Cities Alliance
Cities Without Slums

Hosted by UNOPS

WASTE MANAGMENT FOR FLOOD CONTROL IN BWAISE, AN URBAN SLUM IN UGANDA

A community which is intrinsically motivated to appropriately manage its waste for flood control

INNOVATION PROGRAMME
Stronger partnerships: Local Innovations for New Climate Realities in Cities

GRANT AMOUNT
USD 30,000

DURATION
10 months

GRANT RECIPIENT
Tree Adoption Uganda

YEAR
2020-2021

PROJECT OVERVIEW

What is the problem?

Poor disposal of garbage is the major cause of flooding in Bwaise, Uganda. People impacted by flooding lose livelihoods and belongings, as well as the time spent drying out their flooded houses, which also exposes them to further health hazards.

Where is it?

In Bwaise, one of the most impoverished slums in Kampala, Uganda, with a population of over 50,000 people.

Who does it affect?

Flooding affects all residents in the area, but vulnerable women with low socioeconomic status, limited opportunities, and responsibilities that confine them at home are among the most affected.

What are the causes?

Poor disposal of garbage which ends up in the already inadequate drainage channels, causes blockages, hence flooding. The underlying causes are limited waste management facilities and systems; erratic rains due to climate change will only put further pressure on these already inadequate systems.

Approach

This project aimed to change behaviour and inspire intrinsic desire towards environmental stewardship through sensitizing and educating the community about the need for proper waste disposal. This was done through practical learning sessions and waste collection from 1,000 households with proper sorting.

The community was exposed to the value and use of the segregated waste, such as the opportunity to make saleable briquettes from organic waste by using carbonizers and tarpaulins provided by the project.

Community members were also linked to recyclers so that they can sell collected reusable plastics to materialize it into a profit. This creates intrinsic motivation for community members, as they can get an income from their segregated waste and help to solve the waste menace in the community.

In collaboration with city authorities and other stakeholders, the project also advocated for better drainage systems and engineering designs. This was done by engaging all key stakeholders in planning and formulating processes to reduce flooding that results from inadequate facilities, such as narrow drainage channels. This also helps enable the community to better adapt to the new realities of a changing climate.

FINAL REPORT

ACHIEVEMENTS

"We have so far collected and sold 2 tones of plastic and 3 sacks of briquettes; getting one million shillings."

Ms. Nakubulwa Hadijah; chairperson of Balisekamada Group. Katoogo Zone

Stakeholders' workshops

Introductory workshop: held to introduce the project, get stakeholder recommendations, identify potential partners, and raise awareness. Notable impacts include the expedited construction of Lubigi drainage channel to ensure the adequate flow of runoff and reduce flooding, and the creation of private sector and other partnerships.

Final review workshop: held to share project work results, experiences, and recommendations and to hear from the different stakeholders and beneficiaries.

Raising awareness and project impacts

The project created content for social and mainstream media, as well as conducting the advocacy workshops, community trainings, and clean-up activities. Some of the stories from beneficiaries can be found on YouTube.

The impact in Bwaise has been quite visible, with the environment cleaner and drainage channels flowing. In follow-up interviews, respondents note that flooding is less than in previous years, only occurring with heavy rains.

Livelihood enhancement and empowerment of women

Women made it clear during the workshops that they were affected most by waste and flooding, and therefore they should be at the centre of interventions to ensure the successful implementation of the project.

Women made up the great majority (91%) of the 103 trainees who learned how to make valuable products from waste. Training included proper waste handling, sorting and collecting plastics for sale, making char from dry organic waste, and making briquettes for sale for cooking. The trainees were further linked to the market: for example, to NK Plastics to buy plastic from the groups and to United Innovations Development Centre to buy char.

The project gave women an opportunity to have an income, raise their social economic status and contribute to decision making in the community and in their households, positions which have been previously been dominated by men. The women have specifically benefited from the collection and sale of plastic and the production and sale of briquettes, as well by gaining a platform to lead.

Quantitative achievements

- 358 people (89 men and 269 women) participated in 7 community cleanups; while 1,000+ community members participated in sorting activities at the household level.
- 14 tonnes of waste were collected in community clean-ups.
- 94 women and 9 men were trained in waste sorting and in making valuable products such as briquettes from char.
- 100 tarpaulins were distributed for drying organic waste.
- 50 carbonizing drums for making char from dry organic waste were distributed for use in producing briquettes.
- Educational materials (e.g., waste awareness videos) were produced, used for training, and aired on National TV.
- An air quality study was conducted on the carbonizing process and efficiency, and a report was produced to share.
- 27 stakeholders engaged in the first workshop and 20 in the final, with participants as follows. Private sector: Co-Effort, Ebaprenuer Solutions, Kampala Solid Waste Consortium, NK Plastics, Tokens of Life, Uganda Plastics, United Innovations Development Centre. Government: Kampala Capital City Authority members, local council leaders. Civil society organizations: YLEC-Uganda, Uganda Youth Development Link, Amref-Uganda, CIDI. Academia: Makerere University.

