

Coping with Food Insecurity in Mathare Valley Slum in Nairobi, Kenya

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Abstract

The right to food is recognized in the 1948 Universal Declaration of Human Rights as part of the right to an adequate standard of living. The study while it aimed at establishing the nature of food insecurity in Mathare Valley, it also sought to find out the coping strategies residents of the informal settlement employ to cope with food insecurity. This was a cross-sectional study that employed quantitative and qualitative approaches to collect and analyse data. The study established that food insecurity was prevalent as most people were engaged in casual jobs that pay less than Ksh. 5000/= per month, much less than official minimum wage. The residents use various coping mechanisms such as relying on cheap food, skipping of meals, borrowing and depending of food aids. The study recommends that community economic empowerment be undertaken as that is at the core of food insecurity.

Keywords: food security, food availability, food accessibility, coping strategies

1.0 Introduction

Right to food is a fundamental human right. According to the Universal Declaration of Human Rights, Article 25, everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. Further, the right to adequate food is realized when every man, woman and child, alone or in community with others, has the physical and economic access at all times to adequate food or means for its procurement. Food security also connotes as a minimum: the ready availability of nutritionally adequate and safe foods (Committee on Economic, Social and Cultural Rights (CESCR) in the General Comment 12).

According to FAO 2013, the number of food insecure people is still high at 842 million people in 2011–13. While food is categorized as a basic human right (FAO, 1996; Chapter 4 in Constitution of Kenya, 2010), food and nutrition insecurity is a daily reality for millions of Kenyans living in both the rural and urban areas. This is according to Kenya Food Security and Nutrition Policy (KFSN, 2011) report, about half of Kenya's estimated 38.5 million people are poor, and some 7.5 million people live in extreme poverty, while over 10 million people (26 percent of the population) suffer from chronic food insecurity and poor nutrition. This means that food insecurity stands at about 6 per cent of the population. During extreme weather, which is in periods of drought, heavy rains and/or floods, the number of people in need could double.

Food security includes at a minimum: the ready availability of nutritionally adequate and safe foods. It also means assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies).

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On the other hand, food insecurity refers to limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (Andersen, 1990). Further, food security encompasses access to and availability of food, as well as the distribution of resources to produce food, and the purchasing power to buy the food where it is not produced. Food security is as well an income issue and not only a production issue; it is primarily an issue of poverty (Schuh, 1997).

According to Oxfam's (2009) report on vulnerability of urban slum dwellers, they are subjected to various kinds of vulnerability which include increased cost of food in recent years, which has led a majority of slum dwellers to decrease the frequency and size of their meals as well as pushing people into high-risk livelihood activities in order to meet their basic needs.

Food insecurity is even a major area of concern in urban areas and especially in informal settlements. In Nairobi there is Mathare, Kibera, Mathare Valley lies approximately 6 kilometres to the northeast of Nairobi's central business district and is bordered by Thika Road to the north and Juja Road to the south. Math are Valley, the area is comprised of 13 villages: Mashimoni, Mabatini, Village No. 10, Village 2, Kosovo, 3A, 3B, 3C, 4A, 4B, Gitathuru, Kiamutisya, and KwaKariuki. The settlement sits within a valley of the Mathare and Gitathuru Rivers. Math are is one of the oldest and largest informal settlements in Nairobi.

The population is high due to high fertility rates. The 2009 Kenyan Census reported it at 80,309. The land tenure is a mixture of government land, city council and individual ownership. Mathare valley has temporary roads with numerous foot paths which make access by vehicle difficult and limited due to the rough terrain and overcrowding in the area (Narayan and Nyamwaya, 1995).

The 2005/06 Kenya Integrated Household Budget Survey (KIHBS) estimated that the food poverty line in monthly adult is equivalent to Ksh. 1,474 in urban areas while it's Ksh. 998 in rural areas). The absolute poverty line in a month for an adult was found to be equivalent to Ksh. 2,913 for urban areas compared with Ksh. 1,562 for rural areas. This indicates that poverty levels are so high.

Reliance on purchased food is a leading factor in household food insecurity of poor urban populations, who lack a fixed income. Although a wider variety of food is available, the food consumed in urban areas is not necessarily of superior nutritional quality and food safety is a growing concern in many urban environments.

