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**‘The Place of Cool Waters’: Women and Water in the Slums of Nairobi, Kenya<sup>1</sup>**

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**Abstract**

In this paper, we explore how women and young girls in two informal settlements in Nairobi, Kenya, are affected by water in its various forms. We analyze sixteen focus group discussions with women, girls in school, and girls out of school, focusing on their unique water experiences and concerns. Drawing on the strengths of qualitative data, we thickly describe how women navigate the water challenges prevalent in the urban slum context.

**Introduction**

Although water has come to be recognized as a fundamental and inalienable human right that should be accessible to all individuals, access to this resource continues to elude many women around the world (WWDR, 2003). Approximately 2.2 million people in developing countries die each year from diseases associated with the lack of access to sufficient and clean water (WSSCC, 2004). The hardest-hit by the crisis, more than half of the 1.2 billion people who do not have access to water are women (ibid.). Furthermore, in most developing countries, water provision and management at the domestic and community levels are usually the preserve of women and girls (Ekejiuba, 1995), some of whom, unlike their male counterparts, are estimated to spend over 8 hours a day transporting an average of 15 liters of water across 10-15 kilometer distances (UNIFEM, 2003). These responsibilities have important implications for the lives of women and young girls. As Obando (2003) points out, “the carrying of water not only causes them physical disorders, but also makes it difficult for them to get involved in activities such as education, income generation, politics, leisure, and recreation.” Moreover, this situation holds serious implications for achieving the Millennium Development Goals – to halve, by

2015, the proportion of people who are unable to reach, or to afford, safe drinking water (UN Millennium Declaration, 2000).

Water management should not be construed as an easy task. In their roles as water providers and managers, women must sometimes negotiate between the necessities of eating and performing important household chores – an involving task which may hamper their participation in broader societal activities and concerns (Obando, 2003). Securing water in itself can be a costly endeavor. Female slum-dwellers in Kenya pay at least five times more for one liter of water than their counterparts in the United States (IISD, 2004). Within Nairobi, slum-dwellers pay more for water than their non-slum peers connected to the city supply.

Estimations place 60 percent of Nairobi’s population of 2.3 million in informal settlements (MDC, 1993). Incongruously, the slum population occupies a mere 5 percent of Nairobi’s residential land (APHRC, 2002). This disproportionate percentage necessitates an appreciation of the barriers and coping strategies peculiar to women and young girls in urban settings. Appropriate policy formulation is impossible without it. To this end, we describe in this paper the experiences of female slum-dwellers, particularly how they are affected by water in its many forms. We use data from a qualitative study of two informal settlements in Nairobi, Kenya to explore two main questions, namely: What are the economical consequences of the shortage of water and of the access to water supply in urban slums? What strategies do women in urban milieux employ to mitigate these consequences?

The theoretical account of the ‘urban advantage’ has been a major factor in the relative dearth of attention given to urban populations vis-à-vis their rural counterparts in Africa. The pervasive view has been that health and living conditions are more favorable in urban versus rural African contexts (Kuate-Defo, 1996; Lalou & Legrand, 1997). This perception is not far-fetched. Studies that describe the binary oppositions between urban and rural settings (in

which one represents wealth/ advantage, and the other, poverty/ disadvantage) abound. A growing body of literature, however, suggests that in the African context, urbanization and economic decline have occurred in tandem – an atypical phenomenon that has had a negative impact on living conditions, social services, and health in numerable urban settings (Brockerhoff & Brennan, 1998; Zulu *et al.*, 2000; Fotso, 2005 ). It is within this emerging theoretical framework, which questions the urban advantage, that we have placed this paper.

### **The Study Context**

The fieldwork for this study was carried out in two informal settlements, namely Korogocho and Viwandani. The exact number of slums in Nairobi is difficult to determine, as new informal settlements are known to develop routinely. An increase in the number informal settlement villages (from 50 to 134) within the divisional boundaries of Nairobi between 1971 and 1995 has been noted, however (UN-HABITAT, 2003). Korogocho and Viwandani were purposively selected because of the presence of a routine urban Demographic Surveillance System (DSS) in each community, which is managed by the African Population and Health Research Center (APHRC), and which formed the framework for the project from which the data for this study were derived. Prior to the introduction of a DSS into the two slums in 2001, both slums were noted as having high infant mortality rates, as having profited from relatively few community-based interventions, and as being comparable in terms of size.

