

FIRES IN MUKURU INFORMAL SETTLEMENTS IN NAIROBI, KENYA: UNINFORMED OR UN-ENFORCED

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ABSTRACT

Fire disasters are the most common source of property loss and displacements in Nairobi city informal settlements that have in the recent days become frequent. With the expansion of this slums resulting from population increase that arise from rural urban migration, the situation is likely to deteriorate further. This article examines the level of knowledge in regards to fire prevention, mitigation and response to fire among residents of Mukuru slums in Nairobi and further interrogates the role of policies, laws and regulations relating to fire safety by seeking to draw a line as to whether community lack knowledge relating to fires or it is simply the lack of enforcement by the relevant agencies. To do so, this article engaged the Community Based Disaster Response Units (CBDRT) in Mukuru to support in the administering of questionnaires and or organizing for Focused Group Discussion. The research also involved interviews with relevant government authorities and departments among them the area chief, Red Cross officials and the fire response agencies representative. From this research, it was clear that the community has good level of knowledge on fire safety and they are aware of facts that may compromise their safety in regards to fire. Knowledge and awareness on response mechanism was also good, there is however an evident gap on the enforcement of laws and regulations and it would be interesting to conduct further investigations.

Keywords: Fire disasters, informal settlements, urban migration

1.0 INTRODUCTION

The urban population is projected to increase particularly in Africa. This increase in population is quite evident given the growth of informal settlements across cities worldwide (World Bank, 1999). It is also worth noting that the increase of informal settlements is accompanied by constraints in resources (Johnson, 2011). Compared to first world cities, the aspect of urban planning requires a new perspective given its uniqueness. It is argued that urban planning institutions in developing countries are outdated given the reliance on policies of the colonial era (Blanco and Alberti, 2009). Informal settlements are therefore often found unprepared for disasters due to lack of planning where consideration for safety and infrastructure is overlooked. In South Africa, fires are attributed to socio-economic reasons. People living in informal settlements lack access to basic services, hence making them vulnerable to disasters including fires. Additionally, limited resources particularly land has prompted people to build shacks too close to each other, which has further heightened the risk of fires. Lack of access to electricity

has also left the population with no option but to rely on open fires for cooking. It is estimated that 99% of fire incidents in informal settlements is due to human error while 1% is natural occurrences (Department; provincial and Local Government. n.d). These facts can be linked to fires in other informal settlements in cities like Nairobi, where fire outbreaks have been blamed on the use of kerosene stoves and illegal electrical connections (Koome *et al.*, 2016).

Life in the informal settlements has often been seen as disorganized but this perception has changed particularly after the 1970's when there was a shift in housing debates by policy makers, academicians, and practitioners from all angles in the political spectrum. The point of contention was whether informal settlements should continue existing. It was argued that they offer affordable and efficient shelter to the poor. Additionally, it allowed people to build shelter at their own pace while meeting their own cultural needs and interests. As a result, rather than just wishing them away, formal policies and institutions ought to borrow a leaf from the informal practices of the poor hence, what was then seen as a problem could be turned into a solution to modern challenges. Consequently, the strategies the poor had devised in informal settlements were thus labelled in policy circles as self-help groups or incremental housing and later gained institutional support at both the international and national level. This enabled people to get basic services through projects but this also permitted people to build structures whenever and however they wished (Miraftab and Kudva, 2014). Despite the intense support of informal settlements the idea of having them institutionalized was also equally criticized given the potential exploitation of the poor; where government agencies could easily, "wash their hands of their responsibilities" (Miraftab and Kudva, 2014: 116). Informal settlements in Nairobi are overcrowded and most of the houses are constructed with cheap materials such as iron sheets and flammable boards which are often either factory rejects or recycled materials. Furthermore, the structures are connected hazardously to electricity lines making them vulnerable to disasters particularly fires. These areas are also quite difficult to access during emergencies (Kisige, 2011). In order to reduce fire incidences, programs should be introduced that focus on the reduction of the population density and increase the accessibility of roads during cases of emergencies. People also need to be discouraged from residing in Hazardous areas (Parker *et al.*, 1995).

Informal settlements in Nairobi such as Mukuru, Kibera, and Mathare have a system comprising of cartels that offer services that is water and electricity. These cartels operate informally and they only focus on making profits. The responsible groups aforementioned, work with officials to get the main supplies of water and electricity lines and thereafter re-distribute to clients without metering and get paid on time frame (monthly). The higher the number of connections, the better for the proprietor as they only pay a small fee to the official water/electricity company. The emergence of such cartels is to fill the deficit gap. Services from these cartels are quite costly which is contrary to the belief that they offer cheaper services compared to the formal applicants. Residents in informal settlement would rather settle for services offered by these cartels because they are more convenient, compared to the formal way where one is required to provide evidence indicating ownership which they cannot comply to. Nonetheless, the convenience associated with these informal services comes with its own risks for instance, informal electrical connections is a major cause of fire outbreaks (Mwau, 2012). In order to curb illegal electrical connection, Kenya Power embarked on a project in collaboration with Kenya Informal Settlements Project (KISIP) to reduce illegal power connections. This project focused on affordability, reliability and safety (World bank, 2015). Nonetheless, there are still reports of fire outbreaks. This article sought to look into the underlying issues in respect to the knowledge people have and implementation laws and policies meant to cushion the public against fire related disasters.

