

## Short Communication

### A QUALITATIVE ASSESSMENT OF FOOD SECURITY IN AN INTERNALLY DISPLACED PERSONS CAMP IN KENYA

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## ABSTRACT

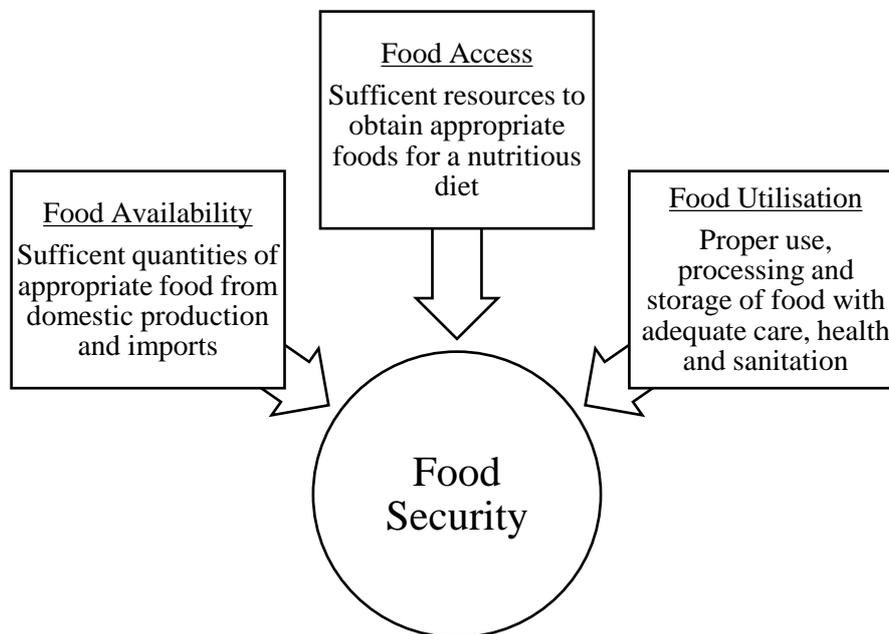
The 2007/08 post-election violence in Kenya resulted in the displacement of an estimated 600 000 people. Current published research suggests that many of these internally displaced persons (IDPs) continue to have issues accessing basic needs, including food and water, impacting morbidity and mortality. This study aimed to assess food security and access to cooking fuel and water within an internally displaced persons' (IDP) camp in Kenya. It was designed as a descriptive, qualitative study involving semi-structured interviews with members of households residing in the IDP camp. Participants were recruited through respondent-driven sampling using a network of coupons. Semi-structured interviews were utilised to determine key issues associated with the attainment of food security, access to cooking fuel and water among resident IDPs, targeting male household heads. Interview structure was based on framework for assessment of food security provided by the International Federation of the Red Cross. Recorded interviews then underwent thematic analysis using NVivo 10 (QSR International, Melbourne, Victoria). A total of 15 semi-structured interviews were completed with men at the camp, aged between 18 and 53. Thematic analysis shows that key elicited concerns regarding food security included lack of capital for agriculture, lack of dietary diversity, seasonal insecurity and anxiety about the future. Access to water was limited to a single borehole located within the camp. Few reliable and safe sources could be identified for cooking fuel. Thus, internally displaced persons residing at this camp continue to experience significant food insecurity. Despite being allocated land for agriculture, they lack capital for investment in agriculture and access to local food markets. Access to water and cooking fuel is limited and a source of significant concern. Initiatives to improve food security delivered through government and non-government programs are necessary to minimise the significant impact of such food insecurity on mental health and disease profiles as reported in other IDP settings.

**Key words:** Internally displaced persons, Kenya, Food security, Qualitative study, Nutrition

## INTRODUCTION

Internally Displaced Persons (IDPs) are defined as those who ‘flee their place of residence due to armed conflict, situations of generalised violence, violation of human rights or natural or human made disasters, without crossing a recognised international border’ [1]. According to government estimates, the 2007/08 post-election violence in Kenya led to the displacement of up to 600 000 people [1-3]. Violence was particularly severe in the fertile Rift Valley, where those of Kikuyu ethnicity were targeted, among others. Five years on, limited literature on the needs of Kenya’s IDPs suggests that access to basic needs such as food, water, sanitation and health continues to be irregular [4]. It is known that many of those displaced were owners of fertile farms, and it is expected that dispossession of land will have caused significant food insecurity; however, limited research confirming this has been published [5].

Food security is a composite concept, said to exist ‘when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life’ [6]. Three distinct issues are critical to the attainment of food security; availability at all levels, household access and individual utilisation of food (Figure 1) [7].