Historically, water and sanitation planning issues in Nairobi have been politicized in a manner that has left slum settings marginalized, in contrast to middle class neighborhoods and businesses. Nangulu-Ayuku's (2000) historical account of the politicization of water, disease, and sanitation problems posits that by 1912, the European, Asian, and African population in Nairobi began to burgeon as a result of the city's designation as the railway headquarters. Africans in Nairobi, however, were viewed by the colonial administration as visitors to the urban area, with permanent residence in their rural homes. Furthermore, the

deliberate lack of provision of adequate public housing for this population was considered an important deterrent to further migration of Africans – who, under the European gaze, were seen as repositories of disease, crime, and economic burden – to Nairobi. Racial segregation along commercial and residential lines, thus, became the government policy around the planning of Nairobi town. While this served to uphold the economic and political hegemony of the Europeans, African migrants to Nairobi were obligated to construct and reside in slum settlements with the customary poor living conditions.

Little seems to have changed almost a century later. Congestion, a lack of basic infrastructure such as roads, inadequate public services such as education and health, poor sanitation, and extensive violence and insecurity typify the characteristics of urban informal settlements in Nairobi today (see, for example, APHRC, 2002; Zulu, Dodoo and Ezeh, 2002; Mugisha and Zulu, 2004). Korogocho and Viwandani present no departure from this norm. Much like other slums, there is a high unemployment rate and a dearth of productive investment in our two study communities. Basic public services such as affordable and clean water, access to electricity and stable sources of income are lacking. Dwelling units are constructed with substandard material such iron sheets or mud and timber, with average measurements of 10 by 10 ft. Public schools within the two slum communities are non-existent, with children of slum-dwellers often attending conveniently-located informal schools as a result. It is important to note that informal settlements are not recognized as legal settlements in Kenya. Consequently, provision of basic services to these areas is a complex issue, yet to be considered a government obligation.

The informal settlement of Korogocho is several decades old, having developed on land originally owned by an individual, in addition to the City Council's left-over reserve land on the banks of Nairobi and Gitathuru rivers. It is 12 kilometers from the city center. Households in close proximity to the rivers are known to use this polluted water source for bathing and laundry purposes. Viwandani is an informal settlement that developed more recently than

Korogocho. Situated in close proximity to the city's industrial area (and about 7 kilometers from the city center), many of its employed residents work in the nearby industries. Viwandani slum developed on left-over City Council reserve land on the banks of Nairobi river. This informal settlement is bounded on the south by the Ngong river, a water source perpetually contaminated by industrial waste.

### **Description of Study Participants and Procedures**

This study was part of a larger qualitative endeavor involving 60 in-depth interviews (IDIs) and 32 focus group discussions (FGDs) with parents, community leaders, school personnel, youth in school, and out-of-school youth in the urban slum communities of Korogocho and Viwandani. The study, conducted in 2004, sought to clarify the linkages between food security, child health, and school drop-out from the perspective of the communities concerned. The major concerns of each community were discussed as a sort of ice-breaker for each FGD. Problems that had to do with water were consistently mentioned among the major concerns across the discussions and often led to rich information relevant to the food security, child health, and school drop-out issues that the original study sought to understand. For the purposes of this paper, however, we focus exclusively on the FGDs conducted with females, isolating all references made to water by women and girls in the two slum communities.

A concerted effort was made to recruit participants from the different zones in each community to ensure representation of the range of experiences. This process was facilitated by fieldworkers with years of experience in Korogocho and Viwandani due to their involvement in the ongoing DSS conducted in both communities by APHRC in Nairobi. Each FGD typically comprised 6-8 participants. The study participants we focus on in this paper include a total of 39 women, 44 girls in school, and 28 girls out of school, as shown in Table 1. Participants represent the range of the major ethnic groups found in Nairobi.

