



‘It is our Dirty Little Secret’: An
Ethnographic Study of the Flying Toilets
in Kibera Slums, Nairobi

Adelaide Lusambili

Flying Toilets

A large, abstract graphic consisting of several overlapping, curved, brush-stroke-like lines in various shades of green and grey, positioned below the title and extending across the bottom half of the cover.

'It is our Dirty Little Secret': An Ethnographic Study of the Flying Toilets in Kibera Slums, Nairobi

Using the case study of the Kibera slums, this paper takes a medical anthropological approach to discuss and explain the untold and common practice among the urban poor in developing countries that is informally known as the 'Flying Toilets'. This paper seeks to inform those working within the public health sector about such practices, but also to serve as a platform that can serve health promotion strategies and approaches geared toward such practices. International and local experts working in the discipline of water and sanitation and public health continue to miss the mark toward the improvement and promotion of health because of such secret informal practices as the Flying Toilets. For progress to occur, such practices must be understood and eradicated. Specifically, it cannot be assumed that an indicator such as community and family connection to a public sewer, a septic system, simple latrine or a ventilated improved latrine, as postulated by UNICEF and WHO, automatically improves sanitation. Demographic size/patterns, behaviour, and historical factors must be considered in light of all these variables. The Flying Toilet as a public hazard will be discussed in the political, historical, and economic context affecting the residents of the Kibera slums. In the context of this paper, we will interrogate the causes, organization, and the effects of the Flying Toilets.

About the Author

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Flying Toilets: What Are They? Why Do They Matter?

Flying toilets is a method for disposing of waste used by the urban poor. In this paper, I define it as a 'a socially and environmentally based practice where the urban poor struggling with the everyday challenges of accessing basic sanitation relieve themselves, put the waste in a polythene bag, and throw the bag on the street, on roofs, or over the next neighbour's door at night'. The process is informal and residents do not discuss it openly. Residents relieve themselves, put the waste in a polythene bag, and throw it into the street or in front of the house of a neighbour, who in turn throws it next door, until the bag reaches a drainage canal already full of garbage. Some people throw the bags onto their own tin roofs, later collecting the rainwater that runs off. The process is dirty and unhygienic, yet organized, solving the problem of waste disposal for the majority of slum dwellers. The practice takes place in people's homes on a daily basis, but the residents strictly throw the waste bags on the street at night when there is no community worker to witness its disposal. Everyone uses it: men, women and children.

We help ourselves in plastic bags...put [them] under the bed during the day and dispose of [them] at night when no one is seeing us. (Kibera resident, female, 63 years)

My interest in conducting an ethnographic study related to this topic was sparked by my experience while doing my doctoral fieldwork in Kibera. I was involved with Community Based Organizations (CBO) working in Kibera to promote hygiene. For the first three months of my research, I assisted in mobilizing people for training and cleaning the streets. What was shocking and most noticeable were the many piles of plastic bags every morning. As I became more involved in promoting community hygiene, I began to get frustrated because at the end of every day we left the streets and trenches clean yet by morning we would find piles of dirty polythene bags in place once again. One day a resident told me that these were 'flying toilets', the forbidden practice that cannot be discussed in public, 'it is our dirty little secret'. Earlier, I had been warned not to visit this slum at night because bags full of waste are thrown around and fly through the streets. Residents refer to the practice as 'flying toilets' because of the many sounds that fill the atmosphere while they fall on people's roofs and in the streets. Residents avoid direct involvement by getting to their houses early.

Flying toilets must be understood within their social context as one informant noted:

Flying toilets are the in-house way of relieving ourselves. You know we do not have toilets so...we have to get the problem to someone else...[or] to the river...that is our dirty little secret...we don't want strangers to know...' (Kibera resident and health specialist, female, 42 years)