LESSONS LEARNED

"I learned to not dump waste as it has value. We also learned about waste sorting and handling which will guide us to reduce indiscriminate dumping and the problems which arise from that"

Ms. Sofia Nattabi

Bokasa Zone resident

Engagement and awareness

Communities must be at the centre of designing projects, as they often have knowledge on what works and what doesn't. It may be necessary to change the project design to better suit the context. Baseline surveys are important to understand problems from the community perspective.

Engaging the whole ecosystem is important; it is difficult to solve complex problems in silos. The challenge of reducing poor waste disposal and flooding in Bwaise has behavioural, structural, policy and market aspects; hence, it requires a multi-actor approach. TAU created platforms for different stakeholders to meet and discuss potential solutions, and engaged private sector actors to buy the waste products, thereby offering markets to ensure project sustainability. The government has taken on the bigger task of improving the structure of drainage channels.

Continuous awareness is key in areas with changing populations, such as informal urban settlements, where new people from different backgrounds are often moving in. Engagement on community issues is needed, especially by local leaders and authorities.

The problem of waste may not be only internal to a community. Upstream parishes contribute to the waste in Bwaise 3, which is at a lower elevation. It is therefore important to also raise awareness for the surrounding communities on waste management to holistically solve the problem of waste and flooding in an area.

Knowledge sharing is very important. With support from Cities Alliance, TAU attended CBA-15 Conference, shared about its work, and learned from others on how best they can implement community-based adaptation projects.

Local leadership and participation

Women were the biggest actors in waste management and took the biggest responsibility in dealing with household waste. It is therefore imperative to put them at the centre of waste management projects as well as create incentives for their efforts.

The participation of community members in project activities such as clean-ups was very high, demonstrating high motivation and the commitment to change their own reality, if mobilized. Community members explained that this is because they (especially women) are the ones who suffer most during flooding, and that this intervention would reduce the problem, keeping them and their children safe. They also pointed out frustration at government interventions and noted that they preferred to make their own contribution.

Conducting community activities doesn't require a lot of resources. There is therefore a need to empower local leaders with skills in mobilizing the community and resources as well as engaging higher authorities to solve environmental challenges in their communities.

Policies and adaptation

Policies should be made to suit contexts. Most people in the area were not willing to pay for waste disposal, due to their low economic status; hence, they disposed of waste indiscriminately. Given that the government ends up paying for desilting of drainage channels, as well as the risk posed to ecosystems by the waste, it would be better to take a different approach to waste management. The mayor acknowledged this problem and that they had put it to the Minister for Kampala to have waste from such settings collected at a low or no cost.

Implementing the project during the COVID-19 pandemic meant adapting, making adjustments and operating within the guidelines. Instead of big community clean-ups, the project held ultra-local clean-ups at the small group level to minimize interaction of people. The project team also engaged virtually with local leaders during total lockdown to monitor and ensure that project activities continue.

MOVING FORWARD

> "Last time the Mayor was here, he promised to follow up and expedite construction of the major drainage channel and inlets; I can confirm that the work started."
>
> *Mr. Mungi Stephen*
> *Office of the Mayor, Kawempe Division*

Monitoring and results

A study to assess the efficiency of the carbonizing machines and the air quality during the process of carbonizing found that the locally made drum-type household carbonizer was relatively efficient in carbonizing the waste tested. However, there was hazardous air quality in the immediate surrounding area of the carbonizer during the carbonizing process. There is a need to improve the design of the drum-type carbonizer, as well as to train the users on proper usage to improve the overall air quality in the area immediately surrounding the carbonizer.

A report on the results of the carbonizer study was produced and the findings will be disseminated to different stakeholders to guide decision making and design, as well as to share general knowledge on the technology, which has been difficult to find.

A recommendation from the final project review workshop included continuous monitoring. Given the short project timeline and disruptions by the COVID-19 pandemic, the project impact has not yet been fully established. TAU will continue periodic monitoring in Bwaise, however, while lobbying for scaling up and replication of the project and working to mobilize more resources for other projects in the community.

Project sustainability

Awareness on proper waste management needs to be continuous. Local leaders have pledged to engage new community entrants on waste management bi-laws.

The community clean-ups have also helped build a spirit of collective action to solve problems locally, and the monthly clean-ups will be continued. These activities have resulted in further suggestions for future action, such as planting fruit trees for shade, food, and heat mitigation in the slum.

The benefits attached to waste collection have created intrinsic motivation. Community participants want to continue in the business beyond the project timeline, as it contributes to their livelihoods, as well as helping in mitigating floods in the area. Briquette production is currently limited by the need to mould briquettes by hand, however. As a result, TAU intends to mobilize funds through grant writing and other methods in order to purchase a briquette machine for every zone in Bwaise Parish 3.

Scale-up potential

Some of the waste in Bwaise Parish 3 is brought by stormwater from surrounding areas at higher altitudes, TAU will therefore seek further funding to replicate the project in the surrounding parishes like Bwaise 1 and 2.

FINAL REPORT

Tree Adoption Uganda
Adopt a tree

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