Table 1

Community	Group	Age Category	No. Of Participants
Korogocho	Women	20-49 (Pilot)	6
		25-29	6
		30-49	8
	Girls in formal primary school	12-14	8
	Girls in informal primary school	12-14	8
	Girls in secondary school	15-19	6
	Girls out of school	12-14	8
		15-19	8
	Viwandani	Women	20-49 (Pilot)
25-29			5
30-49			7
Girls in formal primary school		12-14	8
Girls in informal primary school		12-14	8
Girls in secondary school		15-19	6
Girls out of school		12-14	4
		15-19	8

FGDs were conducted by trained moderators in Kiswahili language at central locations such as the Chiefs' offices, church buildings, or community halls, and were typically 2 hours in length. The discussions were audiotaped, transcribed, and translated into English by the FGD moderators. A phenomenological approach (Creswell, 1998) was employed for data analysis as we were interested in understanding women's lived experiences and personal perceptions or accounts where water is concerned. We coded and analyzed the data thematically. Our findings have emanated from a content analysis of forty typed (double-spaced) pages of FGD data related to water issues in the slums of Korogocho and Viwandani.



## Results

# The Cost and Availability of Water

In all but one focus group discussion conducted with women and girls, water issues emerged as a major concern in both Korogocho and Viwandani. This pervasive issue shapes urban slum communities in ways best described by the study informants themselves. Their discussions provide a compelling portrait of the unique challenges women and girls face as residents of informal settlements. Some of the major challenges consistently reported have to do with the cost of water and its availability in the slums. Within informal settlements, where piped water is an anomaly,<sup>2</sup> having to pay for water on a minute-by-minute basis creates a tremendous challenge for women and young girls, who often assume the role of water managers in their families. Slum-dwellers pay approximately eight times more for water than their non-slum counterparts in Nairobi.<sup>3</sup> The actual cost of water in these informal settlements fluctuates according to availability and location, as the following discussants explain:

Respondent 2: We're used to buying water.

Moderator: How much do you pay for it?

Respondent 2: 3 shillings per jerry can, whether big or small.

Respondent 5: But there are times when the taps are dry and you can't even get any to buy. If you're lucky, you can buy a 20-liter jerry can at 20 shillings, like from tomorrow to Monday.

Moderator: So it disappears at a particular time of the week?

Respondent 6: Yes – from Friday to Monday. So, if you need to buy water, you go to the factories.

*(Women, 20-49 years old, Viwandani, Pilot FGD)*

<sup>2</sup> By the ninth round of APHRC's DSS data collection (2005), indicators showed that the majority of people residing in Korogocho and Viwandani (93%) did not have piped water and were, thus, obligated to buy water as the need arose. Just slightly over 6% of residents in these communities had piped water in their residences or compounds.

<sup>3</sup> Currently, non-slum residents of Nairobi pay a standard rate of 120 shillings for up to 10,000 liters of water.

Respondent 3: When there is no water, we buy it for 10 shillings.

Respondent 1: There was a time we had no water, so I had to spend all my cash to buy water. I didn't have any left to purchase food.

*(Women, 25-29 years old, Viwandani)*

Young girls in Korogocho provide deeper insight into the challenges of navigating water costs and availability:

Respondent 8: Like last month, there was no water in the whole slum.

Respondent 7: When there is no water, we get help from the nearby companies (industries) because they are always supplied with water. You can raise some money as a group, go to the person in charge at the company and give him the cash. He will let you get at least one jerry can each. If he refuses, then you'll have to cope without the water.

Respondent 8: Without 'something small' [bribe], there is no water.

Moderator: Who receives the bribe?

Respondent 5: Whoever you meet at the main entrance.

*(Girls, 15-19 years old, in secondary school, Viwandani)*

The quality of water, when it is available, was also a voiced concern. From the descriptions of discussants, quality is often closely associated with availability:

Respondent 5: If there is no clean water and you go to a food kiosk and ask for tea, which has milk, you will not know that the water used to cook that tea was dirty.

