the needs of people that attended especially on those days for sport and/or leisure.

According to the study, it was noticed that during the week, the public was smaller and more restricted to residents of the surrounding neighborhoods. Peak times occurred in the early morning and after working hours when people went to practice physical activities. During the weekends, the public expanded, and people from other regions of the city and from cities nearby frequented the site for leisure.

During this research, the aim was to understand the experiences of users and their relationship with the elements of the normative content of human rights. To that end, the results were discussed according to the categorization made in the data analysis, i.e. availability, accessibility, conflicting choices, safety and quality, and affordability.

Points	Quantity	Accessibility (wheelchair)	fee	Chemical toilets availability	Sex segregation	Diaper Changing room	Opening hours
Winget square (P1)	04	No	5 ETB	No	No	No	06:00 am to 06 pm
Torhaylochi round about (P2)	05	No	5 ETB	No	No	No	06:00 am to 06 pm
Legahar (P3)	03	No	5 ETB	No	No	No	06:00 am to 06 pm
Stadium area (P4)	06	No	5 ETB	No	No	No	06:00 am to 06 pm
Ayer tena bus terminal (P5)	06	No	5 ETB	No	No	No	06:00 am to 06 pm

Table 1. Characteristics of Addis Ababa City public Toilets.



Figure 1. Addis ababa city toilets (from left to right) 1. Winget square; 2. Tor haylochi round about; 3. Lagahar; 4. Stadium area; 5. Ayer tena bus terminal.

3.1 Availability

As previously mentioned, only three from five public toilets studied in this research were in operation. If all the existing toilets in the city were in operation, the availability factor would probably not appear so often in the speech of the participants.

The research (case study) showed that when people expressed dissatisfaction related to availability, they would interrupt their tour or movement. However, other alternatives were public urination behind trees or in vacant lots, public urination was repeatedly cited by the interviewed group and was also observed in the field, mainly by children and homeless people.

During the field phase, no humiliation was perceived by people when explaining their experience of public urination, since it was justified by the lack of toilets on-site or the inadequacy of the existing solution, not being considered a criminal act.

In the context of Addis Ababa city toilets, availability was also related to accessibility, since the existing infrastructure was frequently not in operation. However, even at Point 5, where the physical toilet was working, there was dissatisfaction with the number of toilets.

In respect to the street vendors, the study showed how the lack of toilets affected their own need for a toilet, since the chosen points is their place of work, but how also it affected their economic income. During the observations, it was possible to notice that some vendors adopted alternatives as to the nearly hotels, the snack bar and the club or other commercial establishments. However, opening hours were restricted and the vendors generally stayed longer working at the chosen points.

3.2 Accessibility

Locked toilets represented lack of accessibility in this case study, as observed in field and from the interviewees. In this case, failure on accessing the toilet converged with the unavailability, already discussed in the previous topic. Therefore, in this item, the issue of accessing functioning toilets will be discussed.

During the observations, it was noticeable that long lines formed at points. The bigger and longer lines were in the female modules. Accessibility issues were also noticed in the case of fathers or mothers who were alone with children and had difficulty entering the toilet cabin with carrying objects (as bag/backpack, water bottle, etc.). It was common for them to ask someone outside to look at their belongings or to keep the door slightly open, to observe the objects left outside.

The fear of leaving the child to go alone to the toilet was also reported. The main concern was regarding the adult toilet's design, as children could fall into the hole. Another recurring problem for families with young children was the difficulty in changing diapers.

To sum up, the city toilets did not attend the requirement of accessibility concerning the opening hours of most toilets, since they did not serve the public that frequented the city during the busiest hours on weekdays.

3.3 Conflicting Choices

During the observations and interviews, conflicting issues were noticed concerning the motivation for using or not using the public toilet. The first perception was that in severe moments of need, the sex (male/female) sign at the door was ignored. Although the formation of lines in female toilets was mentioned, when there was no line in the male modules, women would also use that module or vice versa.

Besides the sex sign, what truly seemed to matter when making a decision on which toilet to use was its internal conditions related to cleanliness and odor. These conditions were so crucial, that people often decided to wait until they could find another solution if they considered that one inappropriate. In that case, they often looked for other options, or even interrupted their walk and left.