There are a number of ways, and levels, at which food security and insecurity can be measured. These levels include: continental, regional, sub-regional and households levels. In this research the nature and prevalence of food insecurity in Math are was examined at a household level. Although food is readily available in the markets patronised by urban slum residents, access and utilization prove difficult for many households.

Food availability and access are influenced by the ability of individuals and households to produce their own food in sufficient quantity and to generate income to purchase food, the adequacy of infrastructure, effectiveness of food distribution systems and the affordability of food prices. Other factors include access and control of productive resources (land, seed and water), governance, legal and regulatory frameworks, the macroeconomic environment, gender dynamics, HIV/AIDS and other diseases, emergencies and conflicts. High poverty levels have affected household access to food. Most Kenyans rely on markets for some or all of their food needs.

Food is one of the single largest expenses for residents in Math are, accounting for nearly half of household expenses. The question is how the residents cope with food insecurity. Urban dwellers are highly vulnerable to food prices as they rely heavily on the market for all basic goods and services compared to rural dwellers that even without money in the pocket can get food from their gardens. The food security in an urban household is largely determined by the household source of livelihood (University of Nairobi et. al, 2012).

Maxwell (1995) on his study on alternative food security strategy in Uganda observed that urban farming has been adopted as a food security coping strategy whereby it is used to supplement other sources of food. Indeed he observes that "women view urban farming in very pragmatic terms as a source of food" in that in conjugal households where incomes are not pooled, farming is specifically a strategy of women to protect or supplement their other sources of cash incomes (ibid p1673).

Poor urban dwellers in particular tend to rely on unstable income sources such as casual wage labour, which varies seasonally. The rise in food prices has forced many to spend more than half of their income on food. To cope with this, many households adopt a variety of strategies including reducing food consumption (quantity and quality) in times of unemployment or when food prices are high, resulting in food insecurity (IIED 2013).

1.1 Study Question

In light of the foregoing this paper seeks to highlight the coping mechanisms deployed by residents in informal settlements to cope with food insecurity.

1.2 Theoretical framework

The study borrowed a lot from the system theory, which was developed by Ludwig von Bertalanffy (1968). The theory provides an analytical way to showcase the different factors involved in community development. It also argued that people will take advantage of the opportunities in a social system to address their needs. Thus technically people adopt coping mechanisms as necessary.

2.0 Methodology

2.1 Research Design

The study used a cross-sectional study design. Cross-sectional studies are carried out at one time point or over a short period (Kothari 2004). This study sought to observe and seek to establish the situation of food insecurity in informal settlements at a given period in time. Further, the study sought to establish the coping mechanisms adopted to cope with food insecurity in informal settlements.

2.2 Study Site

The study was carried out in Math are informal settlements, which is one of the largest and oldest in Nairobi. Nairobi was established in 1899 as a transportation and administrative centre for the Kenya-Uganda Railway, totalling just 10,000 people in 1906. 'Math are' is a Kikuyu word for Dracena trees, and Math are Valley has a long history of informal settlement. The first residents began arriving after 1920 and some of Pangani's displaced villagers moved to Math are in the 1930s. Villages spread from the 1930s-50s along Juja Road and in the eastern edge of the valley. Human settlement was limited by rock quarrying that was occurring in the river valley. Math are is situated in Starehe Sub-County of Nairobi City County and is 5 kilometres from the city centre. Land tenure is a mixture of government land, city council and individual ownership. Mathare valley has temporary structures as dwelling houses, earth roads and with numerous foot paths which make access by vehicle difficult and limited due to the rough terrain and overcrowding in the area. (Narayan and Nyamwaya, 1995). The settlement has a total of 13 villages. (see appendices for *maps of the study site*).

2.3 Study Population, Sample size and sampling procedure

The study targeted informal settlement residents in Math are valley, Nairobi Kenya. The target population for this study was adult members and head or representative of households living in the Math are Valley.

The unit of analysis for the study was the household. This is because food insecurity in most communities is a household level phenomenon. Participants who participated in the study were: the most senior member (male or female) of a sampled household; those who consented to participate in the study, and those who had lived in the area for at least six (6) months prior to the study.

Multistage sampling approaches were used in the study. The study site was sampled purposively Mathare is the largest informal settlement in Nairobi. Secondly, cluster sampling was done to identify the villages to be included in the study. In the interest of optimizing on the time and resources available to support this study, the thirteen villages in Mathare valley which comprise 27,812 households as per the 2009 Kenya National Census data. Proportion to size sampling was done and this, based on Yamane (1967) estimation, led to a sample size of 381 households out of the targeted 8151 households. Key informants were purposively drawn from community leaders for in-depth interviews.