Nomdo and Coetze (2002), state that not only do officials play a critical role in terms of ownership but also the community. This therefore mean the attempt to reduce daily risks is often underestimated if people feel that they have no control over their situation and one can observe that some of the risk behaviours are just attempts made to address the challenges faced in informal settlements that authorities fail to look into. Having no solutions that are compatible with rules leave people with no options but to wait for government agencies to intervene (Roth and Becker, 2011). The helpless situation residents in informal settlements find themselves in influences how they think, which ultimately shapes their behaviour vis-à-vis the challenges they face on a daily basis. People know about the risks and hazard they are exposed to but they have no choice, but to live with them as long as they get through a day. They are literally under the mercies of government agencies. Conversely, the impact of government interventions also depends on the level of enforcement of policies and laws meant to ensure that people remain

safe. In essence, information and the enforcement of laws and policies determine the occurrence of disasters in informal settlements.

1.2 Problem Statement

Many studies have focused on natural disasters and its management in the context of both developing and developed countries. However, there is lack of information on disasters that occur due to human error. A study conducted on the causes of fires in Mukuru informal settlement revealed that illegal power connection was the major cause of fires (Limo, 2012). This study focused on the causal factors, thus making it inconclusive in seeking for an ultimate solution especially in relations to decisions made in by policy makers. Fire and other disasters that have affected the human settlements have often led to more stringent measures and development of policies and laws to guide in prevention and management of future incidents. Unfortunately, the informal settlements are at cross roads. Being informal means they do not enjoy 100% recognition by Governments and thus don't get all essential services infrastructure. On the other hand, the community that live in the informal settlements have the knowhow in managing their risks and disasters. They are also not discriminated in the application of laws and policies of a regulations and laws. Besides, it would be important to understand the human and social dynamics related to disasters in the informal settlements. The few studies available focus on policies and legal frame works meant to mitigate disasters, yet fires disasters in informal settlements are often associated with social norms and behaviours of those living in the informal settlements. It is also worth noting that informal settlements have certain characteristics that make them susceptible to disasters, unlike those living in well planned residential areas. The uniqueness of informal settlements that is the behaviour of people in relation to the information they have and the level of enforcement of existing laws and policies forms the basis of this study. Additionally, it gives more insight on whether people in the informal settlements lack information regarding the outbreak of fires or there is simply laxity in terms of enforcement of policies and laws from government agencies.

1.3 Objectives of the Study

This research aims at creating an understanding on the factors behind the frequent fires in Nairobi's informal settlements and be able to know whether the fires are due to lack of sufficient knowledge on how to prevent and respond effectively or it is due to lack of correct and sufficient

and equipment to be able to manage fires. To do so, the research was guided by the following objectives. Which were to:

- i. identify the contributing factors to the incidents of fires in the Mukuru Informal Settlement in Nairobi.
- ii. explore the social and cultural behaviours in Mukuru Informal Settlement that influence the frequency of fires
- iii. explore the effectiveness of existing policies and regulations in creating public awareness on fire prevention.

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

Fire disasters in the informal settlements are a common source of losses and displacement of vulnerable population who carry a burden of poverty. These settlements are often surrounded by a myriad of hazards ranging from natural to man-made and there is little capacity of the residents to prevent or mitigate against them. This study focused on specific hazards of fires which is the lead cause of displacement in Nairobi Mukuru slums (KRCS, 2008). The nature of fires in these settlements results from various factors triggered by human behaviour among them being arson, domestic conflicts, drug abuse (alcoholism) and other accidents. This article gives a social behavioural perspective of fires and thus lead to the incorporation of theories associated with human behaviour.

Self-helplessness is one of the major theories that was used to conceptualize the framework for this study. Self-helplessness was introduced by Seligman who asserted that helplessness is something that is learned overtime. Animals that are put in a situation where the outcomes are independent of the efforts are likely to give in. Hence, they don't bother putting in any more effort. Learned helplessness is a combination of behavioural, motivational and cognitive components (Thomas and Segal, 2006). This theory, indeed resonates with Perrow's (1984) theory of "Normal Accidents", where accidents resulting from the coupling of systems are inevitable and no matter what level of efforts are put in place, they always occur thus insinuating that it's a norm. Further, it is important at this juncture to underscore Turner's contribution in

regard to human behaviour aspect in accident causation where machinery and the aforementioned coupled systems interact to cause accidents (Turner, 1978). These theories are applied in this study to underpin the interaction of human behaviour and the technological developments which in the end are a contributing factor to fire accidents (Toft, 1992). There is also an argument that is supported by cultural theory as put forward by Pidgeon (1997), which seeks to provide the link between culture of the people living in the informal settlements to the frequency and consistent nature of fires. Fire disasters in the informal settlements of Nairobi are common and have in the recent past increased in frequency and magnitude. This would naturally have made the society to learn from the experiences as fronted by Toft and Reynolds (2005). There are definitely lessons learned from the experiences of the fires but the lessons do not seem to translate into meaningful action in fire prevention and response. As Behrens (1983), cited in Toft and Reynold (2005:81) puts it, *“A disaster creates a climate uniquely conducive to social reform and legislation”*

3.0 RESEARCH METHODOLOGY

3.1 Research Design

This study employed the survey design of research. It was the most appropriate to gather as much information as possible to enable valid conclusions. In order to have first-hand information regarding the frequency and causal factors of fire accidents in Mukuru informal settlement questionnaires were evenly distributed among Community Based Disaster Response Units (CBDRT) from each respective area that is Landi Mawe, Kayaba and Fuata Nyayo. Selective quantitative assessments, using closed ended questionnaires were administered to the targeted respondents in the respective areas.

Questions related to community members' opinions about fire accidents were addressed by the collection of survey data from the CBDRT's and households.

3.2 Target Population

In this particular study, the researcher targeted community groups in Mukuru Informal settlements affiliated to Kenya Red Cross Society. This is because Kenya Red Cross Society has been working with established community groups in Mukuru Informal Settlement in fire prevention and mitigation initiatives. These groups are known as Community Based Disaster

Response Units (CBDRT) that are established under the auspices of the Kenya Red Cross Society. The participants were selected from the registered group members (community-based fire disaster response units) who were selected based on the years they have lived in the area.