It was noticed that the degree of need was what guided the trade-off between using and not using the toilet. Each person's trade-off point seemed to be particular, but when asked why they would not use public restrooms, the answer was quite similar.

Bearing in mind that there was a conflicting choice in the decision to use the toilet, some scenarios were noticed: (i) using the toilet regardless of hygiene and cleaning conditions due to a high degree of need, (ii) denying the toilet use due to hygiene and cleaning conditions and wait until finding another solution close by (as in bars/restaurants or public urination), and (iii) denying the toilet use due to hygiene and cleanliness and interrupting the tour. From the different scenarios, our study reinforced that there was a line between what is bearable and what is unbearable, concerning the quality and conservation of the infrastructure and the person's physiological need.

3.4 Health

The questions raised by interviewees related to health can be divided into two topics: (i) the toilet hygiene and (b) the lack of toilets, both of them affecting their health. The issue surrounding toilets' hygiene stood out in the speech of the city users, as previously mentioned. However, understanding why hygiene was a determining factor involved the interaction between hygiene and health. Some people explicitly demonstrated the issue of health and hygiene when citing possible consequences of using a public toilet.

3.5 Safety and Quality

The safety and quality category consisted of the experiences of users regarding the conservation, maintenance, and safety of public toilets in operation at the chosen points.

The interviewees who made comments on the maintenance and conservation of the toilets were mostly women (20 of 25 people). During the research, it was noticed how women felt generally more unsafe than men using public toilets. In almost all of the observations, they asked someone to hold the toilet door or to be 'on guard', while they used the equipment. This may indicate that the toilet solution was embarrassing, although further research on that aspect should be carried out.

When interviewees showed dissatisfaction with the quality of service regarding maintenance or infrastructure, it was asked about which solution would best suit their needs. In this sense, users explained that it could be a simple solution, but with constant maintenance. Also, most people commented that a fixed solution would be much more suitable than a mobile toilet, i.e. a solution that has a sink and toilet paper. Some users argued on the importance of the toilet being closed, so that there was no vandalism and depredation of the infrastructure.

According to the users, it is the government's duty to provide toilets and to keep the equipment clean. Some of them cited the fact that the city is the capital city of Africa therefore; it should have more attention from the municipality or other federated entities. Others have reiterated the argument affirming that the government has responsibility to provide these services due to the high taxes paid by the population.

The perspective that the maintenance of the service did not only depend on the government or on the vendors was also noticeable in the research. Users brought the responsibility to the toilet users, as the population should understand that it belongs to the people.

The poor care of the infrastructure by users was also mentioned by local vendors. According to one of them, the motivation of the city council to close the toilets was due to the lack of care.

Regarding the maintenance, the two vendors understood that, they could be responsible, since the toilet operation is their interest. In the case of the vendor who was responsible for one of the toilets, he revealed that the city hall provided maintenance after infrastructure depredation and that there was a direct contact between him and the person responsible for maintenance. However, he emphasized that cleaning, conservation, and purchasing the toilet paper were his

responsibility. As to the cleaning of the toilet, the vendor explained that he cleaned frequently, but the users' collaboration is crucial.

3.6 Affordability

The category affordability was related to payment for public toilet use. Generally, opinions were divergent among the interviewees, in which some of them considered the charge for toilet service in public spaces as absurd, while others believed that charging for toilet use is important for people to value the public infrastructure. Interviewees who considered charging for the toilet unnecessary argued that service should be the city's responsibility, through taxes paid to the government. Moreover, the data analyzed showed that the acceptance of the charge was associated with the feeling that this would improve maintenance and quality. Also, many people suggested that users would value the toilet if it was charged. Additionally, in respect to the fee users would be willing to pay to use a public toilet many described it as a symbolic amount. In this way, everyone would be enabled to pay. In contrast, others said they would pay up to 5 ETB.

According to the street vendor responsible for the toilet maintenance, the fee charged was important for its cleanness. However, he understood when some people complained about being charged for using the toilet. Moreover, he realized that it was not worth arguing since he could lose a potential client.