2.4 Data Collection Methods and Tools

The study collected data mainly through a). An interview schedule which is a face-to-face encounter with the subjects to collect information desired using a guide, and b) a key informant interview check list to generate in-depth data from individuals deemed to have rich information on food insecurity in the study site.

2.5 Data Analysis

Quantitative data was entered into the computer and processed using the Statistical Package for Social Sciences (SPSS), V.21 and was analysed and presented using descriptive statistics such as means, frequencies, and percentages. Multinomial regression analysis was done to identify the significant mechanisms adopted for coping with food insecurity. This is because multinomial regression is normally used to predict the probabilities of the different possible outcomes of a categorically distributed dependent variable (Greene 1993). On the other hand, qualitative data was continuously classified, coded and content analysed as guided by the study objectives.

2.6 Ethical Considerations

The study sought informed consent of respondents, and assured them confidentiality and anonymity of their responses as well as their right to voluntarily withdraw from the study.

3.0 Results

3.1 Demographic and Socio-Economic Characteristics of the Respondents

As indicated in the Table 1, of the respondents who took part in this study, 45.16% were male while 54.84% were female.

Table 1: Demographic and Socio-Economic Characteristics of the Respondents

Social Demographics

Gender	Male = 45.16%, Female =54.84%
Age	<44 years 80.7%, 45-60 14.1%, >60 3.4%
Marital status	Married 47.3%, Single 33.2%, Separated 11.0%
Religion	Christians 77.0%, Islamic 13.6%
Family size	1-3 39.6%, > 4-10 56.4%
Educational level	Up secondary 41.3%, university 6.8%
Occupation	Unemployed 37.1%, Employed 25.6%, Self employed 28.2%
Income	<8000Ksh 62.9%, > 8000Ksh 13.1%
Length of stay	> 6 yrs 74.1%, 1- 5yrs 18.5%, 0-0.5 months 5.2%

Almost half of the respondents were in their youthful age group (18-34 years) accounting for 49.1% of the sampled population. In general more than two-thirds of the respondents (80.7%) were aged below 45 years and thus Mathare Valley could be said to host a very youthful population. On marital status, 47.3% of respondents were married while 33.2% were single and 11.0% separated. Christianity is the most dominant religion.

Size of a household naturally has implications on food security. In Math are, households with four to six members are a majority at 40.2%. According to one area administration officer, *in Math are Valley majority of the household have members ranging from 5- 10, these huge numbers make it hard for the families to be food securer.*

These results are consistent with a 2011 study by Pendekezo Letu that showed that the average household size in informal settlements is 6.4 persons and that in Nairobi's slums, up to eight (8) persons share a single room, made of iron sheets, plastic, mud and timber. At least (41.3%) of the respondents were educated up to at least secondary school level. There were also some respondents (6.8%) with university level.

By and large the population is economically insecure and thus could also be food insecure due to limited economic capacity. A large percentage (37.1%) of the respondents were unemployed, while those in employment, whether in public or private sector constituted only 25.6%. The self-employed people were at 28.2%. Among the self-employed businesses they include business ladies/men, driver jobs, hairdressing, artisans, petty trading (*mama mboga*), water vending among others.

Majority of respondents (74.1%) have stayed in the informal settlement for a long time which is possibly an indication of limited economic mobility, which in turn could be reflective of food insecurity. Majority (62.9%) of the respondents earn salaries of below 8,000 thousand Kenyan shillings, way below the 2013 minimum wage for labourers in Nairobi of ksh. 9,780 a month. This is indicative ultimately of food security given that food has to be purchased with the little disposable income. With these 62.9% that have an income of less than 8,000 per month, in a place where they have to pay for everything *the one local administration officer pointed out that the money is not enough due to the high cost of living in the area where the rental rates start from a minimum of 1000 per month, they have to pay for the water, electricity, food, toilet facilities and other household expenses. Considering that there are a lot of unemployed residents who do the casual jobs that pay minimum low wages.*

3.2 Perception on Prevalence of food insecurity

Majority of respondents (70.0 %) agreed that there is food insecurity in the area. While the majority of children had at least three (3) meals a day, majority of adults had at most two meals a day, and 11.5% of respondents reporting that adults have one meal a day.