3.3 Method and Criteria for selection of research participants

Kenya Red Cross Society has been working with established community groups that is known as C.B.D.D.R.T. This group was specifically chosen due to their availability at the community and the experience they had in relation to fire outbreaks. This research highly benefitted from their experience.

The research subdivided Mukuru Informal Settlement into 3 zones, namely Fuata Nyayo, Landi Mawe and Mukuru Kayaba. This was for the purpose of making comparisons on the various initiatives between the fire disaster response units in the zones. Mukuru informal settlements covers a large area, having it subdivided was believed to be prudent in saving time and financial constraints. Choosing different areas was also meant to enable the researcher to get an equal representation of all the areas and thus easier to make generalizations. Local authorities and village elders also participated because of their influence in making decisions especially in issues affecting communities such as fire outbreaks.

3.4 Sampling Technique

Purposive sampling was used given the specific nature of the research study. Purposive sampling is a non-probability sampling technique which is ideal for small-scale social surveys. Probability sampling is suitable for large-scale surveys (Babbie, 2010). This research study focused on Mukuru informal settlement and specifically those who have been involved in fire response rather than just a general representation of Mukuru residents. Hence, non-probability sampling techniques were deemed more relevant. Other than purposive sampling, snow ball sampling was also used.

On the other hand, Snow Ball technique was also used because of the high dependency of the availability of the key respondents that is the Community Based Disaster Respondent Team (CBDRT) and local government authorities.

This technique was quite helpful because it became easier to find respondents easily. Additionally, those who were referred met the criteria of the study in terms of their knowledge of fire disasters. Data collection was thus easier and the key respondents had the knowledge needed to meet the purpose of the study.

3.5 Number of Participants

A total of 67 participants were involved in this study. At the community level, the research targeted members of community-based fire disaster response units in Mukuru Informal Settlement, which has 3 units –Mukuru Kayaba, Mukuru Fuata Nyayo and Mukuru Kwa Reuben. Each unit, which constitutes 20 members, participated in focus group discussions.

At the governmental level, the study seek to interview the local chief together with 3 village elders in Mukuru Informal Settlement. The study also covered the Assistant County Commissioner from Central Government and the Chief Fire Officer from the Nairobi Fire brigade.

At the non-governmental level, the research targeted three volunteer focal persons from the Kenya Red Cross Society who have been working with the community-based fire disaster response units.

3.6 Data Collection

This study used both qualitative and quantitative methods in the process of data collection. This mixed approach has become an increase trend in development studies (Rao and Woolcock, 2003). Furthermore, it was quite ideal in terms of exploiting the advantages of both techniques. Cross checking the two techniques also promoted consistency in terms of the results. These methods were preferred because of their potential to elicit information and bring out the voices of the interviewees; more specifically this research employed the following research methods;

3.7 Data Processing and Analysis

Data analysis began after two weeks, which were dedicated for data collection. The data collected through questionnaires was tallied to provide a basic summary for comparison purposes. These results were presented in form of pie charts and bar graphs given its quantitative nature. The data collected helped in relating the community's information and the frequency of

fires at Mukuru informal settlements, whereas the data collected through FGDs and KIIs has been presented in narrative form.

4.0 RESULTS AND DISCUSSION

This section is divided into four sub-sections, according to the different data collection tools used that; the questionnaires, focus group discussions, and key informant interviews. Each tool was used to meet the specific objectives of the study. The first section covers the response rate followed by the analysis according to each specific objective section. Subsequently, a confirmation of each hypothesis is made and supported by the theories used in the conceptual framework.