Background

In the Spring of 2005, *The Constant Gardener* (Meirelles 2005), a fictional film based largely in the Kibera slums of Nairobi (Kenya), dramatically changed my doctoral dissertation research question. I was in a doctoral program at American University, Washington DC. My professors and peers encouraged me to watch this award winning film not for the sake of finding a research question but because I was a native of Kenya. At the time, I did not realize that this would have an impact on my research interests. In the film, images of inadequate sanitation in a completely hopeless environment characterized by broken down housing, devastated infrastructure, and overcrowded streets appeared as commonality. The trenches were filled with enough liquid sewage and debris to create noise as the liquid refuse churned along the ditch. Clearly noticeable in this film were the tons of thick plastic like wrapped balls that scattered all over the slums. Research findings discussed in this paper unravel that these plastic-like balls, mainly used by Kibera children as leisure balls, are in fact not balls but human waste wrapped in plastic, flying toilets. The images in this film were as shocking to me as a native as they would be to foreigners. What a violation of human security and human rights, I thought at the time. Influenced by the features in this film, in May of 2005, I was in Kibera, conducting a medical anthropological study of the environmental sanitation (Lusambili 2008), from which the data used in this paper was generated.

In the past decade, a lot of research/studies have been done in the peri-urban African cities on issues relating to environment, sanitation and health (WSP 2005a; WSP 1999a; WSP 1999b; Thompson et al. 2001; Lusambili 2008). These studies have dealt with toilet and water facilities, community led sanitation, in-country political dynamics, related health consequences as well as other issues. Informal practices of dealing with human waste that operate like secret societies and are organized like an assembly line have not been previously interrogated.

Historical Context

In 2007, The British Medical Journal reported that over 11,000 readers most frequently named sanitation as the greatest medical advance of the past 150 years, ahead of antibiotics and anaesthesia (Stein 2007). Despite medical progress and advances in sanitation by health experts, over two million people died in 2001 from diseases related to unsanitary water and poor hygiene and recent data reports little progress in this area due to financial constraints. For example, past data indicate that world military spending in 2005 reached \$1.2 trillion, roughly two percent of the gross world product (CIA 2006; SIPRI 2007). The United States accounts for almost half, and the North Atlantic Treaty Organization (NATO) makes up another 23 percent of this spending. Africa spent \$12.7 billion for military purposes, accounting for one percent of the budget, of which Kenya spent \$280.5 million in 2005, accounting for 1.6 percent of its GDP. Spending for HIV/AIDS increased from \$300 million in 1996 to \$22 billion by 2008. Up to 80 percent of the funding goes to sub-Saharan Africa. In 2003, \$173 million was spent on HIV/AIDS funding for Kenya. Funding for water and sanitation, primarily from the World Bank, is in millions while billions and trillions are spent in other areas. This partially explains why sanitation efforts to reach the Millennium Development Goals have been frustrated. Poor faecal and urine disposal remains a passive health hazard worldwide (Lusambili 2008).

If Dr John Snow, the father of sanitation who founded the link between public health, disease, and sanitation in the early 1850s, were here today, he would definitely find this unacceptable. Environmental health specialists Curtis and Cairncross (2003) posit that the greatest global failure in public health has been reluctance to lay the foundation for hygiene, sanitation, and adequate water in the developing world. Curtis and Cairncross' observations seem to suggest that Snow's discoveries have not benefited these developing areas. This is not the case. I would argue that Snow's revolutionary ideas have led to improvements in sanitation and the decline of water-borne diseases in the developed world over the past 150 years and have also been applied in the developing world, though progress has been slow. However, these improvements have been concentrated among the rich, while the poor, living mostly in rural areas and poor neighbourhoods of major cities, live as people did in 1854 Europe, the pre- John Snow period, because specific behaviours such as the informal use of the flying toilets that are culturally and environmentally situated have not been studied and continue to skew progress in sanitation.

To date, the most significant environmental sanitation studies deal with research on maternal and child morbidity (Keraka and Wamicha 2003; Kimalu 2001; Kimalu et al. 2004; Taffa et al. 2005; GOK 2000), solid waste management (Syagga 1992; Peters 1998), housing (Lamba 1994; Smith 1990), the informal sector (Bubba and Lamba 1991), and hygiene (Wangombe 1996). Closer to the

mark are recent Water and Sanitation Programme studies of access to water (WSP 2005a) and sanitation facilities (WSP 2005b), which aim to understand and evaluate the magnitude of the small scale providers of sanitation services in the slums of Kibera.