Respondent 4: For instance, when it rains, the tea is cooked using water that drains from the roofs. And when people relieve themselves in plastic bags, they throw their feces on top of the same roofs.

*(Women, 25-29 years old, Viwandani)*

Respondent 1: And you find that the water at the depot is saline and sold at 10 shillings.

Respondent 2: Sometimes, it smells of sewage.

[All talking]

Respondent 2: The water itself has germs, because it passes through the sewer lines.

Respondent 3: You find that the water pipes pass through the same trench as the sewer lines, which are usually very dirty, so if the water pipe bursts, then what do we do?

**Respondent 1: Take the water, which tastes like sewage, and boil it?**

*(Girls, 15-19 years old, in secondary school, Viwandani)*

The unique challenges which water shortages pose for young girls in school were underscored during the focus group discussions. For instance, while girls (aged 12-14 and 15-19) who were out of school in Korogocho did not perceive securing water in the community to be a problem, school-going girls in both Korogocho and Viwandani had a different perspective. Gender roles and expectations clearly create special concerns for young girls, who are often seen as water and sanitation managers:

Respondent 7: With the lack of water, girls find it difficult since they are supposed to be clean. When a child comes from school, she will be forced to go and look for water. Sometimes, a pupil may come to school smelling dirty. She will be laughed at by her fellow pupils, but it is not her fault – it's because of the lack of water.

*(Girls, 12-14 years old, in formal primary school, Viwandani)*

Respondent 6: Even drinking water [at school] is a problem.

Moderator: Aah, drinking water is also a problem. Can you elaborate further on that?

Respondent 6: When we go to a tap to get some drinking water, we are told we are behaving badly.

Moderator: Who tells you that?

Respondent 6: The tap owners.

Moderator: The tap owners.

Respondent 6: Eeh

Moderator: Okay.

Respondent 6: So maybe somebody should carry his own water from home?

Within this same FGD, we are given further insight into the challenges faced by girls that attend school:

Respondent 6: When it rains, sewage water finds its way into our classrooms.

Moderator: Sewage water – aaah. Thanks. Any other problem caused by water?

Respondent 8: We have difficulties in washing our classrooms.

Moderator: Why is it a problem?

Respondent 8: There is no water. We are told to carry some water from home, but most of us don't carry.

Moderator: So there are those who don't carry water.

Respondent 8: Eeh...so we just decide to sweep and collect the dirt.

Moderator: So sometimes the classrooms are not washed because there is no water.

Respondent 8: Yeah.

*(Girls, 12-14 years old, in informal primary school, Viwandani)*

Older girls in secondary school are not left out of this picture. As one of them explains, “Sometimes you have to walk a long distance to look for water and at the same time, you need to go to school. So, you see, you get tired” (Respondent 1 - *Girls, 15-19 years old, in secondary school, Korogocho*). Having water available in school is not something that young girls in the slums can take for granted, as it would mean extra costs for schools that are already resource-constrained. Unfortunately, its availability at home cannot be guaranteed, either. Water shortages are mentioned frequently across the FGDs as a major issue. That young girls out of school in Korogocho do not emphasize it as such may have to do with the relatively greater amount of time they have (which, ideally, should be spent in school) to search for water, vis-à-vis school-going girls.

## Coping Strategies

But how do women and young girls cope with the challenges that they articulate so well? Our findings reveal that female slum-dwellers are obligated to cope using mechanisms that have profound health consequences for both themselves and their families. Another slum-focused study demonstrates the ability of women in informal settlements to make biomedical connections between their environment and ill-health (Amuyunzu-Nyamongo & Taffa, 2004). Our study confirmed these findings as women and girls were keenly aware of the effect of poor water quality and poor hygiene, for instance, on the health of slum residents. Discussants in both communities provided numerous accurate examples of illnesses that might be provoked by water problems, such as cholera, typhoid, and diarrhea. Nonetheless, as the following excerpts indicate, participants clearly felt powerless to take the necessary actions to avert these conditions.

