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IMPROVING LIVELIHOODS THROUGH PLASTIC WASTE MANAGEMENT IN COASTAL COMMUNITIES OF THE WESTERN REGION OF GHANA:

ACHIEVEMENTS AND LESSONS LEARNED



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Cover Photos: Trainees and Daasgift's Executive Director Exhibiting Trashy Bag Products

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List of Acronyms

CEPL	Cyclus Elmina Plastic Recycling Limited
CBSC	Community-based Sanitation Committee
DQF	Daasgift Quality Foundation
GES	Ghana Education Service
ICFG	Integrated Coastal and Fisheries Governance
LEs	Local Entrepreneurs
NCCE	National Commission for Civic Education
USAID	U.S. Agency for International Development

Table of Contents

Acknowledgment.....	ii
List of Acronyms	ii
Table of Contents.....	iii
List of Figures	iii
1.0 INTRODUCTION	1
1.1 Purpose and Scope of Report.....	1
1.2 Background of Daasgift.....	1
1.3 Objectives of the Intervention.....	1
2.0 PLASTIC WASTE MANAGEMENT ISSUES IN THE COASTAL CONTEXT	2
3.0 INTERVENTION AND IMPLEMENTATION STRATEGIES.....	4
3.1 Education and Sensitization of Community Members.....	4
3.2 Capacity Building.....	5
<i>Case of Shama District.....</i>	<i>5</i>
<i>Challenges.....</i>	<i>6</i>
<i>Lessons</i>	<i>7</i>
<i>Case of Dixcove.....</i>	<i>7</i>
<i>Bag manufacturing centre.....</i>	<i>8</i>
<i>Challenges.....</i>	<i>9</i>
<i>Lessons</i>	<i>9</i>
3.3 Contribution to Livelihoods Improvement and Well-being.....	10
4.0 CONCLUSIONS	11
4.1 Implication for Future Waste Management Interventions.....	11

List of Figures

Figure 1:Indiscriminate disposal of polythene at the Dixcove beaches and some choked gutters at Dixcove.	2
Figure 2:Heap of refuse dump at the Dixcove Community.....	3
Figure 3:Meeting between DQF team and the key stakeholders at a Methodist church	4
Figure 4:Stakeholders seated at the workshop.....	4
Figure 5:Cyclus lifting waste from the collection center:.....	6
Figure 6:Trainees from Dixcove trained in Avenor Accra. (From left is Elicia, Ravivi & Eunice)	7
Figure 7:A group picture taken by the staff of Avenor and trainees from Dixcove	8
Figure 8:Trainees being welcome by the staff of Avenor.....	8
Figure 9:Trainees completion of training at Avenor, Accra	8
Figure 10:Trainees being handed back to the community	8
Figure 11:Trainees at work at their temporal location.....	9

1.0 INTRODUCTION

1.1 Purpose and Scope of Report

This report outlines the accomplishments and lessons learned through piloting integrated sanitation and livelihood improvement interventions in four coastal communities in the Western Region of Ghana by Daasgift Quality Foundation. It highlights the issues of plastic waste management in coastal communities and describes the business model applied to facilitate household income generation through plastic waste management in the target communities. The way forward for improving plastic waste management in coastal communities is suggested to inform similar and future initiatives in other parts of the country.

1.2 Background of Daasgift

Daasgift Quality Foundation is a Ghanaian financial non-governmental organization (FNGO) operating in the Western Region of Ghana. The organization seeks to empower the poor and needy, especially women and youth, through the facilitation and provision of micro loans; micro business development services; clean energy end user financing; climate change and environmental sanitation interventions; youth career awareness programmes and employable skills training. The organization believes that microfinance is a great tool for the attainment of improved livelihoods for all – especially those at the bottom of the economic pyramid. As a result, the delivery of financial and non-financial services to the rural and urban poor is a core strategy of Daasgift.

Over the last half decade, Daasgift has been facilitating widespread access to fuel efficient stoves and renewable energy technologies by households, women and productive enterprises in both coastal and inland communities of the Western region. As a result of a collaborative programme with CRC-Ghana, Daasgift furthered its support to coastal communities through the implementation of plastic waste management interventions linked to income generation and improving livelihoods of coastal folks.

