Case study: Social Entrepreneur of the Year

This is award recognises owners of a social enterprises that demonstrate financial sustainability at the same time that the enterprises' products and services contribute to measurable and verifiable social or environmental benefits.

Lumkani

Founding date	2014
Geography	Headquarter: South Africa Clients: South Africa, Kenya & Bangladesh
Sector	Information Technology & Services
SDGs	Direct: 1 [no poverty] Indirect: 5 [gender equality], 8[descent work and economic growth], 10 [reduced inequalities], 11[sustainable cities and communities]
Web	http://www.lumkani.com

Background

Fires occur on a daily basis in informal communities across the developing world. In SA, more than 5,500 families lose their homes to fire every year and R1.4bn in informal property has been lost in the last decade. Globally, the UN predicts that one in four people will be living in informal settlements by 2030.

More than 30-million South Africans have never had any short-term insurance. There is a protection gap with a lack of affordable, suitable, relevant products for the lower-income market.

Lumkani is a short-term insurance start-up based in South Africa. It seeks to address the challenge of fires in informal settlements through a combination of fire-detection technology and an affordable insurance product for home and business owners. The insurance covers the home or business structure and all possessions or stock up to R40,000. The cover is underwritten by The Hollard Insurance Company. An agent network of over 230 women in informal communities around the country distributes the products.

The company was founded in 2014 but began as an undergraduate engineering thesis by Francois Petousis at the University of Cape Town. Petousis read a Bachelor of Science in engineering, mechatronics, robotics and automation engineering. Since then, Lumkani has developed into an award-winning fire detection system that employs an internet of things (IoT) system in which the network of physical objects or "things" that are embedded with sensors, software and other technologies are used to connect and exchange data with other devices and systems over the internet. IoT is about connecting everyday objects to the internet so they can communicate with each other and with the user. It has already installed fire detection systems into 57,000 homes.

Meeting unfulfilled needs

Lumkani has developed a unique fire detection system that intends to resolve fire challenges in informal communities. It is unique in that it combines a product-based solution (the fire detector system) that directly addresses the challenge of high incidence of fires in densely populated informal settlements while also reaching an underserved market where insurance coverage is largely absent. Lumkani's mission is to create safe and resilient communities for under-served people while reducing risks and inequalities.

Impact thesis and Theory of change

Lumkani aims to increase effective coping capacity and positive behaviours around fire prevention through identification, communication, firefighting and evacuation. It also aims to increase collective community resilience through increased financial resilience.

Lumkani's theory of change identifies six problem areas/barriers that it seeks to address:

1) High incidence of fires within informal settlements

2) High rate of spread of fire within informal settlements

3) Lack of appropriate infrastructure to alert communities/fire departments in the event of fire

4) Ineffective responses by fire departments to fires in informal settlements

5) People engage in high fire-risk behaviour

6) Limited support and ability of households to recover from the loss of life and property due to fires

The business has seven activities that address the problems or barriers, leading to four distinct outputs, four immediate outcomes, and two overarching long-term outcomes, including effective coping capacity and positive behaviour, and increased resilience. The ultimate impact captured in the theory of change includes:

a) Reduction in the loss of life and property due to fires in informal settlements, and

b) Increased resilience of households and communities in fires in informal settlements

To summarise, the early warning fire detection system limits the spread of fire which will result in fewer homes being damaged by fires while its insurance product aims to reduce the financial distress that comes with one's home being damaged or destroyed by fire. This will reduce loss of life and improve both the physical and financial wellbeing of residents of informal settlements, improving financial inclusivity.

An independent evaluation of Lumkani's theory of change in 2019 concluded:

> *"The Lumkani fire detectors serve as an effective early warning system to households and their communities. The fire detectors provide households and their communities with the ability to respond more effectively to fires in the early stages. Feeling safer and financially secure were the top two impacts reported among those who signed up for the Lumkani micro-insurance."*

SDG linkages

Lumkani targets at least four SDGs, including one directly and three indirectly. The core goal that it contributes to directly is **SDG 1: No poverty**, as poverty becomes more entrenched through disaster events in densely populated, informal communities that are underserviced in terms of insurance coverage.