Respondent 2: When there is a water shortage, people could disconnect a pipe even from the garbage or even from the sewerage. [...] So, you see, we drink water even from sewers.

Moderator: Mmm

Respondent 7: There's a day we fetched water that was whitish; when we used it to cook *ugali*,<sup>4</sup> it was salty.

(Women, 20-49 years old, pilot FGD, Viwandani)

Respondent 8: [Y]ou find that the water supply is interrupted and there are food sellers who continue to cook *githeri*,<sup>5</sup> which is sold to us in this place.

Moderator: Mmm

Respondent 1: You do not know where they fetch it [the water used to cook] from.

**Respondent 8: They even fetch it from the river, so as to cook for us because they want money.**

And we will eat. You have no alternative. You use that water, even the dirty water you find after water supply resumes. You shall use it, provided it helps you survive the day.

(Women, 30-49 years old, Korogocho)

Respondent 5: We have to search for it [water] because water is life. We sometimes go to the nearby factories to borrow and mostly they will allow us to draw water from a well - and that's because they don't use it. Two years ago, we drew water from these wells, but when you tried to boil the water, it produced foam, and you wanted to use it for cooking.

Respondent 1: You'll be forced to drink it the way it is because you cannot boil water for the whole family. Paraffin is very expensive; we cannot afford that.

(Women, 25-29 years old, Viwandani)

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<sup>4</sup> A staple food, usually made from corn flour (but can also be made from millet or sorghum) and often eaten with kale.

<sup>5</sup> A kind of porridge, made mainly with maize and beans.

Respondent 4: Lack of water reduces the level of sanitation because you'll not be able to wash your utensils or yourself clean. I'll be forced to ration my water so as to economize it.

*(Women, 20-49 years old, pilot FGD, Korogocho)*

Women and girls also rely on creative strategies for coping with water-related problems, particularly where feeding is concerned. The importance of water in their lives extends beyond its conventional uses for cleaning, laundering, and bathing. Water is also crucial for abating hunger in these resource-constrained contexts, as the following narratives demonstrate:

Moderator: What do families in Viwandani do whenever there is a food problem?

Respondent 4: They only drink water.

Moderator: Really? So they only drink water?

*(Girls, 12-14, out-of-school, Viwandani)*

Respondent 1: And you see, nowadays, with the kale, you literally chop the whole leaf along with the stalk, and then you add water so that your family gets satisfied.

[General laughter]

Respondent 8: What are you laughing at when it's the truth?

Respondents 1, 2, 3: Yes!

Respondents 2, 7: It is not a lie.

*(Women, 30-39 years old, Korogocho)*

Further accounts drive home the point that without water, food consumption is inevitably jeopardized – a seemingly obvious concept, but one that is lived out by female slum-dwellers in ways that are plausibly foreign to their non-slum peers. Food choice is also affected by whether or not there is sufficient water to prepare a particular food item.

Moderator: Okay, tell us – what causes food problems?

Respondent 1: Water does.

Moderator: How?

Respondent 1: When there is no water, one cannot cook.

*(Girls, 12-14 years old, out-of-school, Viwandani)*

Respondent 3: Now you say to yourself, 'I want to cook meat.' How will you cook meat, though, when you don't have water? You have to look for water with those 20 shillings and cook kale or boil potatoes instead.

*(Girls, 15-19 years old, in school, Viwandani)*

In the poignant words of another discussant, "You can go to bed without eating just because there is no water" (Respondent 5 - Girls, 15-19, in school, Viwandani).

Coping with water shortages requires much planning and innovation on the part of women, young and old alike. Meals must be carefully planned for, and laundry schedules must be strictly adhered to in order to avert difficult circumstances brought on by water shortages. Mothers of young children are noted as being particularly vulnerable. Their responsibilities as caretakers heighten their need for consistent water supply. When asked how they cope with water shortages, out-of-school girls aged 15-19 in Viwandani had this to say:

Respondent 1: Economy, scaling – there's no washing clothes every now and then.

Respondent 6: But those with babies are the ones who suffer most.

Respondent 3: It's a problem, but you get used to it. That's why people say you plan. For example, you wash once in a week. Because you know if you wash more than that, what will you use for cooking?

