



GRANT PROJECT LESSONS AND OUTCOMES

# Lumkani Fire Detection and Insurance

GRANT PROJECT DATES

June 2018 to June 2019

Lumkani is a South African social enterprise which seeks to address the challenge of fires in urban informal settlements and townships in South Africa and across the globe. Lumkani uses innovative early-warning systems with low-cost inclusive insurance products to provide safety and financial security to their clients.

Over the past decade owners of informal homes in South Africa have lost 1.4 billion Rand as a result of fires. The GSMA provided grant funding to Lumkani to enable them to install mobile-internet-of-things enabled fire sensors inside homes in informal settlements across South Africa at zero-cost to users. The alarms mitigate fire risk through a networked alarm which provides live monitoring and SMS alerts to residents and their neighbours allowing instant notification of fire events and triggering a swift community response.

Additionally, once fire detectors are installed users are able to opt-in to a micro-insurance scheme which will insure their homes and possessions against damage or loss to fire.

This project was made possible through partnerships with Hollard Insurance and Islamic Relief.

KEY STATS

PROGRAMME MONITORING



**20,182**

FIRE SENSORS  
INSTALLED



PROVIDING COVER TO  
**66,478**  
PEOPLE

INSURANCE SCHEME DATA



PROVIDED INSURANCE TO COVER

**R56m** WORTH OF  
PROPERTY  
(£2.5m)

POST-FIRE EVENT FOLLOW-UPS



SENSORS SUPPORTED  
LIMITING THE SPREAD OF

**94%** OF FIRE  
OUTBREAKS

SAFETY



**87%**

OF HOUSEHOLDS FEEL  
SAFER AS A RESULT OF  
THE LUMKANI FIRE  
SENSORS



## Vuyo\*

CASE STUDY

Vuyo lives with his wife and two children and is happy about the installation of the sensors because they alert the community to react to fires. In 2018, a fire broke out at a nearby home as he was preparing to go to work. He immediately heard the sensor alarm go off, and when he went outside he saw a fire had started down the street from his house. He and some of neighbours went to help.

He was happy when the sensor was installed, he felt safe. When the fire occurred, the sensor worked how he was told it would, giving him time to call neighbours to help. **He says the sensor has been helpful, changed their lives and will help the community in future.**



## Lindy\*

CASE STUDY

Lindy has been living in Taiwan (South Africa) since 1980 and lives with her two children. She is currently does odd-jobs for an income. In December 2019 there was a fire in her home, started by overloaded electricity, which destroyed the whole property and all her possessions. Her Lumkani sensor notified her to the fire and she also received an SMS message. She was satisfied that her **insurance cover and fire sensor both delivered on the promises made to her by the Lumkani team.**



## Paul\*

CASE STUDY

Paul has two children, and a grandchild. He has no electricity supply, using extensions from other houses. A fire was started in his home by an overloaded extension in December 2018. Smoke woke him and the fire sensor also notified him to the fire. He woke in time to get the children out, but left his possessions to burn, not risking them getting stolen outside. Neighbours were also alerted to the fire and came to help.

He believes the fire sensor was well explained and worked as expected. He saw first-hand that it alerted the community to fire. **The fire sensor makes him feel happy because it signifies protection for him and his family.**

# Project Outcomes



## OUTCOME

### Lumkani fire sensors increased resilience to fire events

The installation of Lumkani devices leads to households feeling safer (reported by 87 per cent of evaluation participants). They also provide households and communities with early warning to fires and the ability to respond to fires in the early stages to reduce damage to life and property before fires become unmanageable. **Across the 31 fire incidents in the grant period (1 year), the Lumkani device helped limit the spread of 94 per cent of fires. Additionally, the evaluation study showed around nine in ten households agree that the detectors provide an effective early warning system (88 per cent) and give them more time to save their family and important possessions (90 per cent).**

*"The Lumkani device actually woke me to go and check and I saw the fire. I got my children and we got out a small window. If it wasn't for the Lumkani device which woke me up, I would have lost my life."*

Vuyo\*

## OUTCOME

### Lumkani micro-insurance improved users sense of security

Of the 32 evaluation respondents with insurance, two-thirds reported feeling more confident when they leave their homes for an extended period and that due to the cover, they felt much less fearful and anxious about bad things happening.

Additionally, around half of these households also reported feeling more financially secure and more inclined to buy valuable possessions due to the Lumkani micro-insurance product they paid for.

## OUTCOME

## Lumkani fire sensors increased coping capacity

Given the inability for formal emergency services to easily access many fires in informal settlements, responses are typically community led. Households tend to respond to fires in a similar manner, regardless of the presence of a Lumkani device (mostly using water to extinguish fires or attempting to destroy burning building to prevent it spreading). **However, six in ten households (58 per cent) with a device reported changing the way they respond to fires** as the networked-alarm or the SMS alert households and communities, enabling them to take quicker and more effective action. The networked features also enables a swifter and more effective response from the community, **91 per cent of households say they would respond to an alert from a neighbour's sensor.**

*"When the sensor goes off, it helps us to know that there is a fire that has broken out, and we can resolve the matter before it becomes serious."*

**Annika\***

*"I was told by the consultant that the sensor alarm would go off and it did! I understood that it was the actual sensor that would go off thereafter I would be alerted via [SMS] that there is a fire"*

**Lindy\***

The presence of a detector also increases confidence to respond to fire events as a result of the system giving the community more time to react. **In the event of a fire 87 per cent of households with a device feel that they can find the source and tell others (compared to 76 per cent without the device) and 47 per cent strongly agree that they will know what to do if there is a fire (compared to 24 per cent without a device).**

*"I noticed change when the fire detectors were installed. Where I live, we have the fire detectors, and they have proven to be useful. The sensor alarms alert us when there is a fire and people always shout at the top of their voices when there is a fire. These fire detectors are really helpful because they alert you as soon as they detect rising heat."*

**Luan\***

## DATA SOURCES



Taiwan Settlement,  
Cape Town, South Africa

- **Lumkani reporting and monitoring:** Project data and documentation; and
- **Final evaluation was designed and conducted by Kantar's Development Practice, South Africa:** The sample for the evaluation included 255 survey interviews, 6 focus group discussions and 6 in-depth interviews with Lumkani service-users in Taiwan Settlement, Cape Town and 263 survey interviews, 4 focus group discussions and 4 in-depth interviews with non-service-users in Barcelona Settlement, Cape Town (conducted January 2020)