4.1 Questionnaire Responses Results and Analysis

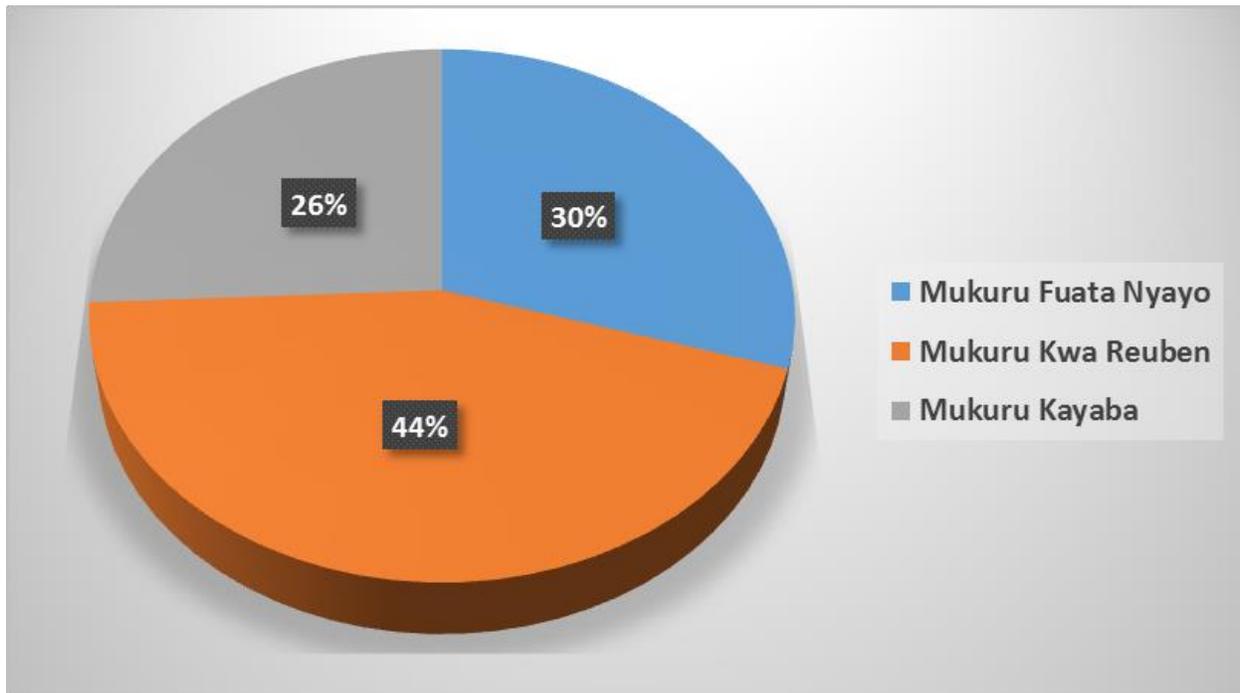


Figure 4.1: Response Rate: Mukuru Informal Settlements

Source: Filed Data Analysis, 2019

The figure 4.1 illustrates the percentage of questionnaire respondents from the three areas, Mukuru Kwa Reuben, Fuata Nyayo and Mukuru Kayaba. 60 questionnaires were distributed but only 51 questionnaires were answered and submitted. This is reflected in Table 4.1. 51

questionnaires made up 85% of the population which was a fairly good response rate. Compared to a 20 % to 30 % response rate which increases the chances of non-response bias (Fincham, 2008).

Table 4.1: Response per Area

Area	Number	Percentage
Mukuru Fuata Nyayo	15	30%
Mukuru Kwa Reuben	23	44%
Mukuru Kayaba	13	26%
Total	51	100

Source: Filed Data Analysis, 2019

When asked about the common causes of fire outbreaks, 40 % of Mukuru respondents attributed it to carelessness, followed by domestic violence (39%) and electrical faults (15%) as indicated in the Figure 4.2. A comparison was later made with the responses from the fire responders and slum authorities which included village elders, chief assistants and chiefs. The purpose of the comparison was to verify the level of consensus among the different respondents and also confirm if the residents were indeed knowledgeable about the causes of fire. This is because senior fire responders from Nairobi County are experts in investigating the causes of fire. Hence, they are in a much better position to verify the causes of fire.

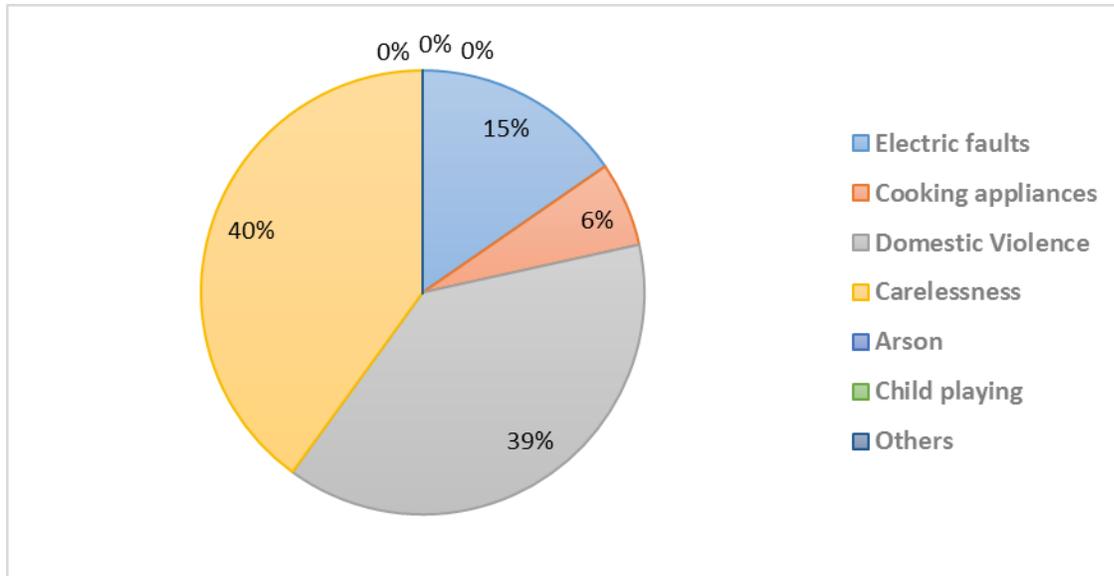


Figure 4.2: Causes of Fire; Residents Perspective

Source: Filed Data Analysis, 2019

The similarity of the responses between the fire responders and community residents was quite remarkable in terms of similarity as tabulated in Table 4.2.

Table 4.2: Causes of Fire (Comparison)

Causes	Community Residents (50)	Fire Responders (16)	Village/ Slum Authorities (12)
Electric faults	10	14	3
Cooking appliances	4	0	7
Domestic Violence	25	16	5
Carelessness	26	16	8
Arson	0	0	0
Children Playing	0	0	0

Source: Filed Data Analysis, 2019

Table 4.2 shows that there is some level of consensus on the causes of fire. The figure for carelessness, domestic violence are not very far from each other. In order to affirm whether the residents had the correct information in relation to the causes of fire, a comparison was made between the responses where it was confirmed that the communities' answers were quite compatible to fire responders. An affirmation that residents were quite well informed. Nevertheless, it is also worth noting, that there was also some level of disagreement pertaining to electrical faults, as the major cause of fire. Though all entities seemed to depict it as a cause of fire, not everybody seemed to agree. Fire responders was the only group which seemed to strongly agree that electric faults highly contributed to fires. Figure 4.3 and Figure 4.4 respectively shows that among the sixteen respondents who answered the questionnaire, 14 selected electrical faults which makes up 87% of the respondents.