Table 2: Frequency of meals

Number of times	>18 years		5 years - 18 years		6 months – 59 months	
	Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
0	1	.3	-	-	1	3
1	44	11.5	11	2.9	3	8
2	141	36.8	86	22.5	32	8.4
3or more	137	35.8	132	34.5	111	29.0
No response	60	15.7	154	40.2	236	61.6
Total	383	100.0	383	100.0	383	100.0

With regard to the sources of food, 61.4% of the respondents reported that they purchase their food, while there are those who obtained food by being paid in kind that is, those who labour and are paid in kind, and these constituted 15.1% of the respondents. Food aid programs which are well established in Math are Valley were a source of food for 9.5% of the respondents. In light of the low incomes it could be deduced that by and large the local incomes are not likely to enable residents to purchase adequate food. Asked to indicate whether food was readily available in Math are informal settlement, majority (51.7 %) of them were of the view that there was inadequate supply of foodstuff in the market which in turn culminated into overall food inadequacy at the household level.

3.3 Causes and nature of Food Insecurity

Food insecurity is a function of a variety of factors. The main ones included: a) low income levels in Math are Valley which were cited by most respondents (41.1%) as the major cause of food insecurity; b) gender as the study also established that that women were more likely to be food insecure than men; and c) low educational levels of the residents in Math are Valley which often hinder them in securing better employment and good income rates. The other causes of food insecurity include poor infrastructure and security issues which at the end affect the flow of food stuffs to the market.

3.4 Coping Strategies

A variety of coping strategies were reportedly adopted by residents of Mathare valley informal settlements in addressing their food insecurity. Majority of the respondents (71.5%) acknowledged that they were food insecure at any given point in time. The coping mechanisms included:

Borrowing: Majority of respondents (22.2%) reported that they coped by relying on borrowing, followed by cheap food at 19.6%, reduced portions at 17.2%, restrict adults 6.8 %, reduced meal time 5.7 % This clearly shows that people prefer to borrow food stuffs so as to have a meal for the day rather than staying hungry because they do not have food or money to purchase food.

Resulting to cheap food: Others (1.6%) cope by adopting the consumption of cheaper foods. The challenge is one of ensuring the cheaper foods are of sufficient nutritious value. At the end of the day the people are food insecure.

Reduction of food portions: A significant proportion of respondents (17.2%) coped with food insecurity through reducing the amount of food consumed. This definitely meant compromising on the amount of nutrients taken. The bottom-line is that such a coping strategy ended up deepening the state of food insecurity for the affected households.

Other strategies adopted included restricting adults, and reducing meal times. All these are strategies that in the ultimate do not take away the food insecurity but in the extreme could be said to compromise even the health of the individuals.

Table 3: Coping strategies

Coping strategy	Frequency	Per cent
Cheap food	75	19.6
Borrowing	85	22.2
Reduce portion	66	17.2
Restrict adults meals	26	6.8
Reduce meal times	22	5.7
Others	8	2.1
No response	101	26.4
Total	383	100.0

Logistics regression model was used to examine the statistical significance of the coping strategies employed on a number of socio-demographic attributes of the study participants. The outcomes of the model are shown in Table 3.4.

Table 4: Multinomial logistic regression model for coping strategies

Variables	Cheap Food	Borrowing	Reduced portion	Restrict adults	Reduce meal times
AGE	.020 (0.16)	-.031 (0.16)	-.458* (0.19)	-.188 (0.26)	-.176 (0.30)
MARITAL STATUS	-.055 (0.18)	.032 (0.17)	.027 (0.20)	-.121 (0.29)	-.115 (0.34)
GENDER	.288 (0.34)	.604† (0.33)	-.237 (0.35)	.015 (0.48)	.174 (0.53)
EDUCATION	.084 (0.18)	-.326† (0.18)	.008 (0.18)	-.125 (0.26)	.364 (0.26)
OCCUPATION	.074 (0.12)	-.408** (0.12)	.177 (0.12)	-.089 (0.17)	-.502* (0.22)
Intercept	.501 (0.80)	.540 (0.86)	-.173 (1.15)	-.769 (1.28)	-.276 (0.32)
Reference category: others; ***p<.001, **p<.01, *p<.05, †p<.1					

Table 4 shows the results of the multinomial logistic regression model for the coping strategies adopted by households in Mathare. The logistic coefficients (B) for each predictor variable (i.e., age, marital status, gender, education and occupation) are shown for each alternative category of the outcome variable—coping strategies.

