**Series 2 – Social Pillar: Environment, Water, Sanitation and Regional Development**

# Key Fire Disaster Prevention Factors in Informal Settlements in Nairobi

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## Key Messages

*Deploy essential infrastructure services,*
*Build capacity in fire response mechanisms, and*
*Practice inclusive urban development and governance*

## Context

Rapid and haphazard urban development has often placed homes dangerously close together. When fires start, they often spread easily and quickly. Given the density of many of these settlements, evacuations are chaotic and dangerous. Pathways between homes are narrow and often blocked, and first responders are often unable to access homes in time (Ngau, 2018).

It is estimated that over 65% of Nairobi's population reside in the over 180 informal settlements which are characterized by poverty, substandard housing, extreme crowding, and lack of basic services such as sanitation, water, lighting (Twigg et al., 2000). Nairobi's informal settlements experience frequent fire outbreaks leading to loss of life, serious injury, and loss of assets and livelihoods (DREF, 2011). The combination of poverty, marginality, overcrowding and limited service provision exposes residents of informal settlements to a wide range of hazards particularly fires and disease outbreak.

Available literature that primarily comes from accounts of non-governmental organizations and volunteer emergency/humanitarian relief agencies as well as case studies of research conducted in universities covers three broad areas of interest: fire incidences with a focus on occurrences, risk and vulnerability of the communities in the informal settlements; fire management with a focus on policy, infrastructure and equipment in place to combat fire outbreaks; and fire response which mainly examine the nature of the response by the communities and others towards fire outbreaks (Ngau, 2018).

### About the Study

The study aimed to examine the dynamics of fire disaster, vulnerability and response in the informal settlements in Nairobi using a case study of Mukuru Fuata Nyayo, a constellation of informal settlements lying in the southern side of the city. In Kenya, there is no systematic record by government and city authorities on fires in informal settlements. There are often sporadic and conflicting reports on fire occurrence by diverse organizations and agencies, including the Kenya Red Cross Society (KRCS), the United Nations Office of the Coordination of Humanitarian Affairs (UN-OCHA) and the Kenya National Disaster Operations Centre (NDOC).

For example, for the period between January and March 2011, KRCS reported that approximately 42 fire incidences occurred resulting in at least 11 fatalities and about 472 casualties in Nairobi's informal settlements (KRCS, 2015). For the same period, UN-OCHA reported that 71 fires occurred in Nairobi resulting in loss of 2,016 jobs, 376 houses, 2 deaths, 11 casualties and asset loss above US$ 1 million (UN-OCHA, 2011).

### Response to Fire in the Informal Settlements by Communities

There are two aspects of community fire disaster response in informal settlements – during and after the occurrence of the

*Image: Authors*

disaster. The first aspect concerns how the communities react during the fire incidence, while the second aspect concerns how the communities cope after the fire occurrence. There are limited account and knowledge on the first aspect, with substantial literature on the second.

## Study Results

### Response to Fires: The Changing Landscape

Initially, community members used to watch the fire raze down everything in the village, instead of engaging in fire fighting, according to Cyrus Wandeto from Mariguini village. There is currently a sense of oneness. The residents have a collective approach to respond to fire outbreaks where the first response is to collectively put out the fire before it spreads. In earlier years, the residents simply stayed put and watched properties get destroyed and then wait for landlords to rebuild the houses. Wandeto gave an account of an earlier experience in 1988-89 when a fire broke out in Commercial Village. People salvaged property and stood by watching the fire burn everything in the village.

Today, the tale is different. Residents are quick to mobilize and have the situation under control. The residents suggested that it would be a good idea to have a container of fire fighting equipment in the open spaces within the settlement and that the people would collectively take care of the equipment, though one person should be tasked with the responsibility of taking the day to daycare of the equipment. The cover figure shows the proposed improved system of fire response in the informal settlements.

### Factors to Consider for Improved Fire Response

An analysis of community views brought out key factors needed to improve and capacitate the current community response mechanisms through training, facilitation and provision of equipment and tools. The key factors showed that response mechanisms should be:

**User Friendly:** The mechanisms should be simple enough to be employed and replicated in the informal settlement. The less complex the systems are the better as individuals can easily catch on and train others.

**Ease of maintenance and sustenance:** Mechanisms to be used should be simple in maintenance and sustenance and designed to minimize vandalism and cases of neglect. Complex systems and tools tend to be abandoned more often than simpler ones.

**Integration into daily use:** The most effective systems in informal settlements are those that are assimilated into daily use. This promotes the security equipment and improvement of skills. Tools that are not incorporated in daily use end up being forgotten/lost, vandalized etc.

**Cost-effective:** The area of implementation is a low-income neighbourhood. Therefore, the affordability of the tools is paramount in cases where the community has to contribute. In instances where tools and processes are to be funded by external actors, the cost is still put into consideration as the tools, both soft and hard, should be cheap for better wide implementation.

**Promotion of livelihood:** This should include an aspect of the development of livelihoods and economic empowerment of individuals. This increases the lifetime of the tools as the added benefits act as an incentive to the community members to maintain and sustain the tools and equipment..

## Policy Recommendations

### Short-Term

- Deploy essential infrastructure services, including installation of a communication system that reaches the masses possibly through a portable public address system and a bulk messaging system; and placement of firefighting boxes with basic firefighting equipment such as whistles, fire extinguishers, demolition tools as are needed at the neighbourhood level.
- Build capacity in fire response mechanisms. For example, a group of resident youth from the settlement from different villages should be identified and trained as first responders.

### Medium-Term

- Practice inclusive urban development and governance. The informal settlements require some level of development control by the local leaders with all new structures following set guidelines.

## Acknowledgements

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