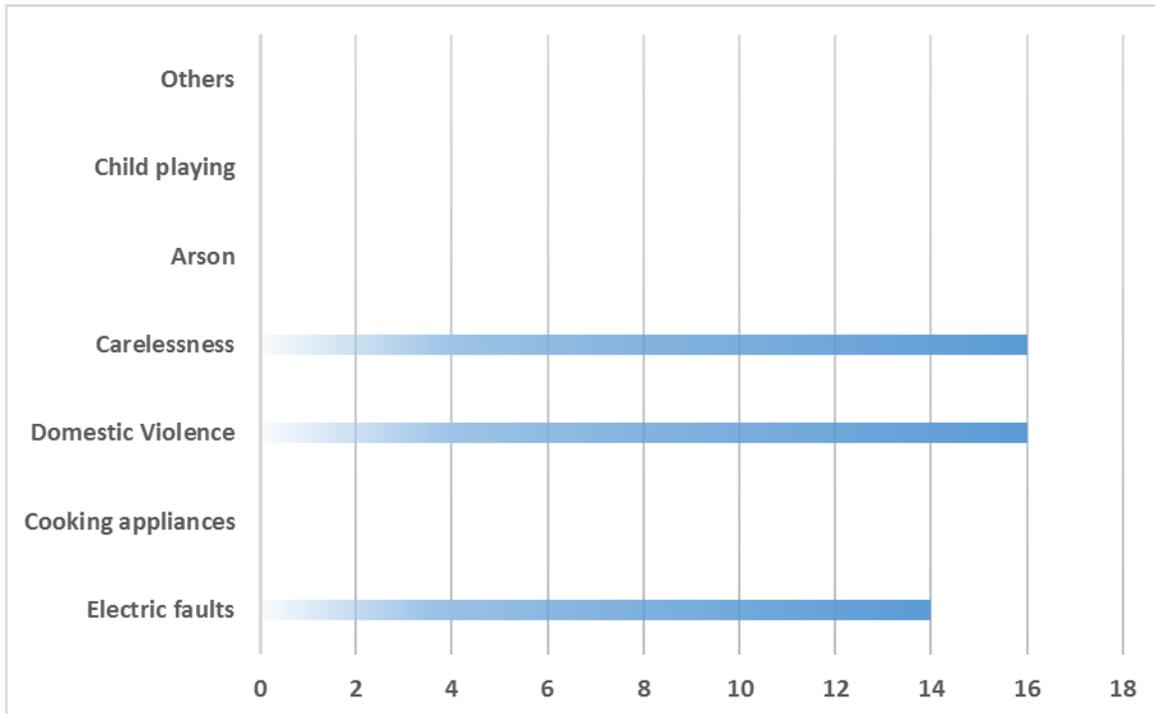


Figure 4.3: Causes of Fire: Fire Responders

Source: Filed Data Analysis, 2019

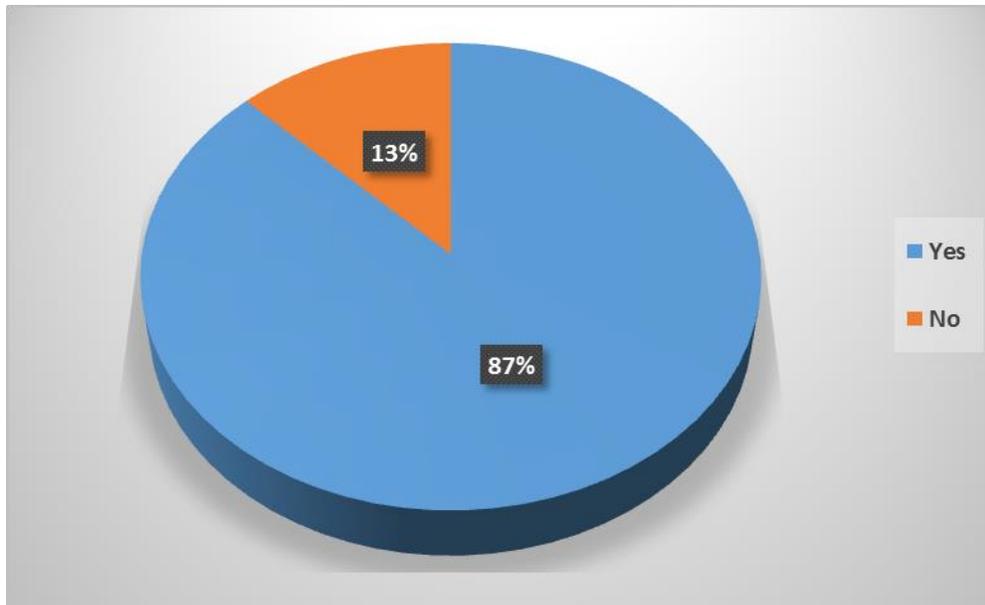


Figure 4.4: Electrical Faults: Fire Responders

Source: Filed Data Analysis, 2019

The level of similarities of all the responses on the causes of fire cannot be denied but one cannot overlook the level of inconsistency of electrical faults as a cause of especially between Slum Authorities and residents. Fire responders mostly attributed the outbreak of fires as a result of electric faults as observed in Figure 4.4. There is thus a relatively strong agreement on electrical faults being a major cause of fire between fire responders, compared to slum authorities and Mukuru residents. The level of disagreement is not an echo of Turner's (1978) model of the generation of accidents where he asserts that most failures are not as a result of single failure, nor do the factors of failure occur in an instant but rather over a long period. He calls this the incubation period of failure where four conditions may arise. For the case of the data presented there might be wrong assumptions or a misunderstanding about the impact of electrical faults. It is also possible that those public safety may have ignored early warnings or were busy with other incidences. One cannot also ignore the breach of safety by either the local or interested parties.

Residents were also asked about the common time of fire outbreaks in Mukuru. Afternoon hours and evening hours were rated as a common time for fire outbreaks as indicated in Figure 4.5. A comparison was also made to assess the level of consensus between all the groups of respondents in Table 4.3.

