

## Solid waste management in Slum Communities of Bwaise III Parish: Transforming Solid Waste into Valuable Resources



The photo on the left displays a drainage channel in the Bukasa zone that has become obstructed with plastic waste. The second photo on the right shows a drainage channel in the St. Francis zone that has been cleared of waste by residents who collect plastic waste for recycling. Both areas are located in Bwaise III parish.

- Solid waste management is a major challenge in the areas of Bwaise
- Residents can transform solid waste into valuable resources
- Communities can use challenges to create opportunities for change

### Bwaise grapples with solid waste management

Bwaise is an urban locality in the Kawempe Division, which is one of the five divisions that comprise the city of Kampala - the capital of Uganda. According to the latest population census conducted in 2014, Bwaise III parish is estimated to have a population of 35,000 people. Due to its rapidly increasing population, the prevalence of informal settlements, and inadequate public investment, Bwaise has transformed into a typical "urban slum" with features such as shanty houses, poor drainage, unpaved roads, high crime rates, and sporadic outbreaks of diseases like cholera and malaria (Gotto and Mhlanga, 2022).

Solid waste management is one of the major challenges facing Kampala City (Oonyu, 2019). The residents of urban poor communities/ slums are the most affected by poorly managed solid waste which is usually disposed of in unregulated dumps, or openly burnt. These practices create serious health, safety and environmental consequences. Bwaise, a well-known slum area in Kampala city, faces endemic floods characterized by loss of property, disease outbreaks and sometimes loss of lives. This challenge is attributed to the poor solid waste management practices in the area which usually cause the blockage of waste water drainage channels leading to floods during rainy seasons.



A flooded compound in the St. Francis zone with water containing solid waste entering the houses.

Innovations for Development got involved in the briquette-making intervention during the documentation of the promising practices promoting urban health in Kampala (Gotto and Mhlanga, 2022).

"Another challenge faced in Bwaise is the issue of water management during rainy periods. As Bwaise is situated in a low-lying area, water from adjacent regions flows towards and through Bwaise during downpours. Unfortunately, some residents dispose of their waste in the flowing water, resulting in the blockage of drainage channels. Consequently, floods occur in the area, with the floodwaters being a mixture of solid waste and, at times, human excreta. This situation poses a significant health risk to the residents, as it can lead to the outbreak of diseases."

Hadijah Nakubulwa, A resident of Bwaise and Chairperson of the Balisekamadda Community Group photo adjacent, April 2023



## Transforming solid waste into a valuable resource

### Step 1: Assessment of the problem

The inadequate management of solid waste in Bwaise presents numerous difficulties, including sporadic flooding and outbreaks of diseases. Recognizing the need to address these challenges and the economic struggles faced by the community, the local chairpersons took the initiative to motivate the residents. They initiated training programs, facilitated through saving groups, to educate the community on utilizing waste as a valuable resource for creating household items such as briquettes. The concept of producing briquettes was inspired by neighbouring communities like Kalerwe and Rubaga Division.



An open site where residents of St Francis zone dump their waste

## Step 2: Designing the intervention and engaging key stakeholders

The intervention was planned in community meetings, and training sessions were conducted in collaboration with local saving groups, leveraging their well-organized structures. Under the guidance of the local chairpersons, the community chose members, primarily women and youth, from different community groups. These were trained by the Uganda Small Scale Industries Association (USSIA) on harnessing solid waste as a resource for producing eco-friendly briquettes.

Following the training, various groups took an interest in implementing the concept including two women groups, the Balisekamadda and Kyosimba Onanya Community groups, and a youth group named Focus for Life Development Link (FOLDL). All are still actively making briquettes. The USSIA provided briquette moulding machines to the groups to support their production, intended to be shared among all the groups within the community. To expand their efforts, the groups sought and received assistance from stakeholders outside the community, including Amref Health Uganda's support for briquette moulding machines. MTN Foundation provided electronic machines and carbonizing machines from Tree Adoption Uganda, to convert waste into char.