**Figure 1: The three key facets of food security; food availability at national and subnational levels, access to food at the household level and proper utilisation of food at the individual level [7]**

Food security has been identified as a key contributor to health and wellbeing globally. In contrast, food insecurity has been independently linked to poor growth, micronutrient inadequacy, anxiety, depression, obesity and poorer overall health status across all ages in developed and developing countries [8-10].

Food insecurity for displaced persons is experienced through limitations in household access and use. Household access is often compromised due to increased poverty and loss of land and livelihood during displacement [11, 12]. Furthermore, inadequate storage facilities, clean water, sanitation and the presence of poor health, such as malabsorptive diseases, mean that IDPs are unable to optimally use available food sources [11]. Food insecurity has emerged as a key contributor to morbidity and mortality among displaced persons. In displacement scenarios in other parts of the world, it has been associated with malnutrition, post-traumatic stress-disorder and anxiety [13, 14]. In the absence of reliable access to food, it has been documented that women and girls have been forced into prostitution which places them at risk of exploitation and HIV [15]. Hours spent by household adults completing daily work to purchase food may also compromise the care and wellbeing of children left at home [12].

To date, limited studies have analysed the challenges of food security among Kenya's Internally Displaced Persons. In particular, little is known about the needs of individuals who may have been resettled by the government following many years in displaced person camps. The challenges faced by those resettled may provide insight into issues faced by IDPs beyond the emergency period of displacement, an area neglected by the current body of literature. The purpose of this study was to gain insight into the food security of households in a resettlement camp in Kenya. The aims were twofold: firstly, to use semi-structured interviews to gain greater understanding of challenges than could be achieved through quantitative research; and as a secondary aim, to analyse access to water and cooking fuel.

## METHODS

### Study Area

This study was completed in June, 2013 within an Internally Displaced Persons camp located in Nakuru County, Kenya. The camp is a resettlement site for persons displaced from the Rift Valley in the 2007/08 post-election violence. There are currently over 400 families residing in this camp, and they have each been allocated 2 acres of agricultural land and a quarter of an acre of residential land.

All study procedures involving human subjects were approved by the University of New South Wales Human Research Ethics Committee (HREC Reference Number: HC 13157). Written informed consent was obtained from all subjects.

### Participants and Data Collection

This study consisted of both quantitative and qualitative components being completed simultaneously. The detailed methods and results of the quantitative study have been published elsewhere [16]. In summary, men were initially recruited for the quantitative study through a process of respondent driven sampling (RDS) [17]. This began with an initial sample of five men, referred to as seeds, who were recognised as having a large social circle within the camp. The seeds were provided with documentation to recruit subsequent participants who presented in successive waves. Men who presented to the study site first completed the quantitative components of the study. Posters in English were displayed throughout the study site, and men were then able to volunteer to take

part in the qualitative study. Following completion of the interviews men received a small payment (50 Kenyan Shillings or \$USD 0.80) as reimbursement for their time.

Those included in the qualitative study were male, aged  $\geq 18$  years, resident of the IDP camp and able to communicate in English. Men were excluded from the study if they were residents of neighbouring IDP camps. Data was collected from men as they were the primary food producers and providers for their family, and so were more likely to provide an accurate reflection of food security.

### Interviews

Once men volunteered to take part, they were asked to sign a consent form for an in-depth interview. Each participant was interviewed by one of three interviewers, and responses recorded using a digital voice recorder. Interviews lasted between 30-40 minutes, and had no mention of identifiers to maintain confidentiality. Interviews were further de-identified during transcription. A semi-structured format was utilised with questions based on recommendations by the International Federation of the Red Cross [18]. Interviews focussed on three predetermined topics: 1) access to food; 2) access to water; and 3) use of cooking fuel. Each topic would commence with an open-ended question such as “Tell me about the problem of... (referring to the selected topic)” and participants would be allowed to talk without interruption. Participant responses shaped subsequent questions and provided direction to the interview. Other questions asked about life prior to displacement, family and friends to build rapport with the interviewees. Interviews were only conducted in English, and this may have influenced the characteristics of the interviewees.

At the end of each day, interviewers debriefed together with the assistance of public health officials in Rongai district. This helped to identify key themes from each interview, and formulate more focussed and culturally relevant questions to elicit further information in subsequent interviews. It also identified problems in the interviewing process and allowed possible solutions to be discussed. Each interviewer maintained a reflective journal to document learning from debrief sessions, clarify experiences and annotate perceptions at the point of research.