Compared with other environmental sectors that contribute to health and well being, water and sanitation has traditionally received less attention in financing and research in Kenya (Karua 2004). Publicly instituted water and sanitation facilities fail to provide efficient services for the urban poor (WSP 2005a; WSP 1999a; WSP 1999b; Mulama 2005). Such facilities are mainly available to high-income individuals, and half of the Kenyan population, including nine million children, lives below the poverty line (UNICEF 2005). More than 13 million people (46% of Kenyans) have no access to clean water, and over 19 million (over half the Kenyan population) lack sanitation. The 2004 UN Human Development Index ranked Kenya 148th out of 177 countries in life expectancy, educational attainment, and adjusted real income. Of all diseases, malaria is the most serious public health problem, killing 26,000 children per year in Kenya (UNICEF 2005), where one latrine serves an estimated average of 1,400 school children and less than half (47 percent) of the country's population has access to potable water. Poor sanitation and hygiene practices are worse in the slum areas (Wangombe 1996; UNICEF 2005).

Anthropological Approach

This study took a critical medical anthropological approach. Critical ethnography (Carspecken 1996; Foucault 2007), posits that research is action taken in the interest of those rendered marginal by the dominant culture. Thus its reliance on first hand, narratives knowledge as a way to address power and injustice was useful in understanding information on behaviours, cultural power dynamics, and ownership of sanitation facilities. Its emphasis on hermeneutic reconstructive analysis assisted in understanding the inter-subjective views of the resident of the Kibera slums.

Critical Medical Anthropology (CMA) borrows from Marx, Engels, and critical theorists of the Frankfurt school (Baer et al. 2003) as their approach to medicine or health is political and economic¹. Critical Medical Anthropologists are

¹ Baer et al. summarizes CMA as 'it understands health issues within the context of encompassing political and economic forces - including forces of institutional, national and global scale that pattern human relationships, shape social behaviours, condition collective experiences, reorder local ecologies, and situate cultural meanings' (Baer et al. 2003:37). In this regard, CMA seeks all possible factors that contribute to the etiology of disease..

concerned with the unequal distribution of resources. They argue that lack of equity results from political and economic forces. Poor health and poor health resources are frequently found among marginalized populations. The political and economic perspectives assisted in understanding why more slum residents are affected by inadequate sanitation compared to those living in the other parts of the country, how gender affects access to sanitation resources, and how to evaluate the existing infrastructure. CMA also incorporates examination of the structural variables affecting health and diseases patterns.

Studies by Farmer (2003), Turshen (1991), and Wallman (1996) that applied a CMA approach in their research analyses assisted how I interpreted data on the flying toilets. For example, Farmer's (2003) work in Haiti provides insights on how those in power perpetuate structural violence, rooted in class, gender, and societal stratification, influencing disease rates, to the detriment of the weak in all spheres of life. Emphasis is placed on the premise that unjust injury and suffering in contemporary society are caused by institutionalized racism, gender inequality, and violation of human rights that show no signs of abating (Farmer 2003:29). Thus, social injustice creates and sustains flaws in healthcare systems, particularly in the distribution of services and treatment (Farmer 2003:166). An important contribution Paul Farmer makes to the current study is to show how diseases related to this practice are indicators of poverty, and we need to understand such habits through the lanes of colonialism or history and political economies of various countries.

Methodology

The study used a mixed method anthropological approach including a systematic review of archival sources, in-depth interviews, focus group discussions, obtrusive and participant observations. Systematic review of archival records was crucial in understanding the history of the slums in the past 100 years. In depth interviews of 41 people included 25 environmental sanitation specialists, three local leaders (the chief and two Nairobi city council officials), two employees of the United Nations Environment Programme (UNEP) Kenya office, and 11 clinicians. In-depth interviews explored issues pertaining to land tenureship, sanitation facilities and the everyday life of the residents. Focus group discussions included two with women groups, one with youth leaders, two CBOs which delved into open discussions on the issues surrounding the informal practices dealing with waste in the slums.

Obtrusive and participant observations, personal investigation of conditions, and behaviours reported by informants were recorded and analyzed on daily basis

using Qualrus, a qualitative analysis program. Although this study was not designed to be statistically valid, the survey provides a working idea of the situation in the Kibera slums. Indeed, in-depth interviews and direct observation were deemed appropriate methods for this kind of exploratory study. Comprehensive qualitative research has not been conducted on the flying toilets although this terminology is more often discussed in passing. This methodology serves as a starting point for future research and larger surveys. From these findings, previously undefined areas for research can be examined in future surveys based on structured interviews with a sample large enough to provide results that can be generalized.