The categories of coping strategies to deal with food insecurity were: buying cheap food, borrowing money, reducing food portions, restricting adults in the household from taking meals, reducing meal times and other coping strategies. The others category was used as the reference. The model shows that there was a 0.458 decrease in logistic coefficient for reduced food portions when the age increased from one category to another controlling for other variables in the model. This meant that as the respondent’s age was an important determinant on whether to reduce food portions in the face of food insecurity. This is consistent with normal practice in many communities where adults reduce their food portions in favour of children when food is inadequate. Secondly, the model showed that there was a 0.326 decrease in logistic coefficient for borrowing when the education of the respondent rose from one category to another controlling for other variables in the model.

That is, the higher education attainment would mean lower odds of the respondents borrowing money as a coping strategy for dealing with food insecurity. The normal expectation is that with education individuals have better choices and thus in cases of food insecurity, those with education are less likely to borrow. Qualitative data also had this finding as reported by a religious leader who observed that, *low educational levels of the residents in Mathare Valley often hinder them in securing better employment and good incomes.* What can be inferred here is that giving residents of informal better educational opportunities would result into increased chances of food security. Thirdly, the model shows that there was a 0.408 decrease in logistic coefficient when respondents are in an occupation and are therefore able to earn an income. Lastly, the model reports that there was a 0.502 decrease in logistic coefficient for reduced meal times when the occupation of the respondent increased from a lower category to a higher category controlling for other variables in the model. This is again indicative of the reality that with respondents being in an occupation, they are likely to earn an income which in turn would reduce their chances of reducing the number of meals in the event of food insecurity.

3.5 Coping strategies by gender

Coping strategies however varied by age and gender. Below is a discussion of how men, women, boys and girls coped with food insecurity.

Table 5: Coping strategies by gender

Men	Women	boys	Girls
Casual jobs	Causal jobs	Casual jobs (Child labour activities)	Casual jobs (child labour activities)
Skipping meals	Skipping meals	Skipping meals	Skipping meals
Reduced food portions	Reduced food portions	Reduced food portions	Reduced food portions
Borrowing	Borrowing	Drop out of school	Drop out of school
Crime	Food aid	Crime	Food aid
Credit services		Depend on parents	Depend on parents
drugs and substance abuse		Drugs and substance abuse	

From Table 5, it is apparent that coping strategies adopted are gendered. By and large there were those coping strategies adopted by all, irrespective of gender such as taking to casual jobs, skipping meals and taking reduced food portions. Men and boys coped by engaging in crime and taking drugs and abusing substances. Women and girls on the other hand coped by getting into food aid schemes. Boys and girls dropped out of school to go a look for food. The challenge is that while boys engaged in petty crime, girls resorted to commercial sex work.

How men cope: The study sought to establish how men cope with the issue of food insecurity. Reports by the respondents indicated that that men use various ways to cope with food insecurity. Firstly, the majority depended on borrowing food from friends and relatives as a means of coping. Secondly, credit services were also a means of coping used by men in that they could prefer to purchase food on credit so as to provide for their families and pay later when they have the money. Thirdly, some of the men coped by indulging in the use of cheap alcohol which in most cases is the illicit brew that is being brewed and sold within Mathare Valley. Fourthly, the use drug as a coping strategy was main used as a means of trying to forget what they were going through. Fifthly, respondents reported that some men engaged in such crime as stealing, armed robbery and conning people, as a means of earning income to address food needs. Sixthly, men also engaged in casual labour/jobs so as to get money for a meal. Seventh, the issue of skipping meals was evident as a means of coping in which the men skip meals more especially lunch time meals so as to save the money for dinner meals with their families. Eight, men also reduced their food portions; lastly, men ate food on credit as a way of coping.

How women cope: Among the many ways that women use to cope with the issues of food insecurity the following were major ways that they use. First, borrowing emerged top as many women depend on borrowing food from friends, well-wishers, and relatives so as to vend for their families. Secondly, women depend on food aid that is offered in Mathare Valley by various agencies. The food aid range from school feeding programs in which they ask their children to come back home with some of the food that they eat at school during lunch time which is mainly maize and yellow pulses. Women also enrol for support in different NGO's that deal with food aids.