## Step 3: Implementation

- The briquette-making process involves the following steps; first, the raw materials, such as charcoal dust, sawdust, or other biomass materials, are collected and crushed to a suitable size. The crushed materials are then dried to reduce their moisture content. Next, the dried materials are subjected to incomplete combustion to form char and then mixed with a binding agent, such as starch or clay, to hold the briquette together. The mixture is then compacted under high pressure using a briquette machine to form the desired shape. After compaction, the briquettes are dried under sunlight. Finally, the briquettes are packed and stored for distribution or use.



Members of the Kyosimba Onanya saving group demonstrating how to make briquettes (Left)  
Ready-made briquettes left to dry on a rack (right)



Boxes of packaged briquettes by the FOLDL youth group that are ready for the market (Left)  
A plastic waste collection Nest in the Katoogo zone (Right)

## The pathway for change and its impact

### Step 4: Further stages of implementation

The groups are working towards widening their area of operation beyond Bwaise. The groups are also carrying out community workshops to train other individuals and groups on how to make eco-briquettes.

The groups have also set up plastic waste collection centres to aid the removal of plastic waste in the communities.

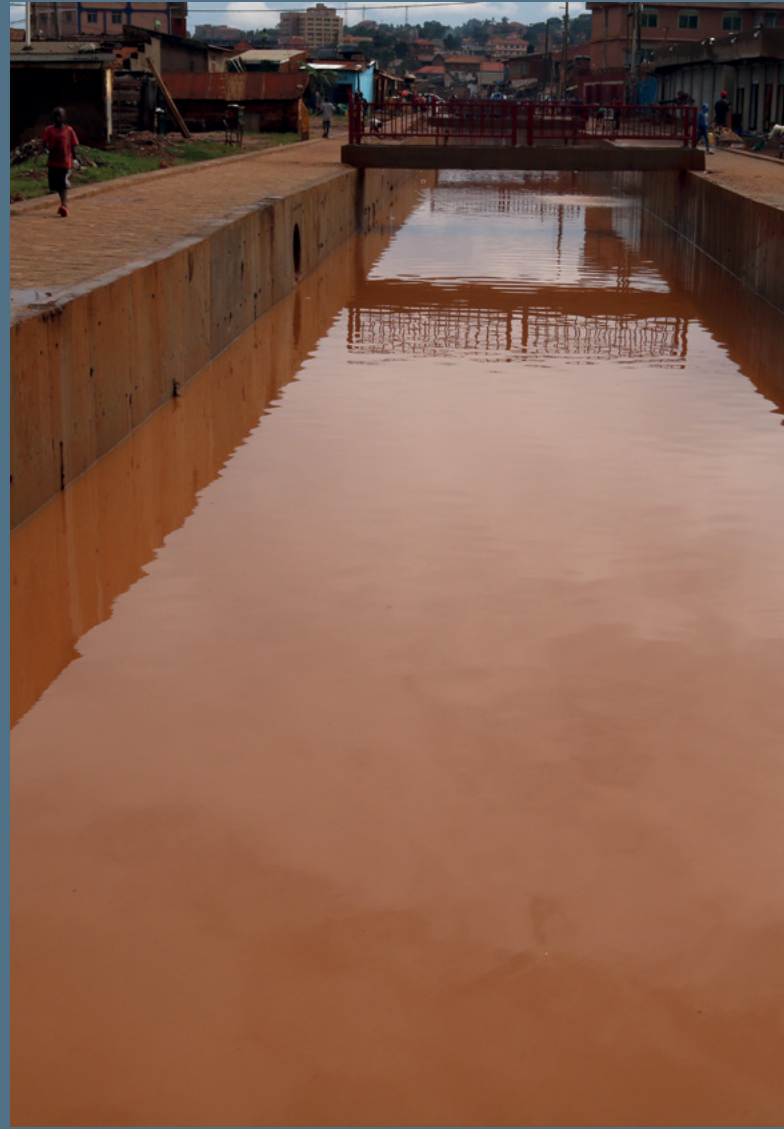
### Progress and the changes achieved

Through the efforts of community solid waste enterprises and groups, the amount of waste disposed of haphazardly in the community has been reduced. This, in turn, has led to a significant decrease in the waste dumped into drainage channels, resulting in fewer cases of floods and related illnesses in the area.