### Data analysis

Recorded interviews were transcribed verbatim by each of the three interviewers. NVivo 10 (QSR International, Melbourne, Victoria) software was used to assist data management and analysis. Participants were allocated pseudonyms. Analysis was completed using the three main topics of food, water and cooking fuel. Responses were analysed thematically to determine key issues expressed by interviewees. All interviewers initially coded the same five interviews. Those issues identified by at least two of the three interviewers were then utilised to analyse the remaining interviews. This was followed by the axial coding stage to allow continuous comparison of codes among one another to discover links. Related categories were combined and compared against analysed data to confirm key themes and issues. All stages were discussed with the remainder of the research team to clarify and verify identified themes and maintain rigour.

## RESULTS

A total of 15 semi-structured interviews underwent thematic analysis. Salient concerns of camp residents regarding access to food were analysed to derive subthemes. These included concerns regarding dietary diversity, seasonal insecurity, lack of capital for agriculture and anxiety about the future. The themes of access to water and cooking fuel were more homogenous, with all interviewees discussing similar concerns about current access, and anxiety regarding the future. All 15 interviewees were confirmed residents of the camp, of Kikuyu ethnicity and between the ages of 18 and 53. They all relied on food grown on allocated land as their main source of food, and food purchases as a complementary source.

### Access to food

#### *Dietary diversity*

All interviewees expressed concern about the lack of diversity in their diets. Participants stated that they relied largely on starch-based foods with high carbohydrate content. Daily diets consisted of local staple food such as *ugali*, a dough-like food produced from maize flour, and *githeri*, a mixture of maize and beans:

*“I wake up in the morning and I get a cup of tea, maybe ugali that was left yesterday. Then I go to the shamba (land). Then I come for lunch, get the maybe ugali or githeri or something like that. And then at the evening, okay it keeps on changing, I can get githeri or ugali also” – Participant 1D*

These dietary habits were consistent with the agricultural practices of the area, with all interviewees mentioning they had planted maize and beans as their main food crops. Any vegetables for consumption were either planted on residential plots, or purchased after selling bags of maize and beans. These vegetables included cabbage, *sukumawiki* (*collard greens*), peas and sweet potato.

Some of the participants postulated that their displacement had led to a significant change in their quality of diet by discussing pre-displacement dietary habits:

*“I had started a small business and it was good because I got money. We were eating good and my family was staying well” – Participant 1E*

*“At that time we were holding public meetings and educating people on how they should feed themselves and have balanced diets” – Participant 3A*

All participants expressed concern about the impact of these monotonous diets on their health and wellbeing. The impact of diets on their families and in particular their children, and elderly were a significant concern expressed by six of the interviewees:

*“I’m concerned about my family’s wellness. My child, even if I lack, my child cannot lack. My mzee (elderly) as well. We need protein rich foods, we lack” – Participant 2C*

*“We came here with our children, and we struggled very much for children to get the food they require. Because you know, as children they require good food, diet, so that*

*they get health into their body” – Participant 3A*

### ***Seasonal insecurity***

Access to food was determined by seasonal variations in crop outputs. In the absence of a regular irrigation system, participants were particularly worried about the impact of fluctuating rain patterns, as supported by the following comment:

*“Last year the rain came the whole year around. But this time (it) is coming in intervals”  
– Participant 1D*

Time periods between harvests, or when food supplies from previous years have been exhausted were identified as particularly difficult for residents. Very few interviewees had access to food coping strategies such as livestock, or friends and family for support. Seasons of poor crop output usually resulted in food being reserved for children and other vulnerable individuals at home, including the elderly. Participants mentioned going to sleep hungry as a frequent occurrence for household adults during this time.

For others, the pressure of expenditure on education and other necessary household products often forced them to sell bags of maize from the previous season. In less productive crop seasons this tended to be more common as income from work ploughing fields for others was not available:

*“We sell all of the food because we don’t have any other work now. You find you are almost selling all of your harvest” – Participant 1E*

As all interviewees tended to rely on farming of similar crops, they all identified the time period around June and July to be the most difficult. This was when their harvest from the previous season was exhausted and they were forced to seek other food coping measures.