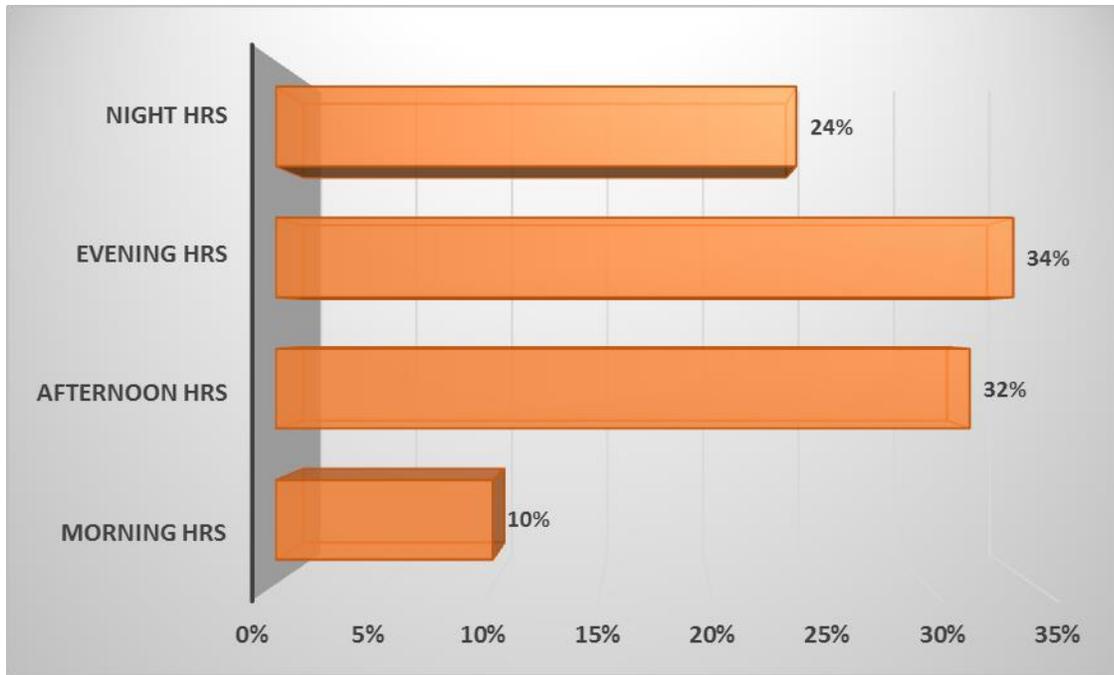


Figure 4.5: Time of Fire Outbreaks: Mukuru Residents

Source: Filed Data Analysis, 2019

Table 4.3: Comparison of Time of Fire outbreaks

Time	Mukuru Residents	Fire Respondents	Slum Authorities	Total
Morning hours	5	0	2	7
Afternoon hours	16	12	0	28
Evening hours	17	0	7	24
Night hours	12	4	3	19
Total	50	16	12	78

Source: Filed Data Analysis, 2019

Fire emergency reports were also obtained from E.O.C’s database. The information collected covered the first six months of the year 2015, where 72 cases of fire incidences were reported and confirms the feedback received through questionnaires from the residents of Mukuru as to

the time when the fire incidences most occur. Most fires were reported in the afternoon and at night.

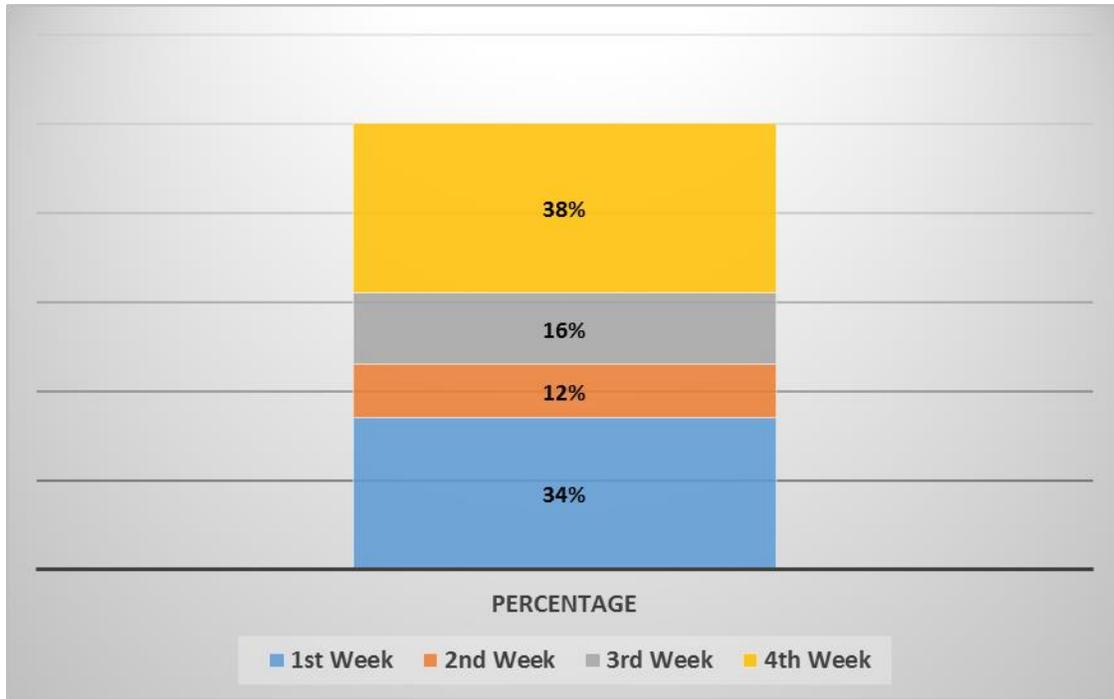


Figure 4.6: Period of the month that fires occur: Responses from Mukuru Residents