In addition to contributing directly to SDG 1, Lumkani contributes to several other SDGs, albeit that these are not their primary objective. These include:

SDG 5: Gender equality: It's entire agent network distributing products in affected communities is made up of women. Such strong female representation in its workforce support the achievement of gender equality through economic inclusion.
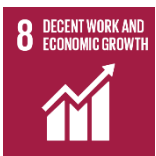
SDG 8: Decent work and economic growth – This SDG is supported through the creation of jobs for people in affected communities, albeit that job creation is not a primary pursuit of Lumkani.

SDG 10: Reduced inequalities – Underserved markets are reached, and these communities are exposed to insurance products that were previously not accessible or available. These products can help reduce inequalities over the medium to long run, including financial inequalities, as it enhance underserved markets' resilience to disaster events.

SDG 11: Sustainable communities – informal settlements are disproportionately affected by fire risks and alleviating these risks help create more sustainable, liveable environments for these communities.

Impact

The following metrics reflect Lumkani's impact and reach:

- Active fire detectors in 57,000 homes (54,000 SA, 2,500 Bangladesh, 200 Kenya). Lumkani gets funded by humanitarian organisations/corporations etc to roll out its fire detection system into communities with a high risk of fires.

- 188,000 direct beneficiaries (and 188,000 indirect) from Lumkani's fire detection solution. Direct beneficiaries are households benefiting from the Lumkani's fire detection solution and they are the primary recipients of getting early warning protection against fires. However, indirect beneficiaries are households who are not the primary recipients of the fire detection solution but still benefit from the reduced risk of fires.

- Total coverage of informal households/businesses amounts to R396m The cover provides the client with up to R40,000 of cover for their home and contents, which was researched as the average sufficient amount to cover the goods and contents of an informal home. As such, there is just under R400m worth of informal property insured against the risk of fire. Lumkani describes these as "financially included informal households/business" since they now have access to a financial instrument which protects their home against loss.

- A total of R18.2m in claims has been paid out to rebuild informal homeowner property.

- Communities report the Lumkani system helped limit spread of fire in 94% of fires recorded on their system.

- Fire is limited to the first home in 70% of fire events.

- Over 230 jobs have been created in the low-income communities served, with 100% of these jobs being for women (mostly sole breadwinners).

Lumkani achieves additionality in two ways: through its proprietary technology and embedded insurance, the firm addresses the needs of communities in underserved, informal settlements; and it has created hundreds of new jobs for previously unemployed people.

The company has standard metrics that track every fire event, where its asks questions such as how many homes actually burnt down and did the Lumkani system limit the fire. Notably, Lumkani intends to get the microdetails of the actual number of homes that were protected after the occurrence of the fire.

In the last three years, Lumkani had over 200 confirmed fire events where its system helped limit the spread of fire.

Financial performance

Lumkani sells directly to informal homeowners/businesses a bundled product of a fire detector (linked to all neighbouring detectors) plus fire insurance for their home and contents. This is a recurring revenue model where clients pay on a monthly basis for this service. As a result, Lumkani has over 9,500 monthly paying clients. In the previous financial year, the company generated over R3m in revenue. The projected break-even point is expected within the next two years and Lumkani intends to expand the number of its agents and regions around South Africa and provide more products into the market. Over the next two years, Lumkani also projects to have over 70,000 clients in South Africa.

Potential for replicability

There are massive opportunities of the potential for replicability across borders since Lumkani offers a global service. Lumkani has tested and trialled its fire detection system in regions such as Kenya and Bangladesh for replicability, and the system was successful. In addition to the proven opportunities for replicability, there is scope for scalability both within the borders of South Africa and in other markets facing similar challenges. The agent network model can support growth within markets targeting specific communities.

Risks

Lumkani's challenge is to scale and expand the business. Hence, its core risk is related to its growth methodology and achieving its growth metrics. From an underwriting perspective, an important risk is a mass fire event where many homes burn down. Lumkani is actively mitigating this risk through its system that reduces the risk of a large fire. It also constantly works with communities to develop innovative ways in which it can make communities safer from large-scale fires. Risks from an impact perspective relate to the life of a device, false alarms, as well as fail rates. It is important to understand how these risks influence consumers' willingness to use Lumkani's products.

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