Findings

Historical Factors Influencing the Practice of Flying Toilets

The current study explored the factors that influenced the residents of the Kibera slums to use the unhygienic, informal practice of flying toilets for disposing of human waste. Findings from key informants, especially those who have lived in this slum for over 70 years, situate Kibera's sanitation-less environment within the context of the historical. While there is scant literature published on the history of Kibera, Parsons' (1999) research on the history of the slum concurs with key informants' reports. Kibera slum² is located five kilometres east of the central business district and is the second largest informal settlement— after Soweto, South Africa—in Africa. The slum is divided into nine villages organized along tribal affiliations. These villages are: Mashimoni, Makina, Kisumu Ndogo, Kianda, Gatwekera, Laini Saba, Raila Odinga, Soweto and Siranga/Undugu.

The history of Kibera dates back to 1895 when this land was given to the Sudanese Nubian Muslims. Parsons (1999) walks us through a painstaking history of the Sudanese Nubian Muslims, a vital element in the history of Kibera. During the late nineteenth century, Sudanese Nubian Muslims formed a highly effective fighting force loyal to the British. In 1895, as part of the effort to colonize and subjugate East Africa, British colonial officials settled retired Sudanese Nubian Muslims veterans in Kibera. The name Kibera, comes from the word 'Kibra' which is a Sudanese Nubian word meaning 'forest' or a jungle. The Sudanese Nubian Muslim soldiers stayed in the British Army all their adult life and were trusted

² The area is 553 acres with a population of one million and density of 49,228 per km²

on the assumption that they were not from Kenya and would not assist in the local uprisings. It appears the British assumed that all Africans belonged to one tribe and that their extended families would take care of them when they got old. But when the Sudanese Muslims were finally demobilized, many found they had nowhere to go and thus they remained in Kibera. At first the veterans were settled on reserve lands to which they had no legal title. When the colonial authorities ousted them and took back the land, many immigrated.

The British government did not provide social or community services to Kibera, even such basic services as water, sewers, electricity, and roads. Ignoring the fact that Kibera lies next to Nairobi's city centre and affluent residential areas, officials apparently assumed that the Sudanese Nubians would create a village system of management as in native villages in the countryside of Africa. No such village structure arose, but the Sudanese intermarried with the local population and Kibera's population increased. Sudanese Nubians were given informal chits or passes for land by the British colonialists in Kibera, which they misunderstood to be title deeds. In fact, the Carter Land Commission in 1933 stated that Sudanese Nubians' past service to the British colonial government was significant and entitled them to 'sympathetic consideration.' As one of this study's key informants, an elderly man, understood it:

Kibera meant 'forest.' Our ancestors lived here when it was a forest. It occupied 4,197.9 acres. Around the river that runs across the city mortuary up to Kenya Science College - that was all Kibera. Along Ngong Road to Langatta Road - that was the Sudanese Nubians' settlement. The land was enormous, and generally that is why the 42 tribes came and settled in Kibera. It was given as a gift to us for fighting in the army by the British. (Kibera resident, male, 82 years)

When the British settled the Sudanese Nubian Muslim veterans in Kibera, they did not fall under the same tribal law applied to the 42 other ethnic tribes living in Kibera during the colonial area, which required tribes to pay taxes and submit to the colonial powers. As such, these made this group distinct from the other 42 ethnic tribes who moved to Kibera.

From 1930, Kibera's growth was so fast and unruly that the British decided to demolish the entire slum. This plan failed, in part because the Sudanese believed that Kibera was their land. In 1950, the British refused to listen to the Sudanese Nubian Muslim Kibera residents' plea that the chits their ancestors received under the Carter Land Commission, which allowed them to settle and farm on Kibera land, were not in fact deeds. The British had not explained at the time, and by 1950, most Sudanese Nubian Muslims in Kibera had lost the original Carter Land Commission chits. It appears that the Sudanese Nubian Muslims by this time had realized that they had been misled and misused by the British and they stood to lose Kibera, an area by then 4,797 acres. The British government's failure to grant title deeds to the Sudanese Nubian Muslims after World War II prompted

them to unite with other Kenyans, including the Mau Mau political movement, and fight for independence. Familiar with British methods, they proved highly effective opponents in war. Mau Mau leaders promised the Sudanese Nubians title to the land where they had lived under the British. But when independence was finally won, the Kenyan government recognized the legitimacy of Kenya's original 42 tribes only. The new government gave members of the 42 tribes title deeds to land, but refused to give any to the Sudanese Nubian Muslims of Kibera. An elderly Sudanese Nubian who was a key informant for this study has bitter memories of this betrayal:

Even though we have passports, still we are referred to as 'others.' Even during the national census, we are referred to as 'others.' This is a major problem. Though we have all the identification documents, birth certificates, etc., it's all painful. There is segregation. Our children don't easily get national identification cards and hence [it is] hard for jobs to come by. For instance, I am required to provide documents for my grandparents as a prerequisite for my children to get IDs. This is ridiculous! People began getting IDs after independence. Hence, to require these things, it is wrong. Our parents did not have documents. During their days, nobody knew how to write in Africa. It is one way of marginalizing us. To ask for these things now is wrong. Where do we get these documents? (Kibera resident, male, 82 years)

The current problems in this slum are historical. We have seen that the Sudanese Nubian Muslims fought for the British and Mau Mau, and yet their efforts were not rewarded after independence. Even before independence, the British colonialists did not construct infrastructure such as sewers, roads, piped water, sanitation, electricity, or health services for the Sudanese Nubian Muslims. After independence, people from the 42 recognized ethnic groups moved to Nairobi, and many ended up settling in Kibera, considered a no-man's land. Most of the ethnic groups tended to settle and dominate one area. In a short space of time, the 42 tribes occupied 90 percent of the land, preventing the Nubians from continuing to rear animals and farm. The Nubians saw the district as their home and the newcomers as invaders. Nubian ancestors were buried there, and the current generation knew no one in Sudan. Nubians had fought the Germans and the British, contributing to independence and the formation of Kenya in 1963. To the tribal Kenyans, the Nubians were 'others' who kept and followed a different religion, spoke a different language, ate different food, and practiced different social customs. A Sudanese Nubian key informant for this study had this to say:

Our customs, religion, and values have been intact, but now they are fading away. The 42 ethnic tribes attack us. When they rent Nubian-owned houses, they don't pay rent. They are incited by political leaders especially. In 1990s there was ethnic fighting here. Most of our people were killed,

beaten, [or] rendered homeless. People and some government lobbyist took our properties away. We had nowhere to complain. You see, we do not have titles, deeds, and we cannot claim anything. We have been excluded. We are the others. (Kibera resident, female, 65 years)

The government classify areas like Kibera as informal, unrecognized settlements, and the Nairobi City Council charged with overseeing development in Nairobi did not feel obliged to provide social amenities such as schools, water, sewers, roads, and electricity. Those living in Kibera were considered illegal. Field research showed that the majority of these landlords are not residents of Kibera, but are wealthy, well-connected government officials who put up makeshift housing without regard to sanitation facilities. Overall, the land on which Kibera sits, though initially given to the Sudanese Nubians by the British Colonialists, is currently owned by the state. No individual title deeds have been issued for ownership. Data from the field substantiates the long political conflict between the Kenyan government, the Sudanese Nubians, and the 42 ethnic tribes residing in Kibera, which have been struggling for years to resolve the land issue. Ongoing politics has hampered the state in making ownership decisions. The social alienation, lack of citizenship and feeling of 'otherness' on the side of the Sudanese Nubians and the local people continually creates conflicts perpetuating hatred and diminishing development. The key problem is lack of land deeds and government indirect involvement in development projects. We have more houses and people than toilets. Residents must pay to use the private toilets which are expensive and impassable. With no land or political will to improve this situation, residents resort to such dehumanizing method of exposing of their waste.

Nature of Existing Toilet Facilities

Study findings reveal that the nature and lack of accessibility of existing toilet facilities have prompted many residents to resort to the use of the flying toilets. In Kibera slums, the following toilet types are available: (1) private toilets, (2) community toilets and (3) toilets provided by CBOs.