Source: Filed Data Analysis, 2019

Table 4.4: Period of the month that fires occur: Responses from Mukuru Residents

Period of the Month	Mukuru Residents	Fire Respondents	Slum Authorities	Total
1 st Week	17	2	4	23
2 nd Week	6	0	0	6
3 rd Week	8	0	0	8
4 th Week	19	14	8	41
Total	50	16	12	78

Source: Filed Data Analysis, 2019

Respondents were asked about their awareness of fire campaigns. 100%, of the 16 respondents from the fire brigade and the local authorities indicated that there are fire campaigns that are conducted by public fire responders and the local administration as tabulated in table 4.5 and Figure 4.7 indicates that 88 % of Mukuru residents knew about the local campaigns done while, 12% did not. The data is an indication of public involvement in educations of risks in the community. It is thus possible to conclude that the general public are quite well informed.

But as argued by Hood and Jones (1996), it is quite challenging to communicate to public about hazards while they are busy with their routine worries than with frequent fire incidents which no one seem to listen or care until an incident occurs leading to blame games between the victims, government agencies and other relevant bodies.

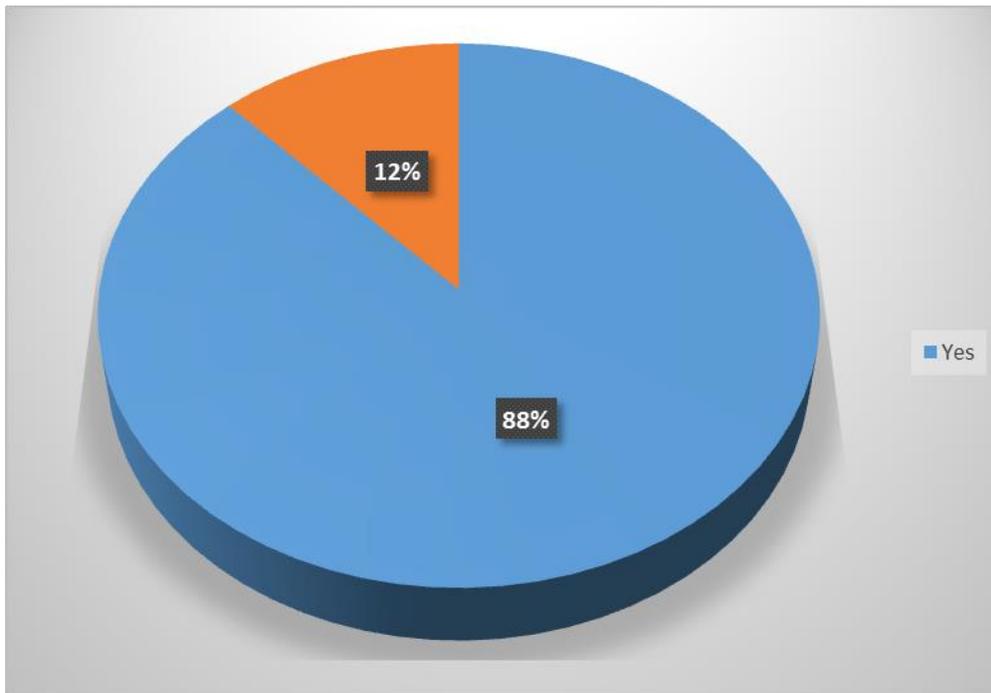


Figure 4.7: Awareness Campaigns: Mukuru Resident

Source: Filed Data Analysis, 2019

Table 4.5: Awareness of Fire Campaigns

Response	Mukuru Residents	Fire Responders	Slum Authorities
Yes	44	16	12
No	6	0	0
Total	50	16	12

4.2 Focused Group Discussions Response

F.G.D with Mukuru Residents

Source: Filed Data Analysis, 2019

Focused group discussion were held for further probing on issues that were not well articulated in the questionnaires and also to trigger any meaningful discussions that could more value in terms of meeting the research objectives. Two separate F.G.D’s were held that is between Mukuru Informal settlements residents and Slum Authorities.

When asked about the causes of fires, all the residents attributed it to carelessness and domestic violence. Conversely, electric faults were also seen as a factor but more so, as a trigger rather than the main cause. Two participants asserted that electricity only spreads fires but not necessarily as the main cause of fire outbreaks. A community Based Disaster Response Team (C.B.D.R.T) also added that whenever there is a fire outbreak they ensure that the necessary communication is done to the relevant authorities cut off all power connection.

Carelessness and domestic were thus concluded as the major causes of fire. Participants also states that they participate in putting of fires before the arrival of fire responders. This was because they often arrive late when nothing could be salvaged. Furthermore, they were certain routes that could not be reached by the fire engines brought by fire responders.

Residents confirmed that they knew about the fire campaigns held occasionally but they cannot always avail themselves because they were occupied. Residents also argued that there was nothing new to be heard in fire campaigns because they already knew how to prevent them. One respondent argued that most residents in the informal settlements migrated from the rural areas with limited resources hoping to get casual jobs from neighbouring industries. Hence,

employment was a priority to them rather than participating in fire campaigns. The fire campaigns held by agencies was a noble idea, but this was not going to help pay their bills or help them send money back home to their loved ones who were in the rural areas. After all they knew the causes of fire i.e cooking stoves which is further triggered by loose electrical cables but these were risks that they had little control over. Residents admitted that they had already accepted to live with the risks. This statements made by residents is a reverberation of self-helplessness theory by Segal, where subjects choose to give in to an outcome that is independent of their actions (Thomas and Segal, 2006). Mukuru residents are aware of the risks they face on a daily basis, all they can do is take reactive measures rather than pro-active measures. Social behaviours such domestic violence was something that only an individual, it should not be seen as a collective responsibility of the whole community. Women in the FGD claimed that it was hard for one to solve the affairs of another household even if affected their own safety and wellbeing. People would thus wait for an accidents to occur then act later. Two of the CBDRT's associated this to the individualistic behaviour of those living in the informal settlements. A suggestion that fire outbreaks is as a result human behaviour. This takes us back to Turners on how most disasters occur due to human factors rather, technical factors (Horlick-Jones, 1996). An implication that human factors ought not to be overlooked.

