

KNOW-HOW
3000

Experience

IN DETAIL

Entrepreneurial Solid Waste Management



HORIZONT
3000

AUSTRIAN ORGANISATION
FOR DEVELOPMENT COOPERATION

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List of Abbreviations

YES	Youth Environment Service
BMC	Busia Municipal Council
DKA	Development Cooperation Agency of the Catholic Children's Movement of Austria
NEMA	National Environment Management Authority
UNDP	UN Development Programme

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1. General Information

Youth Environment Service (YES) is an organization located in Busia, Eastern Uganda, working in the field of sustainable development, health and environmental management. With this document YES wants to present the experience of Entrepreneurial Solid Waste Management, carried out since 2011 in more than 20 villages within Busia District.



Chart 1 Localization of the experience

2. Context of the Experience

As a town on the common trans-national route linking trailers from Mombasa port to Uganda, Rwanda, and the Democratic Republic of Congo, Busia has a lot of human activities and the population is relatively high. The people indiscriminately dumped waste and the area was heavily littered throughout the years; heaps of uncollected waste would be seen in a number of places and it was a common scene for home consumption items to be sold near heaps of waste. Busia Municipal Council-BMC (the principal political head of Busia Municipality) could hardly press charges against individuals or organisations for indiscriminate waste disposal since there were no laws on the matter. In addition, BMC lacked sufficient infrastructure (trucks, skips and road side bins) for systematic and regular waste collection; this created a foul smell within the Municipality.

In 2011 the Vienna University of Technology-Austria, Makerere University-Kampala and Youth Environment Service–Busia carried out a study research project “goal-oriented solid waste management in Uganda (UGoS)” to analyse the quantities of waste generated, its challenges and how it can be put to use. It was realised that only 40% (12 tons/day) of the total waste generated (30 tons/day) was collected by

BMC while the remaining 60% (18 tons/day) - if not domestically re-used - was openly burnt or illegally dumped in residential areas leading to serious environmental health problems. BMC would be able to manage a certain quantity of non-biodegradable waste with the composting plant which would be donated by the National Environment Management Authority (NEMA) but not the non-biodegradable waste. Therefore YES started to sensitise communities on how waste generated in the area including plastics, charcoal dust and papers could be put to use. The first pilot project funded by DKA Austria in 2012 raised the project to another level where recycling of charcoal dust into ecological briquettes and making crafts (mats, handbags, cans etc.) for income generation was started. This has been expanded further with the current project funded by Austrian Development Agency and DKA Austria through HORIZONT3000.

To reach a wider population within the area, it is necessary to form partnerships with multi-community stakeholders such as government entities, community, private sector and NGOs. Changing the mind-set of people about proper waste storage and disposal does not only require massive sensitisation and putting in place waste collection centres, but also demonstrating to them how waste can be a useful resource. Because the community of Busia has been able to follow this path and systematically turned waste into an opportunity, YES can share this experience for replication by other organisations.

3. Main Characteristics of the Experience

The main objective of the practice is to turn waste, an environment hazard, into a resource for business and environmental protection.

For that aim, **the following steps** were taken:

- A research was conducted to assess the waste management challenge in Busia Municipality and unearthing of possible solutions by YES in conjunction with Makerere University Uganda and the Vienna University of Technology - Austria. During the research, the quantity of waste per day in four strategic locations was measured to ascertain the amount of waste generated per day in the municipality.

- Mass community debates were organized on the roles of community and the challenge of waste in our locality.
- Sensitisation measures on waste management, storage and segregation were put into practice through door to door visits.
- An initial visit to waste recyclers group in Nairobi, Kenya (Umande Trust in Kibera) was realized, and the concept of recycling waste for income generation conceived from this visit.
- Farmers were identified and trainings with farmers on the use of compost realized.
- Waste is collected from different sources such as the market area, homes, and carpentry workshops and taken to processing centers like Mawero East B village, Arubaine A among others;
- Waste is sorted out for recycling; plastics, glasses, metals, polythene and biodegradable solids
- Recycling of various materials and marketing of products is done by various groups of people

Among these steps, the study tour of YES staff to organisations recycling waste in Kenya in 2012 can be seen as a **major turning point**. These visits made YES aware that a number of enterprises can be initiated out of waste recycling. The recognition of YES for its role in converting biodegradable solid waste into energy-eco-briquettes for alternative energy through the SEED Initiative by UNEP, UNDP and IUCN (SEED) encouraged YES to continue in this line of work.

Central **instruments and methods** that have been applied to implement the practice were:

- Massive mobilisation and education for change through the local leaders beginning with the Local Council and committees in the municipality.
- Village meetings to discuss waste and environment sanitation issues.
- Village and school visits and the establishment of school environment clubs, village environment clubs and market environment committees.
- Establishment of community-based waste collection infrastructure.
- Mobilising and training of various community groups in making of charcoal briquettes and crafts.
- Mobilisation and training of farmers in the use of manure for agricultural activities.