1. Private Toilets

Private toilets are constructed by people who own houses in Kibera, micro entrepreneurs, or individuals wishing to make a profit. One toilet typically serves 10 to 20 households with an average of six people, so on average 60 to 120 people use each toilet. The average price for using a toilet is US \$ 0.010 (KSH 5). Often, the owner of the establishment stands at the door with toilet tissue and sandals for the clients to wear to avoid stepping on unsanitary floors. In addition to

paying for the use of sandals and toilet paper, private toilet operators also charge according to the amount of time used. The majority of these toilets have no doors, floors were unsanitary with overflowing urine and faeces from the hole of the pit latrine; many had falling mud roofs that appeared to be unstable. Stench and houseflies permeated most of the areas around the toilets and the houses nearby. Toilets run by micro-entrepreneurs were padlocked when not in use.

2. Community Toilets

Community toilets emerged in 1980 and are toilets that are built by individuals without access to private toilets. These toilets tend to be built without the proper acquisition of land from the chief and they are therefore subject to demolition at any time. Most of these toilets were situated close to the houses and units they served and could be dangerous because they were constructed of mud with falling roofs, no windows, and huge holes. They were rarely, if ever, cleaned.

Respondents said these toilets were 'seasonal' because after a month they became filled with human waste and urine, and no one cared to empty them. So the toilets were abandoned, and the community would seek a different place to construct a new facility. The following picture (figure 1) is an example of a community public toilet. The area around the toilet is impassable.

Figure 1: Community Toilet



Source: Courtesy of researcher, May 2005

3. CBO Toilets

CBO toilets were funded by UNICEF and other non-governmental organizations. These toilets were clean and had separate facilities for children, women, and men. But these facilities were few and far between and they remained locked during the day and were inaccessible at night. The following image (figure 2) is an example of a CBO toilet funded by UNICEF. As we can see, this toilet is modern according to Kibera standards but remained locked most of the day.

Figure 2: CBO Toilet



Source: courtesy of researcher, July 2005.

When asked why she preferred to use the flying toilets one of the informants had this to say:

We do it. We have to get the problem away from us. We cannot afford to pay for the usage of toilet but we can get the plastic bags free and the streets are free for use... this process is free and safe... we just have to do it informally regardless. (Kibera resident, female, 52 years)

This informant raised issues of money and safety. The existing toilets are not considered as safe and they are costly to the local residents. Her views were supported by other informants.

Flying toilets are the easiest and safest means of faecal disposal here in Kibera. I think that over half of the population uses this method. We have tried to educate the people about these issues, but it is hard. I am a health worker and know very well about hygiene matters. More often, I find myself going back to using flying toilets because that is the only alternative I have. At night, it is so dark in Kibera that you cannot dare to get out of your room since you are not sure if you will fall in one of the abandoned toilets and, as a woman, you can never be sure that you will not be raped... Rape cases here are rampant. Therefore, for women, the best option is to use flying toilets at night. I have advised my daughter and my grandchild to use them too because I do not want them to be raped at night. My son uses it but this is not because he fears being raped but because there is a lot of criminal activities and killings at night. It is very frustrating, you wake up in the morning, you cannot get out of your door, and by 5 am you find heaps and heaps of flying toilets at your front door. We just have to clean them to get out of the houses. Some of them are thrown on the top of the roofs. These roofs become so contaminated that you cannot harvest water during rainy season. All those polythene papers you see on the streets are flying toilets. Selling polythene paper is such a lucrative business here in Kibera because we need them for this activity. Now, the worst of all is during the rainy season. The rain washes all the flying toilets from the roofs and piles them on the streets, causing a foul smell, drain blockage, and environmental pollution. (Kibera resident, female, 45 years)

Most residents confessed that they resorted to this method for several reasons, including long queues at the toilets. Women often preferred this method of waste disposal for additional reasons: they feared using the toilets both at night and during the day, they had no money for

private toilets, other toilets had no doors, they feared being raped, or the area around the toilets was impassable. Pre-teen children feared falling inside because most of the toilets were not designed for their use. Children falling into pit latrines is common, and many respondents complained about the dangerous situation. Contamination of the Kibera area with human waste is largely due to this practice. Male respondents' views were in line with those of the female respondents as seen in the following quote:

It is bad. It is not okay. If you don't have the money you don't use the toilets. Sometimes you walk a mile before you get to the toilets. Sometimes [the mud floors] are so weak, and we are always afraid of falling inside. Sometimes, some women fear and instead use paper [plastic paper] toilets. Some use plastic containers and throw waste out there. Some wait up until night to access the toilets. This is because most of these toilets have no doors and are in the open. The toilets are also far away. Children often fall in and especially falling in the unrehabilitated toilets, which are common here. It is hard for the children to [know] where such toilets are,

and most of them end up falling in such toilets unknowingly. We advise them to defecate in paper bags and be safe instead. (Kibera resident, male, 45 years)

The nature of risks involved in accessing the toilets prompted residents to use informal practices. It is the human and physical insecurity; the distances to the toilets; the cost of paying for the services, and the dirt and filthiness around the toilets that hinder their use.

Consequences of Flying Toilets

Roofs where bags of flying toilets are thrown are widely used by the majority of residents to harvest rain water. Roofs contaminated with faecal matters and water from the roofs is a major cause of epidemic outbreak. In-depth interviews with local clinicians in Kibera revealed that the five most common diseases in Kibera are malaria, skin diseases, diarrhoea, intestinal worms and trachoma which are all environmentally related. Child mortality in the slums of Kibera stands at 112 per 1000 live births while infant mortality is 156 per 1000 live births. Those most affected are children under five years because they directly come in contact with the bags of flying toilets as seen in the following picture (figure 3) taken during the ethnographic study. In picture I am talking to children playing with bags of human waste. They were happy and this seems to be their way of life.

Figure 3: Children Playing with Bags of Human Waste



Source: Courtesy of researcher, September 2005

Plastic bags of human waste thrown on the streets are used by children as balls during leisure time. Other children scavenged in the bundles of flying toilets looking for plastic bags and containers to sell to the residents for the use of this practise.

Blocked trenches make it difficult for additional flying toilets everyday polluting the slum further. During the rainy season all the flying toilets on the streets and trenches are washed into the surrounding Nairobi rivers, thus contaminating the city water sources.

The use of flying toilets leads to lack of privacy and dignity especially when parents use the same paper bag with their children and keep it until at night to throw on the streets. The use of flying toilets impacts household hygiene and causes uncontrolled in-house stench because many of the dirty bags are stored under the bed all day.

Conclusions

This paper has taken a critical medical anthropological approach in understanding the study of flying toilets. It has looked at historical factors in the form of colonialism, as well as how decisions are made concerning sanitation in the Kibera slums of Nairobi. We have discussed and explained what flying toilets are, why and how they are used, and the impact their utilization has on the health of the Kiberan people. Our data reveals that sanitation overall has not garnered enough financing globally to have a profound health benefit on those dwelling in slum conditions. Many countries in the developing world, according to our study findings, still struggle and will continue to struggle to meet the Millennium Development Goals on water, sanitation and health.

Using mixed anthropological research methods, we have understood how the history of the Kibera slums have dictated the nature of the toilets that exist and how these ultimately have affected the choices residents make about disposing of their waste. In addition, historical factors have influenced how the government has initiated development projects in this slum. The area has become a 'no man's land' with the Sudanese Nubians being the 'others'. The available toilets are few and expensive with no free land for expansion. As poverty imposes competing needs, poor Kiberians choose to buy water rather than paying for toilets as they have the option of using the flying toilets that are free and safe.

Critical medical anthropological theory, especially the work of Farmer (2003) and Baer et al. (2003) are relevant when looking at the political economy of Kibera

slums. Political will is lacking. There are institutional violations of human rights and there is also the structural neglect of citizens. For many reading this paper, it will be shocking to imagine that in the twenty-first century people live in such sanitation-less environments. One overriding problem facing Kibera today is how to give tenure to one million people. Who will be given tenure and who will not creates a tragic dilemma. The status and rights of the Sudanese Nubian Muslims also remains unanswered by the Kenyan government, as does the situation of 42 tribes.

List of Acronyms

CBO	Community Based Organization
CMA	Critical Medical Anthropology
GDP	Gross Domestic Product
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
MDG	Millennium Development Goals
NATO	North Atlantic Trade Organization
UN	United Nations
UNDP	United Nations development Programme
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
UN	United Nations
WB	World Bank
WSP	Water and Sanitation Programme

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