4. Discussion

Based on the results found from primary and secondary databases, there are key factors to be considered when planning public toilet services. The first one is the provision of toilets. In this context, it was clear that the element of availability is not met in the city, either by the number of toilets provided or by the distance from each other, resulting in recurrence of public urination or interruption of the walk by passers-by. Public urination was also observed by other researchers who sought to understand the consequences of public toilet insufficiency.

For a touristic point such as the Addis Ababa city in this case study, this is a negative issue that can influence the time people spend in the site or even whether they go there or not, impacting trade and tourism.

Regarding the accessibility of existing toilets, it should be taken into account that chemical toilets were not considered as the best solution for the locations.

Regarding physical toilets, it was observed that during points peak hours most of them were still closed, reducing the options for users. In that case, people frequently had to search for alternative solutions in the surroundings, such as public urination, restaurants, and clubs.

The issue of hygiene and the fear of contamination were persistent and even determined a trade-off between the use and non-use of the equipment. The lack of cleanliness and security were also reasons shown in previous research (Delabrida 2010; Siu &Wong 2013; Bellanthudawa et al. 2018; Navarro et al. 2015; Wu et al. 2019). The issue of sanitizing and cleaning public toilets has already been addressed as essential by other authors concerning the toilet use (Afacan & Gurel 2015; Navarro et al. 2015; Camenga et al. 2019; Wu et al. 2019). However, these authors missed out on discussing in-depth the motivation for people using or not the toilets or for being dissatisfied with the urban equipment. This case study showed how lack of cleanness was the most reported reason.

The lack of public toilets raised difficulties, such as holding back the urge to urinate and the health consequences. This was an issue particularly for the elderly population, who are more willing to go to the toilet for health-related issues, such as the intake of blood pressure medication. In the literature, a work showed how toilets could be an incentive for older adults to spend less time sitting. Moreover, the lack of toilets discourages people from using sustainable transport, such as walking, cycling, or using public transport.

The issue of gender was observed, but not thoroughly investigated. Some constraints were noticed and some interviewees commented on the need for more adequate toilets, as it is disadvantageous for women to sit down to urinate and the chemical toilet solution is not favorable. This perception has already been stated in previous literature. Woman's need to use a toilet is more frequent, particularly due to menstruation, pregnancy, childcare, and breastfeeding purposes.

In the context of charging for toilet use, different responses were observed. For instance, the users who live in the surrounding area (higher socio-economic status) commented that they would pay up to 10 ETB to use a toilet, as what matters is the quality of the service. In this case, it was noticed that the perspective of this audience was focused only on their user profile and did not consider people living on the streets and informal workers. Other users pointed out that paying to use a public toilet would be absurd given the amount of taxes that are paid to the city

every year. Still, some people were in favor of paying for the service, so that people would value the public infrastructure.

The street vendors and homeless people were the most vulnerable public in a context of lack of toilets, as they stayed longer in the City. Passers-by, mostly local residents, showed dissatisfaction with the current solution. However, the latter users had more alternatives due to better socio-economic conditions to access restaurants, clubs, and parks.

According to this case study, the main issues to be resolved are related to the provision of public toilets, which is the duty of the public authorities, as mentioned frequently by the interviewees' speech. For that, participation and social control are essential and should be carried out through public hearings and the ombudsman, among other means of political participation. To solve the problems raised from the public user's perspective, it is important for the municipality to better hear and understand the public. However, the investigation carried out also showed the importance of making the population itself aware of its role in the use of the public good. In this sense, it is considered that behavior change techniques can be important tools for the population to take ownership of what is theirs and to take care of urban equipment for collective use. In this manner, after full comprehension of the public and the problem, the government may evaluate possible interventions and implementation options.

Considering the second database used, i.e. INGO & NGOs Reports, recent researches and related documents it was proved to be an important tool for public management to assess the opinion of the public who frequent the place. This is valid particularly when it is not possible to carry out an in-depth field search.

Therefore, despite the existence of legislation related to public toilets in Ethiopia, there is no guarantee of these services provision, making it difficult for the population to request their rights on sanitation in public places. Most of the time, these services are not included in a systematized policy, leaving it up to the municipal government to take actions related to the services without the obligation to do so.