1.3 Objectives of the Intervention

The interventions were piloted in selected communities in 2 coastal districts of the Western Region. In the Shama District, the target communities were Abuesi, Aboadze and Shama, while in Ahanta West District, Lower Dixcove was the focus.

The key objectives of the plastic waste management interventions were as follows;

- Improve understanding on proper plastic waste management on the basis for ensuring sustainable environmental planning and maintenance in the communities.
- Build awareness and acceptance within the communities on the need for collective participation in sustainable environmental maintenance.
- Build the capacity of local entrepreneurs to establish and run a plastic waste recycling centre in Dix-cove.
- Introduce livelihood activities in Dix-cove and adjoining communities through the sale and re-use of plastic waste.
- Strengthen relevant local existing structures (Community Sanitation Management Committee) to consolidate the District Assemblies' effort in ensuring proper waste management at the grassroots level.

2.0 PLASTIC WASTE MANAGEMENT ISSUES IN THE COASTAL CONTEXT

Waste management in Ghana is one of the many challenges facing the environment, especially coastal areas due to rapid population growth, poor sanitation and indiscriminate waste disposal practices. This menace poses serious issues for the Western region in particular, because of a burgeoning coastal population arising from the oil and gas boom. The surrounding environments in Dixcove, Abuesi, Shama and Aboadze are heavily polluted and degraded. Improper waste management is one of the main causes of environmental pollution and degradation in these communities. This has implications on public health and well being as well as on the surrounding water, air, land and vegetation.

Currently, about 29% of households in all the districts in the Western region use inappropriate sites including gutters, beaches and wetlands for solid waste disposal. Also the predominant methods of disposal for liquid waste in most coastal communities include throwing into gutters; on the compound of the house; or onto the street. The use of the sewage system or septic tank for liquid waste disposal is less frequent in these communities.



Figure 1: Indiscriminate disposal of polythene at the Dixcove beaches and some choked gutters at Dixcove.



Figure 2: Heap of refuse at the Dixcove

One common phenomenon manifested in all the four communities - Dixcove, Abuesi, Shama, Aboadze- was the extent to which they were engulfed in filth. The indiscriminate disposal of both solid and liquid waste in these communities has led to choked gutters, polythene bags at the beaches, choked lagoon near the sea with lots of flies in the community. These practices have led to diseases such as cholera, malaria, river blindness, chest infections and other contagious and dangerous ailment affecting both the young and the old in the community.

3.0 INTERVENTION AND IMPLEMENTATION STRATEGIES

The overarching goal of Daasgift’s intervention was to facilitate income generation through plastic waste management and reduce plastic waste pollution in the coastal communities and along the beaches. Whether plastic is a menace or not depends on how it is used and disposed off in the environment. During the initial implementation, series of meetings were held with key stakeholders within the communities to solicit their support for the project. Some of the stakeholders who were involved in the consultation and dialogue were Chiefs, Assembly members, Opinion leaders, Religious leaders, Chief fishermen, Children, Environmental Health Officers, National Commission for Civic Education (NCCE) officers and other relevant officers of the District Assemblies.



Figure 3: Meeting between DQF team and the some key stakeholders at a Methodist church



Figure 4: Stakeholders seated at one of the workshops

3.1 Education and Sensitization of Community Members

Prior to the intervention, there were low levels of awareness in the communities relative to the negative effects of littering the environment. A survey conducted within the project communities on waste management indicated that, the community members could not link the issues of flooding and climate change within the community to improper waste disposal. Implementation of the project involved educating target communities and creating awareness on the effect of indiscriminate waste disposal and the opportunities for generating incomes through improved waste management practices. Several community sensitization forums were also organized. These were interactive and characterized by open discussions as well as question and answer sessions. Sensitization sessions involved ranking exercises focusing on the effects of improper waste disposal on the environment and public health. Through this exercise and the organization of the educational and sensitization programs, community level stakeholders developed greater awareness of the problems and identified communal approaches for addressing them. This also contributed to changing perceptions on the effects

of indiscriminate waste disposal. People are now better informed that indiscriminate plastic waste disposal is a potential cause of flooding through clogging drainage systems.