Thirdly, the art of skipping meals, reduced number of meals and limiting food portions is more evident within women as a coping strategy in which they skip a meal for the sake of their children and also limit portions so that each member can get something to eat. Lastly women often engage in casual jobs such as being house helps so as to get some income to support their husbands in providing for the family.

How boys cope: Boys too engage in various strategies that help them cope with the effects of food insecurity. Being young and being at a stage where they need all the food requirements so as to grow they have to vend for themselves when parents are not able to meet their food requirements. First, crime is used as a coping strategy in which the boys engage in stealing activities so as to find money. They steal from market places, well as engage in robbery cases, *both the religious leader and the administrative officer gave accounts of the level of crime caused by the young boys such as mugging and petty market stealing, which they later sell to get some money to buy food, or consume if it was food stolen from the market.*

Secondly, child labour is used as coping strategy. Some of the boys drop out of schools and engage in child labour activities such as collection of plastics from garbage centres, collection of scrap metals which they later sell and get some money to buy food. Thirdly, drug and substance abuse is used as a means of coping. Once they get the money from sale of scrap metal, from stealing activities and borrowing some use it to buy drugs, such as, glue which they sniff, and take illicit brew. *The administration officer added that on the issue of drug use there was a new perspective of the boys being used as gatekeepers to the brewing place, their work is to rely the information on the where about of an administration officer or any other person planning to do an operation in those places.*

Fourthly, dependency on parents to provide food for them is also high as they are still young and need parental support. Lastly there is the limiting of portions, skipping meals, relying on cheap foods as a means of coping.

How girls cope: This group is more vulnerable when it comes to dealing with food insecurity in the household and community in general simply because the possible ways of coping expose them to many more risks. , First, is dropping out of school to engage in prostitution.

As a way of coping with food insecurity, respondents pointed out that some girls in the sampled areas of Mathare Valley drop out of school and engage in prostitution as a means of coping with food insecurity. This problem is also compounded by the fact that, due to the small amounts they are being paid for the services some are provided with food before and after the act that make them to engage in prostitution. This further exposes them to early marriages, *the administration officer acknowledges that there is a high school dropout rate in the Valley approximately at 40%, the prostitution rates are very low – 100- 200 ksh, most of the girls are trapped to the vice by being employed at the drinking joints to attract their customers.*

Secondly, girls indulge in casual jobs a way of coping. The jobs range from being house helps for small pay, helping in petty selling at the market and later being provided with food. Third, for the school going girls, they depend on food aid that is being provided as lunch in the school this helps them cope with food insecurity back at home as they are at least assured of one meal that day. Lastly the girls too skip meals, reduce their food portions and depend on their parents.

From the foregoing, the greatest concern is that borrowing of food is a strategy adopted by most. Unfortunately this strategy undermines the dignity of the people involved. A further concern is the fact that children, boys and girls are reduced to a life of crime so as to cope with food insecurity. This not only goes against the best interest of the children but also puts their life in danger.

While Maxwell (1995) argues that urban agriculture is a food security coping strategy in Kampala, Uganda, in Kenya's Mathare informal settlement it is not an easy undertaking due to dense population in the area which leads to limited space, and unavailability of water for any undertaking of agricultural activities.

The last observation that can be noted is the reduction of girls to a life of prostitution as a way of coping with food insecurity. This puts the girls at even other risks such as gender based violence and infections.

4.0 Conclusions and Recommendations

4.1 Conclusions

This paper makes the following conclusions. First, food insecurity is a function low economic empowerment as represented by low incomes, unemployment and or being engaged in low paying casual jobs. This creates a situation where majority of residents are economically marginalized and thus vulnerable to food insecurity. Secondly, food insecurity in Mathare valley leads to the resident's using extra-legal ways of coping with food insecurity with boys and men resulting to crime, and escaping into drugs and substance abuse while girls are reduced to prostitution.

4.2 Recommendations

From the foregoing conclusions, this paper recommends food insecurity in informal settlements should be tackled by creating opportunities for the residents to gain an education which in turn will enable them gain an occupation and ultimately some income. Thus efforts should be directed towards community economic empowerment programmes, such as support for income generation activities and employment creation. Further, community education should be undertaken so as to enable the community come up with more sustainable coping mechanisms rather than the extra-legal ones they result to. This will inevitably address the symptomatic problem of crime, substance and drug abuse as well as prostitution.

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Appendix 1: Maps showing position of Mathare in Nairobi, Kenya



