

Effective Waste Management in a Local Food Market: The Longacres experience in Lusaka, Zambia



The photo on the left shows the waste situation before the intervention, BORDA Zambia, 2021.

On the right, the photo shows the transformation with community members throwing waste into the Material Recovery Facility, BORDA Zambia, 2022

- Waste disposal changes from being a problem to being a solution if the waste is classified and separated for further processing.
- Putting solid waste in the right bin reduces littering and keeps the environment clean.
- People can take responsibility by separating biodegradable and non-biodegradable waste, before discarding it for further processing, recycling or reuse.

A busy food market generating organic waste

Longacres market is one of the busiest marketplaces in Lusaka, Zambia. It has a diverse range of stores and stands, the majority of which are restaurants. The market serves a population of about 3200 people.

Before 2021, the market was generating huge volumes of garbage. It was drowning in its own organic waste. There was a lack of proper sanitation facilities in the market, making it a breeding ground for disease. The combination of waste and poor facilities posed a major health risk for the marketeers, as well as for the hundreds of people who visit the market daily to purchase goods and services, or to eat at the restaurants.

Bremen Overseas Research and Development Association (BORDA) Zambia is a Zambian civil society organization that has specialized in promoting sustainable environmental protection through integrated solutions. BORDA Zambia initiated a programme of work at Longacres market in 2021. The organization subsequently acquired funding from a German development agency, BMZ, to help establish solid waste management systems and proper sanitation solutions for Lusaka city markets. Longacres market was selected to be a pilot for the city-wide programme.



This brief describes the story of the change at Longacres. The solid waste generated in this market is sorted at the source, separated by type and placed into designated bins, as receptacles that receive the waste.

Bins at Longacres provided by BORDA Zambia, BORDA 2022

The collected waste is then carried to a nearby Material Recovery Facility, where paper, plastic, metal or other material is separated, and processed for reuse or recycled. Organic waste on the other hand is promptly transferred to a bio-digester at a school near the market. The bio-digester produces methane gas that is then used by the school for cooking, and the digested bio-waste is used as fertilizer for gardening. The energy generated from the waste is used for lighting in three houses within the school and the school canteen

Improving solid waste management at Longacres market

Step 1: Introducing stakeholders to the proposed initiative

Huge volumes of solid waste were an eyesore, causing deplorable conditions at the market. In 2021, BORDA Zambia assessed how solid waste was managed at the market. The organisation engaged key stakeholders like the Lusaka City Council, given their role as the custodians of markets in the city. They also engaged marketeers as users of the market, as well as the neighbouring Lusaka Boys Secondary School, the Ministry of Education and the Zambia Environmental Management Agency.

Stakeholder meetings were organized by BORDA Zambia in collaboration with the Lusaka City Council to train marketeers on how to separate waste at the source and discard it in specific bins for further processing.

"A clean environment is good for our health."

Market master- Bridget Kazovu, 8th May, 2023

Marketeers at a stakeholder meeting, BORDA Zambia, 2021





In addition to training of marketeers on waste segregation, the marketeers also underwent sensitization seminars to address the poor sanitary conditions. Existing sanitation facilities at the market were refurbished to enhance hygiene. A shower room was added to the female bathrooms to improve the conditions for managing menstrual hygiene.

Marketeers at a workshop learning how to separate solid waste, BORDA 2022

Step 2: Planning and designing

In 2021 BORDA Zambia met representatives from the Lusaka City Council, school authorities, marketeers and a 'Market Advisory Committee' of those involved and developed a shared framework for the smooth running of the pilot. The ownership of the initiative was transferred to the local market stakeholders and the Lusaka City Council to ensure sustainability.

The team developed information materials, and carried out capacity building activities through workshops. Lusaka City Council and BORDA Zambia trained marketeers, school teachers and pupils in the separation of solid waste, in resource recovery, organic gardening, among other topics.



The school vegetable garden, P Phiri, 2023

The market did not have enough space to construct the bio-digester for food waste so in 2021, BORDA Zambia applied to the Ministry of Education for permission to set up the bio-digester at the Lusaka Boys Secondary School. The Ministry of Education referred them to the Zambia Environmental Management Agency, who assessed the environmental impact on the school and gave the idea a clean bill of health. The school administration then approved plans to construct the digester.

Bio-digester at the school
P Phiri, 2023



Step 3: Tightening the bolts of solid waste management

A decentralized organic solid waste management treatment system was designed by BORDA Zambia in dialogue with the local team. Engineers from BORDA Zambia designed the biogas digester for the market, and the team outsourced the construction to a local Lusaka-based company (Macabe Construction and General Supplies).