4.2.1 FGD with Slum Authorities

In response to whether there are laws and regulations that prevent fire outbreaks in the city. The local chiefs asserted that there are those that govern the construction of houses and buildings. For instance, buildings should be constructed at least 30 metres away from the river. But there is no guidance for design and construction material for use in shelter construction.

In regard to inspection of houses there is no requirement in both slums and private premises other than public institutions. Nonetheless, public institutions highly depend on the Ministry of Housing and Public Works for these inspections which are rarely conducted. There are also penalties for those who build along paths, but as earlier stated there are no inspection. There are legal requirement that can be enforced but they are generally weak because there no incentives or punishments for failing to include fire protection equipment in the construction of private buildings and its worse for the informal settlements.

There have been no legal action except those charged with the offenses of arson which have been presented to courts for determination. In regards to shelter construction codes there are no specific policies governing construction of shelter in the slums which are of different standards from those in the formal settlements. This therefore mean a big variation in the standards as to what is enforceable because structures in the informal settlements are of very low qualities in design and materials.

The response gathered from slum authorities is an indication that indeed, there are laws and regulations that govern fire incidents but they are properly enforced. Institutions mandated to implement such laws either lack capacity or its mere laxity among responsible government staff. Preliminary view suggests that the fragmentation of safety laws in various acts contribute to inefficiency in their enforcement as there is no specific authority. From one of one the interviewers it was clear that fire investigations was a shared responsibility between the police and the fire brigade. This has created room for blame games and non-commitment. It is also apparent that laws relating to safety seem to be strongly emphasized and conjured for public buildings and formal settlements and that informal settlements are exempt. This is affirmed by the interview with the local authority who clearly stated that there are no legal requirement for inclusion of fire safety equipment in private building and more so in the informal settlement. The same is backed by views from the fire responders key informant interviews.

4.3 Keys Informant Interview with Fire Responders

An interview was held with the deputy chief fire officer of Nairobi City fire brigade to get more insight on their roles in fire prevention and response. The responses were;

Informal settlements are part and parcel of the city and is treated in equal status with any other settlement in Nairobi. We are mandated to provide search and rescue services to these areas without any discrimination. There is also a law provision that tasks us with the responsibility of inspecting all public buildings annually to ensure that they are safe in as far as fire safety is concerned. This include schools, churches hotels and bars. Individuals can and do request us to conduct inspections especially for those taking insurance for buildings and other properties. There is no law that require inspection of private buildings and homes. Most of the individual requests in Nairobi are from persons who want to change building use, expatriates and people

who have lived in Europe. None come from informal settlements. On an annual basis the County Chief Fire officer is mandated to conduct fire safety inspections and to carry out investigations into fire incidents that occur. There are certain provisions of the law promoting fire safety. Some of these laws are assigned to the fire department. These include: Local Governments Act Cap 265 Laws of Kenya; Municipal Ordinance Act cap 136 Laws of Kenya; Nairobi Fire brigade By-Law 2007; and Kenya Gazette Notice No. 31907 of 29th Oct 1982. These laws regarding fire safety in Kenya are at the moment fragmented in various legislations. Currently, there are efforts at the moment in place to establish a fire Act both at the County and National level.

The potential outcome of enforcement of fire laws as anticipated could have implication in two fold. On a positive note enactment of a comprehensive fire law anchored responsibility on a single entity for enforcement and is likely to be backed up with resources to match this responsibility. On the other hand, one would be sceptical to think that it would have any impact considering that the current situation is not existent because of lack of laws but rather on enforcement. There is little knowledge among the general public especially in the informal settlements to regulations and fire safety laws.

On the issue of fire campaigns, the officer affirmed that it was one of the tasks in their job description but they lack capacity. The department has in the past partnered with the Red Cross, Goal Kenya and Hope worldwide in creating build environment that is safe and secure for all. Fire brigade also find themselves at cross roads due the fact that slums are illegitimate and do not therefore have specific resources allocated to them.

The fire brigade responds to emergencies as soon as emergency calls are received. The challenge is normally the narrow roads which make it hard for fire engines. These roads are blocked by shacks built by informal settlement residents, notwithstanding the existing land use regulations, specifically those prohibiting the construction public land. There is also support from private fire companies like G4S, KK and emergency response teams like Red Cross who also respond to emergencies.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The findings of this study illuminates the level of laxity of government agencies in ensuring that laws and policies are properly enforced particularly those that safeguard the well-being of all

citizens. Informal settlements did not simply pop out of nowhere, but was either as a result of poor planning or enforcement of policies. These circumstances contributed to the burgeoning of informal settlements which had no structure that would make the delivery of services easier. Hence, exposing its potential residents to a myriad of risks and hazards. Furthermore, the opportunistic nature of cartels or business men who wish to make profits out of a growing but disadvantaged has made the situation worse. This is because the occurrence of a disaster in such areas is easily brushed off on the basis that those affected should not be there in the first place.

In this regard, safety regulation and laws informal settlements should be looked at from a completely different perspective given its uniqueness. Residents of informal settlements ought not to be blamed for unfortunate events such as fires that befalls them. There ought to be policies that specifically meet the need of people living in such areas. Further, a comprehensive fire disaster management framework should be devised to come up with practical solutions that would deal with the menace once and for all.

6.0 REFERENCES

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