"In Bwaise, the frequency of floods has decreased, although they remain a challenge in some zones. The improvement can be attributed to a reduction in the obstruction of drainage channels caused by waste accumulation. Over time, organic waste has been utilized for briquette production, and efforts have been made to collect and recycle plastic waste. However, the main obstacle lies in the management of organic waste, as there is still a low demand for it."

Kawooya Kagimu, Chairperson LC1 Bukasa zone (Photo adjacent, April 2023)





The main drainage channel passes through Bwaise III; when waste is being dumped into the channel, (Left).  
When the waste has been cleared out of the drainage channel (Right)

## Ongoing action, issues and opportunities

- The groups are tackling the problem of plastic waste in their community by gathering plastic waste, which they either sell to recycling firms or repurpose into household items.
- To boost their earnings, the groups are broadening their briquette enterprises to target sales outside the Bwaise community.
- Additional stakeholders are required to join efforts in raising awareness about appropriate solid waste management practices. The government ought to establish shared disposal sites for those unable to afford waste collection services in the slums.
- Community waste enterprises require enhanced technologies to upgrade their products.
- The groups engaged university students from Makerere and Kyambogo Universities, during their internship on environment courses for the training on eco-briquette production. The collaboration enhanced the community's knowledge and skills.
- The implementation of the initiative resulted in an increased sense of collective action within the community, as they come together to tackle and overcome the challenges related to solid waste.



## What we have learned and can share

Despite solid waste still being a problem in various zones of Bwaise, progress has been made in managing it. The level of indiscriminate waste-dumping, particularly of plastic bottles and organic waste has reduced significantly.

There has been increased community awareness of solid waste management and of the economic benefit of using waste, with a rise in local social enterprises processing waste.

The initiatives have sparked increased collective action in the community to resolve the challenges posed by solid waste. The community actively participates in waste collection for briquette production and ensures responsible waste management practices. Local leaders play a vital role in enforcing solid waste management by-laws within the area.

Kakande Muhamed, a member of the FOLDL youth group explaining how the briquette extrusion machine works

## Learning for other urban initiatives

Empowering communities to solve their challenges helps to build a sense of ownership and responsibility, which can lead to more sustainable solutions.

Solid waste is a major challenge for many urban communities, but it can also be an opportunity. By embracing waste as a raw material, communities can create valuable products and reduce their environmental impact. This can help to improve the quality of life for everyone in the community.

By fostering collaboration among all stakeholders within communities, stronger and more sustainable solutions can be designed and implemented to address the challenges encountered.

A plastic waste collection stand at the community centre in Bwaise



## Where to get more information on the intervention

1. Focus for Life Development link <https://foldlug.org/> -
2. Gotto D, I4D, Mhlanga G, TARSC (2022) Initiatives on equitable urban health and wellbeing in East and southern Africa: Case study reports, – Kampala, Uganda, I4D, TARSC, EQUINET, ISUH, Kampala, Harare. <https://www.tarsc.org/publications/documents/ACE20%EQ20%Kampala20%case20%studies.pdf>
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4. Oonyu F (2019) Management W. Challenges faced by government and the private sector in the collection and disposal of solid waste in Kampala City, Uganda. pp12-1.
5. Loewenson, Mhlanga et al., (2022) Learning from Initiatives on equitable urban health and Well-being in East and Southern Africa, EQUINET Discussion paper 127, EQUINET, ISUH, Harare <https://equinetafrica.org/sites/default/files/uploads/documents/EQ20%Diss20%127ACE20%ESA20%UH20%synthesis.pdf>



Carbonising machines used to turn solid waste into char

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