Several participants explained that in the absence of water, it is not uncommon for women and girls to walk long distances in search of it. During such times, the environment becomes increasingly unsupportive, with water-sellers capitalizing on its scarcity, and inflating its cost by anywhere from 500 to 1000 per cent. In addition, sellers might insist on transporting the water for the buyers, thus accruing further profits:

Moderator: What do we do when there are shortages or lack of water?

All: We go looking for it.  
 Respondent 4: We can walk for even 3 kilometers in search of it.  
 Moderator: Is it free, or for sale?  
 [All talking]: They sell it to you for 2 shillings, or even 10 shillings.  
 (Girls, 12-14 years old, in formal primary school, Viwandani).

Respondent 5: Or at times, you don't have water, you may be forced to go as far as from here to the roundabout to look for water. Even if you are capable of carrying the water yourself and have no money, you must pay 30 shillings for the seller to carry it for you. (Girls, 12-14 years old, in formal primary school, Korogocho).

There are occasions when creativity and physical exertion (in the form of long-distance walking, for instance), are not enough. Discussants spoke wryly about these times when water is simply elusive. Only one participant presented borrowing water from neighbors as an option in such situations. Customarily, the only strategy available to women during these times is to do without it:

Respondent 3: If you have money, you'll be able to buy water. If not, you stay without water in the house. (Women, 20-49 years old, Korogocho)

Respondent 3: Sometimes, you have to go fetch it at Kariobangi [a neighboring community], and that requires money.

Respondent 7: And if you don't have money, you just stay like that. Without water. (Women, 25-29 years old, Viwandani)

## Linkages

In our analysis, we were struck by the linkages between water – its availability, quality, and ownership – and wider societal issues. The connection between water and food problems was elaborated upon in the previous section. In a word, for women and young girls in the slums of Nairobi, 'no water' often translates into 'no food.' Food that does not require



preparation is often unaffordable. Thus, having water is often a requirement for ensuring that families in informal settlements are actually fed. Furthermore, the importance of sufficient food supply is closely related to the quality of drinking water in the slum context. Should women privilege having safe drinking water over having adequate food supply? This is a question discussants in Viwandani, aged 30-49, address as follows:

Respondent 2: If you can't afford to buy paraffin, you drink the water without boiling. Because let's say you buy a half-liter of paraffin for 2 shillings and you want to use it for the three meals. Then you have to think about boiling water. We boil water when we have money to buy 3 or 4 liters of paraffin.

Respondent 1: And you cannot boil the water today, then drink the unboiled water tomorrow and think that you are protecting yourself. We survive by the grace of God.

The same rationale is supported in another focus group conducted in Korogocho:

Respondent 9: Here, water – yes , we have a lot of water – but a lot of it passes through the ditches, through plastic pipes. So ,when they burst, the water from the ditches enters, and many of us here don't boil water for drinking, so it brings us problems.

Moderator: How come people don't boil drinking water?

Respondent 9: We are not used to it [chuckles; more chuckling by the others]. It wastes kerosene in the stove.

*(Girls, 15-19 years old, out-of-school, Korogocho)*

The lack of piped water in the slums is, naturally, paralleled by a dearth of toilets and bathrooms. This implies further daily costs for women and young girls in a context characterized by poverty and high unemployment rates:

Respondent 3: There are houses with a bathroom and toilets, which go for around 1000 shillings, but those without go for around 600 or 700 shillings. So, when you are paid that small salary, you know that the rent has to be paid. Sometimes, you don't have a toilet and this forces you to pay for it, which is 2 shillings for each use at a time. These days, you find that you pay 2 shillings for the toilet, 2 shillings for the bathroom.

Moderator: Does it mean you pay for these every time you are -

Respondent 3: Everything here is for money.

Respondent 1: Toilet: 2 shillings; bathroom: 2 shillings; water: 2 shillings – or sometimes 3 shillings – and when there is a shortage, it is 20 shillings.