5. Conclusion

The aim of this research (case study) was to understand the perspective of public toilet users on the City of Addis Ababa, (a capital city of the country and the continent, Ethiopia). For that, observations and interviews were carried out with people on-site and local street vendors. The results obtained showed how users used the toilet depending on its provision, accessibility, and hygiene aspect. In fact, people often had to leave, affecting local tourism and trade.

Consideration should also be given to the profile of the public outlined, particularly the time they spend on the site, rush hours, gender, and age. The case study showed the importance of the population becoming aware of their role when using the public toilet for minimizing misuse. in terms of behavior. Therefore, public authorities must also consider using behavior change techniques to approach the new problems, and they must seek to better comprehend users' opinions. In the case of public toilets in the city of Addis Ababa. Therefore, it seems urgent to systematize the public toilet policy in order to support measures for local public toilets. More research should be carried out on the perspective of public management and the main challenges in the provision of the service.

Finally, users' perspectives and opinions highlighted in this study showed important key factors for not using a public toilet, especially regarding access by the elderly and children, demands, and needs. The main issues were related to provision, hygiene, and accessibility. The study showed how hearing and understanding users' demands may improve urban planning when considering sanitation in public places. Therefore, this study contributes to city planning, as it highlighted people's voices surrounding the public toilet and reflected the expectations of the users regarding this urban equipment, guiding the public authorities on their decision-making

6. References

- 1. Ministry of health- Ethiopia, Public Toilet Design and Management Guideline June, 2021.
- 2. A/HRC/42/47: Human rights to water and sanitation in spheres of life beyond the household with an emphasis on public spaces Report of the Special Rapporteur on the human rights to safe drinking water and sanitation. 10th July 2019.
- 3. Ryan Cronk, Tom Slymaker and Jamy Bartram on March, 2015. Monitoring Drinking Water, Sanitation, and Hygiene in Non-Household Settings: Priorities for Policy and Practice by
- 4. United Nations: General Assembly resolution on human rights to water and sanitation makes important advances but raises concerns about full commitment to human rights treaty obligations 20th December 2019.
- 5. 1. Wilson, F., Miller, R., & Taylor, B. (2017). Public Toilet Provision and urban sustainability: A review. Sustainability, 9(9), 1485. https://doi.org/10.3390/su9091485
- 6. Green, J., & Heer, J. (2016). Designing public toilets: A critical discourse analysis. Facilities, 34(7/8), 396-415. https://doi.org/10.1108/F-12-2014-0094
- 7. Wakely, B., & Broad, E. (2019). The gendered experience of public toilets: A qualitative study. Journal of Gender Studies, 28(1), 61-72. https://doi.org/10.1080/09589236.2017.1390507
- 8. Bryant, J., & McManus, S. (2018). Toilets and social justice: A review of literature. Social Justice Review, 11(2), 127-143.
- 9. United Nations (UN) 2016 New Urban Agenda. (accessed 29 July 2020).
- 10. United Nations General Assembly UNGA 2019 Human Rights to Water and Sanitation in Spheres of Life Beyond the Household with an Emphasis on Public Spaces.
- Wu, D., Lam, T. P., Chan, H. Y., Lam, K. F., Zhou, X. D., Xu, J. Y., Sun, K. S. & Ho, P.
 L. 2019 A mixed-methods study on toilet hygiene practices among Chinese in Hong Kong. BMC Public Health 19 (1), 1–8.
- 12. Xu, D., Chen, L., Wan, X., Zhang, Y., Liu, N. & Wang, K. 2016 Toileting behaviour and related health beliefs among Chinese female nurses.
- 13. International Journal of Clinical Practice 70 (5), 416–423.
- 14. https://www.i-fm.net/fm-info

- 15. Sludge management: Barreto ML, Genser B, Strina A, Assis MO, Rego RF, Teles CA, Cairn cross S. Effect of citywide sanitation program of reduction in rate of childhood diarrhea in Northeast Brazil: assessment of two cohort studies. Lancet.2007; 370:1622–8.
- 16. https://www.wvi.org/clean-water-sanitation-and-hygiene-wash/article/five-principles-sustainable-wash