The company improved the road within the market to enable people to easily take waste from source to the Material Recovery Facility. Without a direct water source nearby, the company installed a tank in 2022 to supply the water that was needed to effectively run the digester.



Building the decentralized organic solid waste management treatment system including the biogas digester, BORDA Zambia, 2021.

"The initiative to separate waste at source was an excellent idea that has seen the market transform into a much better place to work from. It has also improved the waste going to the skip bins as waste is separated at source and put in appropriate bins." Bridget Kazovu, Longacres Market Master, May, 2023

Step 4: Strengthening co-operation and meeting challenges

- There were challenges along the way. In the initial stages after the bio-digester was built, people started throwing unseparated waste into it. To respond to this the local committee set specific times at which garbage could be fed into the bio-digester and engaged a guard to monitor and ensure the correct waste disposal.
- BORDA Zambia added to the initial information materials focused on managing food waste to include information on managing waste generated from other businesses, such as salons and barbershops. Shop owners had been left out of the early awareness and training efforts that were focused on market workers. In 2023, shop owners are now being incorporated into the awareness activities so that they then train their employees, and orient new employees when there is turnover..

With some marketeers still mixing their waste at source, the market committee and BORDA Zambia are now developing standards, procedures and penalties that will be communicated to the local market vendors and enforced by inspectors at the Lusaka City Council, while also providing more bins to enhance compliance.

Illegal waste-dumping by the surrounding community remains a challenge, however, as the market has no gate and people freely access the site. Members of the public who frequent the market had been overlooked in the initial awareness outreach and were still disposing waste haphazardly.



Materials used to create awareness on proper waste disposal and management, BORDA, 2022

BORDA Zambia thus developed new information materials for the public. These were then placed in different places in and around the market to create awareness on how to discard waste in the labelled bins.

"We have continued to sensitize the market community to continue to adhere to the rules of separating their waste at source by throwing them in specific bins to keep their environment clean and to also look after the assets at the market."

Margaret Zulu, Social Development Coordinator - BORDA Zambia, 8th May, 2023

The pathway for change and its Impact in creating value from solid waste

The initiative has installed a functional end-to-end chain for waste disposal and management at the market.

Solid waste is being separated at the level of shops and market stands and waste is being properly disposed and collected at designated disposal facilities in segregated and labelled waste bins.

Waste is transferred from the bins to the material recovery facility instead of amassing at the dumpsite. The waste is then directed towards recycling or reuse, generating income in an eco-friendly manner.

The organic waste is moved to the biogas digester at the nearby school and used to provide methane gas, lighting four building units. Treated water is used to water the organic garden at the school and the organic waste also provides fertilizer for the school garden. The garden is income generating, and in a circular economy the vegetables produced in the garden are sold wholesale to the marketeers to retail in the local food market.

These activities, and the improved sanitation facilities and hygiene in the market have led to the environment around the market becoming cleaner and more hygienic, with more livable community conditions and improved public health in the market.

There has been a change in behavior of all involved in managing solid waste, and the local authority, vendors and others directly involved in the market supervise and manage the processes themselves.

Moving forward

In 2022, the pilot was formally handed over to the Lusaka City Council.

"I praise BORDA Zambia and all involved for the initiative and its role in improving waste management at the market. It has improved the wellbeing of marketeers and the community surrounding the market by generating a healthy and ecofriendly market environment".

Mr Victor Kagoli, Lusaka City Council Director of Public Health, 2023



Local stakeholders participate in the ceremony handing over the initiative to the Lusaka City Council, BORDA Zambia 2022

As a result of the learning from the pilot the Lusaka City Council is now planning to replicate the concept in other markets throughout Lusaka. The story of change is being shared as it could also be applied in food markets in other urban settings in the region.

Where to get more information on the intervention

1. Lusaka City Council <https://www.lcc.gov.zm/>
2. Centre for Primary Care Research <https://www.cpcr-zm.org/>
3. BORDA Zambia (2018) BORDA Zambia participates in the Zambia Water Forum and Exhibitions, <https://www.borda.org/borda-zambia-participates-in-the-zambia-water-forum-and-exhibitions/>

Citation: Phiri P CPR (2023) Effective Waste Management in a Local Food Market:: The Longacres experience in Lusaka, Zambia, EQUINET, CPR, Zambia

Acknowledgements to: Fastone Goma, Centre for Primary Care Research, Victor Kagoli, Lusaka City Council, and BORDA Zambia. Thanks also to Rene Loewenson, Training and Research Support Centre, John Mwendwa Gitari for review input, Blue Apple for layout and to Medico Int and TARSC for resource support.