### ***Lack of capital for agriculture***

Lack of financial capital to maximise use of their allocated land was a major concern. A lack of money meant that they were only able to afford the expenditure to use one acre of the two acres they had been allocated. The other acre either went unused, or was rented to those who could afford the costs of farming:

*“I have a piece of land in that, from government 2 acres. I’m able to plough 1 acre. To farm only 1 acre at the moment” – Participant 2C*

Selling produce bags to raise money for expenditure such as fertiliser, seeds and labour added to their concerns. Others reported ploughing and planting during inappropriate seasons as money had to be diverted to other areas such as schooling and healthcare. Two of the participants specifically mentioned trying to access loans to address this issue, but were denied. Many of the participants were aware of the benefits of diversifying crops to include plants such as tomatoes:

*“With tomatoes, after three months you get money. If you can grow one acre of tomatoes, after three months you are rich” – Participant 3C*

While all interviewees were aware of this option, they were not able to afford greenhouses and other expenditure that would allow such farming. Many of the interviewees expressed frustration and helplessness at their inability to make optimal use of their two acres of land.

### ***Anxiety about the future***

Concerns about the future of their reliance on the land were also expressed. A particular worry was how the land would be shared when their children (mainly boys) were married and had families of their own:

*“Let’s say after I marry, I’ll have my wife and my children, now I’ll need to look for another farm so at least the food I am getting from that land may be enough for my family. I know in future, we are several boys, when we share the land, you see each and every person will get an equal share” – Participant 2B*

Other interviewees mentioned the impact of traditional gender roles on their anxiety, with men being viewed as the traditional providers for their household. Men who were unable to provide for their families felt they were viewed differently in social circles:

*“A woman is just a baby, you cannot say that woman will come to give you a meal you see so husband of house, the king of house must know where the food will come from” – Participant 1B*

### **Access to water**

All interviewees identified the local borehole as the primary source of water for themselves and their families. Water collection was typically the duty of women at home. Water was purchased from the borehole for money which was then used to pay electricity bills and run the motor for water extraction:

*It is 2 Kenyan Shillings for 20 litres, but if you want to there are those with bikes or motorbikes. You see when they carry the water there you will pay him 20 Kenyan Shillings per 20L – Participant 2A*

The average family would utilise 20 litres in approximately two days, and so constant purchasing was necessary. Access was particularly difficult for vulnerable and elderly people. While the men interviewed mentioned that younger women purchased and then carried water, those less mobile relied on delivery from bikes and motorbikes. The extra expense this generated increased financial pressure on households.

With an excess of 400 families relying on the same borehole for water, the interviewees were aware of the pressure the resource was facing. Any dysfunction of the borehole motor would have significant ramifications for the residents of the camp:

*“We are afraid because sometime in future we may be lacking water. It was dug so many years ago and it has gone almost, it was constructed almost 60 years ago. They don’t have the modern way of water being extracted from the well” – Participant 3A*

### Access to cooking fuel

Access to a consistent, reliable source of cooking fuel was a significant issue for all men interviewed. All participants mentioned that they were aware it was illegal to chop down trees in the area, and fearing penalties, they reported that they did not partake in such activities. There were three other sources of cooking fuel identified by interviewees. The first involved collecting sticks from the neighbouring farms, which was risky due to the high chance of being apprehended by the farmers:

*“You have to sneak yourself and enter into that farm nearby here and if the owner gets you, then you have to face the music” – Participant 3A*

*“Our women go to the neighbouring farms and get firewood, it’s a little bit risky because the owners of that farm sometimes arrest them” – Participant 1E*

When households had money they were able to purchase firewood or charcoal from passing salesmen. At other times, the dried stalks of maize left over following harvest were used.

### DISCUSSION

To the researchers’ knowledge, this is the first qualitative study to analyse food security among individuals displaced in the 2007/08 Kenyan post-election violence. This study provides new information by: 1) focussing on food security after resettlement, an area neglected by existing literature; and 2) utilising semi-structured interviews which provide detailed insight into the challenges confronted by Kenyan IDPs.

This study found that a lack of capital for agriculture was a key concern of the interviewees. Without necessary fertiliser, seeds and equipment, they were not able to maximise output from allocated land. Insufficient funds for initial investment caused many of the interviewees to use only one out of their allocated two acres of land. This is similar to the experience of displaced persons in northern Uganda [15]. There, IDPs were unable to cultivate and utilise allocated land due to a lack of farming tools. Even for those who did achieve crop outputs, food insecurity remained high due to inadequate food storage facilities. From responses received, resettlement and allocation of land have not ensured food security. It is clear that the productivity of allocated land is reliant on many complementary investments, in the form of seeds, fertiliser and farming [19]. Though expenses are incurred together at the beginning of the season, their economic yield is not achieved for some time. As the interviewees mentioned, camp residents may benefit from loans. There may be benefit to official registration of land with title deeds to increase access to credit [20]. This will also bring a sense of security and ownership which has also been linked to improved yield in other settings [15, 20].