*(Girls, 15-19 years old, in secondary school, Viwandani)*

Perhaps most telling is the linkage women make between water and wealth in the slum locale. When asked to define what it means to be ‘rich’ in informal settlements, or to describe the possessions typically owned by the rich in the slum context, responses invariably associated the possession of, or control over, water with wealth. The data suggest that this perception is stronger in Viwandani than in Korogocho. The reasons for this are unclear, although it is possible that Viwandani’s proximity to, and frequent engagement with, ‘powerful’ employers in the industrial area (industries from which they often buy water) might be a factor. While there was only one reference expressing this linkage amongst women in Korogocho, those in the informal settlement of Viwandani alluded to the connection between water and wealth quite frequently:

Respondent 2: They [the rich] own taps, and if you beg them to give you water on credit, they won’t listen to you.

Respondent 5: If you own a toilet, then you are rich.  
*(Women, 25-29 years old, Viwandani)*

Respondent 3: Here in the community, you can easily identify a rich person. When there is a water shortage, the rich do not struggle, unlike the poor. In the homes of the rich, they have tanks, and pipe connections go through their homes and supply these tanks with water. So while you will be wondering [what to do], they will be using the stored water. By that, you know that they are rich.

*(Girls, 12-14 years old, in primary school, Viwandani)*

Respondent 5: A person can be living here in the slums and he doesn’t have enough assets. His kids don’t get enough food, they don’t have shoes, and they even don’t take a bath.

Moderator: Please explain to me, what do you mean when you say he doesn’t have enough assets?

Respondent 5: He has no food. No water and clothing.  
*(Girls, 12-14 years old, in primary school, Viwandani)*

**Conclusions**

In this paper, we describe the ways in which women and young girls are affected by water in its many forms in two informal settlements located in Nairobi, Kenya. In addition, we explore the strategies female slum residents use to mitigate the myriad effects of water concerns.

Our findings indicate that within the 'unplanned' environment of informal settlements, women and girls face formidable water-related challenges, exacerbated by poverty and gender roles and expectations. Water shortages are common in the slums and women and girls are often responsible for ensuring this scarce resource is available in the home. In a context in which water must be purchased prior to use, unimaginable constraints are placed upon a low-income population that is largely unemployed. Women in these settings are obligated to modify their families' food choices according to the daily costs of water. With the cost of cooking fuel being a major impediment, unhealthy practices, such as drinking unboiled water, are the norm. Unfortunately, the water that is available in the slums is often of poor quality, raising questions concerning the hygiene of the affordable food commonly cooked, sold, and eaten in informal settlements. Young girls in school face unique challenges of their own, spending inordinate amounts of time and energy in search of water, with implications for their school engagement.

Water problems also provoke and inform other, wider societal issues within the slums. Inadequate water supply has implications for being able to make use of toilet and bathing facilities – both of which are commonly paid for on daily basis in Korogocho and Viwandani. Most striking is, perhaps, the perception of water as an 'asset' in the slums, demonstrating the power wielded by those who supply slum residents with water, and, sadly, the level of its scarcity.

In our theoretical account of water and women, residents of rural settings normally come to mind when thinking of water difficulties and constraints. Our findings in this paper alert us

to the fact that women in the context of urban poverty must not be forgotten. As one informant reminds us, "It's not like in the rural areas where you can fetch your water from a river. Here [in urban slums], you have to buy water" (Respondent1 – *Women, 30-49 years old, Viwandani*).

In addition to the general need for increased program and government attention to informal settlements, the narratives presented in this paper demonstrate a need for affordable means of water purification that would make sense for slum residents, as well as for the organized provision of water to these areas. Presently, two-thirds of Africa's urban population lives in informal settlements (UN-HABITAT, 2003). By the year 2030, Africa's population will be largely urban, with a large proportion living in slums (*ibid.*). The achievement of the Millennium Development Goals will undoubtedly weigh heavily on the consideration given to the needs of informal settlements. The word 'Nairobi' is, paradoxically, the Maasai term for 'the place of cool waters.' The current challenge is to make the capital city of Kenya such a place – a place of cool waters – for women and girls in the slums.

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