4. Stakeholders and Partners – Roles and Responsibilities

The main beneficiaries of the experience are the community members in Busia Municipality, the municipal Councils and other local institutions, as well as the users of solid waste products.

Various parties, institutions and group of people are involved in the practice:

- Village Environment Committees: They mobilise individuals to collect and properly store waste. Additionally they establish community structures for recycling and the production of ecological briquettes from charcoal dust and other materials e.g. maize cobs and marketing of briquettes, as well as for the marketing of the briquettes. They also monitor women and youth engaged in recycling plastics, polythene and metals into useful items.
- Waste Link Agents: These include Bodaboda drivers, shop, hotel and bar owners, as well as food and market vendors, among others. They support sensitisation of people on proper waste disposal, segregate waste and monitor the use of the waste bins at the road sides and communal centres.
- Households: These include tenants and landlords, who collect waste afterwards used for recycling.

The social, economic and environmentally friendly technologies and benefits from recycled waste products e.g. eco-briquette charcoal constitute a motivation for all the participants. Additionally, the visibility of YES in the community highly motivates the community to participate in community waste recycling. Although all women and men engage in recycling of biodegradable waste and making of charcoal briquettes, only women are engaged in the production of bags, designed jewellery and mats from plastic/ polythene materials and papers, saucepans from old aluminium scraps and candles from old plastic cans.

5. Resources

Resources needed to implement the experience can be named as follows:

- Human resource knowledgeable in environmental sanitation and waste management aspects and waste recycling
- Funds for facilitating the implementation of activities involved in environmental sanitation and waste management
- Information and knowledge sharing workshops for partners
- Information, Education and Communication materials for sensitisation
- Public address system for mobilization and dissemination of information
- Briquette making machines and colour dyes for crafts

6. Impact of the Experience/ Practice

The project opened the potential paradigm shift, stimulating local research, discussion and new ways of implementing waste management practices, and the impacts on the beneficiaries were many:

- Improved storage and disposal of waste among households and communal places such as markets.
- Increased support by community stakeholders regarding waste management.
- Waste reduction through recycling and high interest in recycling waste into briquettes and handcrafts.
- Improved ecological situation in the town through city gardening.
- Generation of income for households through the marketing of recycled products.
- Development of high quality crafts by women involved in the production of goods out of recycled material.

Additionally, there was an increase in organisations networking with YES and regarding the visibility of YES in Busia District

7. Lessons Learned and Recommendations

Waste is wealth and thus should not be wasted, and a clean home with adequate sanitation facilities is an asset to society.

Identifying the most important environmental challenges and transforming them into business opportunities motivates community participation and enhances attitude change.

Communities are eager to adopt strategies that can improve their life in all aspects, but they lack information on how to do it. Thus, dialogue, visits and direct interaction stimulate the learning process.

Cooperation and good partnership with community stakeholders leads to successful achievements.

8. Challenges

A series of challenges have been encountered in applying the practice, such as:

- The heavy rainy season prolongs the production period of briquettes due to the absence of sun for drying.
- The technique for sorting waste has not picked up among households; a number of households mix biodegradable and non-biodegradable waste which makes recycling difficult.
- Marketing of recycled products is still very low.
- Society regards waste recycling as a dirty job irrespective of the income it brings to the beneficiaries.
- The lack of by-laws on waste and sanitation by the local government limits the enforcement of the components of waste management.

These challenges have been and are addressed so far by:

- Provisional drying racks used by briquette producers.
- Continued sensitization to households on waste sorting
- Inspection of waste storage facilities in homes by field staff
- Spearheading support of the enactment of the waste and sanitation by-law by Busia Municipal Council

9. Sustainability

To ensure that the practice is institutionally, socially, economically and environmentally

sustainable, the following elements are of crucial importance:

- Massive training and sensitisation on waste management as a continuous process.
- Continuous active partnership and close integration of local government at all levels in the implementation of activities.
- Establishment of a resource centre for entrepreneurship through waste recycling and demonstrations on waste management and sanitation.
- Encouragement of recycling groups to start group savings.
- Networking recycling teams with other partners for information exchange, acquisition of equipment and financial support.
- Training of the VECs in business planning, development and skills.

10. Experience Sharing/ Up-scaling

For the practice to be replicated, the following conditions need to be in place:

- Awareness of the problem within the community and willingness to participate in the designed mitigation measures
- Knowledgeable staff in waste management issues and institutional support from government authorities and local leaders

It is also important, that all or at least most of the community stakeholders participate in the project, and that implementing NGOs encourage and support their local governments to put in place by-laws on waste management and sanitation

The experience has already been shared with some Ugandan and Kenyan NGOs working in the field, as well as UNDP, and could be of interest of national and international forums and networks, such as the European Union Department of Environment, the Climate Change Partnership Fund, the Global village Energy Partnership, and the Climate Action Network Uganda

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