Furthermore, staple diets described by participants consisted of starchy, carbohydrate dense foods with limited diversity. Many expressed concern about the health effects of such diets, especially for vulnerable populations including children and the elderly. Research from other parts of sub-Saharan Africa has confirmed that diets among displaced, even following resettlement, are monotonous and limited to locally available grains [11]. This may be largely explained by the low-income levels of camp residents

which limit access to local food markets. On rare occasions that camp residents access markets, their purchasing habits may reflect patterns documented among low-income households in the literature [21]. It is well known that low-income households are more likely to purchase low-cost, energy dense foods rather than consuming a wide variety of micro-nutrient rich foods [21, 22]. Indeed, low dietary diversity is correlated with inadequate micronutrient intake. Outbreaks of both rare deficiency diseases (example pellagra, beriberi) and common micronutrient deficiencies (example vitamin A, iodine and iron) have been reported among IDPs [23]. However, the majority of these studies were completed in acute phases of displacement. Whether insufficient micronutrient intake remains an issue following resettlement may be an area of interest for future studies.

It is likely that this household food insecurity is having an impact on the health of the residents in this camp. Men in this study expressed anxiety about their future access to food. Food insecurity has been linked to post-traumatic stress disorder, depression and anxiety among IDPs in other parts of the world [13, 14]. Symptoms of depression and anxiety have been reported as incidental findings by other studies among Kenyan IDPs [24]. Whether these are related to food insecurity may be of interest to future studies. Other studies have found that household food insecurity among IDPs may force women and girls to sell sex, accelerating the spread of HIV and placing them at risk of gender exploitation [15]. Though this was beyond the scope of our study it may be of interest to other researchers.

Seasonal insecurity was expressed as a key subtheme by participants when discussing access to food in this IDP camp. The time around June before the maize harvest when food supplies from the previous season were exhausted was particularly difficult. Though seasonal insecurity is also experienced in non-displaced farming communities in Kenya, it is likely that the displaced individuals are affected to a greater degree. Indeed, research from IDP settings in Sudan confirms that IDPs experience greater seasonal food insecurity than surrounding non-displaced communities [25]. This may be because displaced persons, even after resettlement, may not have established food coping mechanisms [26]. While non-displaced communities may be able to rely on purchased livestock, friends and family, displaced persons may not have such supports in place [27].

Allocation of land, as has occurred in this setting, may not represent a durable solution to displacement. The results of this study suggest that the residents of this particular resettlement site are engaging in small scale, low yield, subsistence farming which has the potential to trap them in low productivity cycles spanning generations. Food security does not necessarily mean self-sufficiency at the household or local level. Instead, studies suggest that access to a reliable living wage may be equally if not more important [28]. Thus a balance between food and commercial crops may be the best approach to attaining food security [29]. This provides the added benefit of access to local markets increasing dietary diversity and access to essential items which cannot be produced for self-consumption, such as clean water and cooking fuel [28, 29]. Exactly how resettled IDPs can generate the resources necessary to engage in farming of commercial crops is a difficult question. Evidence from Asia suggests collective farming initiatives,

agricultural extension services and collective investment in infrastructure such as irrigation may represent potential solutions [29].

A key strength of this study was the use of semi-structured interviews. This provided more detailed insights into the challenges of food security for IDPs, than could be achieved through quantitative measures. Such insights are of value to public health practitioners when formulating and implementing public health policy, and providing directions to subsequent research. However, this research was focussed on one particular camp, and these findings may not be similar in other IDP settings, especially where resettlement has not been completed. By focussing interviews on English-speaking men over the age of 18, we excluded poorly educated men, and female headed households with small children. The experience of food security for such households has been different in other settings [30].

## CONCLUSION

Thus, this study suggests that in this setting resettlement has not resolved the challenge of food security for IDPs. Dietary diversity remains low, seasonal insecurity and anxiety about the future high, factors which may be compounded by a lack of access to capital for investment in agriculture. In the absence of complementary resources, including machinery, fertiliser, seeds and irrigation, small-scale farmers cannot achieve the optimum yields of their land. Even in cases where such yield is attained, sole reliance on subsistence farming is not associated with food security. A balance between food and commercial crops may be more ideal, as it opens access to food markets to improve dietary diversity, and other items essential for human development (example cooking fuel and clean water). Kenya's IDPs may benefit from registration of land to improve access to credit, collective farming initiatives and agricultural extension services. Without such steps, it may take many years for IDPs to re-establish themselves and achieve the food security of the average Kenyan household.

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