Lesson: sensitization through forums and facilitated workshops is essential for building knowledge, developing awareness and providing socially acceptable solutions for sanitation problems at the community level.

3.2 Capacity Building

The project adopted an approach of working through existing institutions at the community level while building their capacity to assume oversight responsibility of the project. One of such existing committees was the Community Water Board in Dixcove. Members of the committee were tasked with different roles, including school education and sensitization programs on waste management.

Integral to the capacity building efforts was the piloting of different business models for plastic waste management in the target communities. These models aimed at supporting local entrepreneurs to manage plastic waste, resulting in the development of sustainable micro-enterprises based on plastic waste management. Details of these models and associated capacity building actions are described below.

Case of Shama District

In the three coastal communities of Shama District, a network of plastic waste collectors was created. This model allowed community members to lift and sell plastic waste to local entrepreneurs, who re-sold to a recycling company - Cyclus Elmina Plastic Recycling Limited (CEPL). Trading in plastic waste generated incomes for coastal households as well as the local entrepreneurs. A Memorandum of Understanding (MoU) was signed with Cyclus Elmina Plastic Recycling Limited to buy and lift saleable plastic materials that will be collected by community members. Two promising entrepreneurs were identified and further trained to coordinate the mobilization and the collection of plastic waste from all the communities. They are in the persons of Messers Ebenezer Amokwando of Shama and John Amoasi of Abuesi. These two became the main contacts persons and liaisons between the project implementing partners and Cyclus Elmina Plastic Recycling Limited (CEPL). The existence of this attractive business model has encouraged community members to clean their environment at a significant financial reward hence changing their attitudes towards plastic waste disposal. The local entrepreneurs scheme has proven to be very successful for mobilizing communities towards maintaining a clean and hygienic environment. Eventually the role of local entrepreneurs is also seen as a critical sustainability factor for the project. Over 2,589.69kg of plastic waste had been lifted and collected by CEPL as of February 14th, 2012. In addition, three containers were purchased to be used as plastic waste collection center at Abuesi, Shama, Aboadze.



Figure 5: Cyclus lifting waste from the collection center

During the initial stages of the project implementation at the Shama district, four schools were selected for the commencement of proposed sanitation club and activities. This process started until the District Education Office resented the involvement of school children in the project implementation – citing possible dangers like truancy/absenteeism, and other potential perverse effects on children’s education. Due to this situation, all planned activities had to be refocused on the larger communities and children had to be met at the community level rather than within the school setting.

Challenges

- **Non-saleable Plastic Waste** – “black take-away” and “white *olonka*” plastic rubbers could still be seen in the immediate environment and the seashore of project communities. Because Cyclus Plastic Recycling Limited does not buy these types of plastic waste; community members are unfortunately not encouraged to spend time picking the non-saleable ones. An inquiry at Cyclus into the matter revealed that these types of plastic waste are at their final recycling stage and are therefore of no use to them. Meanwhile, we have observed that Cyclus also gives more consideration to buying plastic bottles, gallons and home plastics than sachet water rubber.
- **The volume of plastic waste mobilized by the communities on weekly basis is very large.** Unfortunately, Cyclus Plastic Recycling Limited does not demonstrate a similar level of response in the collection and payment process. This situation has the tendency of damaging the interest and trust of local entrepreneurs as well as target communities in the viability of the project.
- **Non Cooperation of GES, Shama** – One of the key approaches adopted by this project was to use school children within the beneficiary communities as strong agents of change through the formation of “sanitation clubs” in both Primary and Junior High Schools. Unfortunately, the District Education Directorate did not accept the idea, as it believes the financial component in the collection and sale of plastic waste could disrupt effective teaching and learning. The District Director was of the view that the active involvement of school children could promote absenteeism – as children may loiter around school hours in search of sachet plastic – hence, his disapproval to the planned strategy. This development presented enormous test to the project implementation processes – compelling the need for further planning which eventually changed the project deliverables and outcome(s).
- **Daasgift Quality Foundation** – A new Programs Manager needed to be engaged when the substantive officer resigned (at a point in the project) to pursue higher education. The hiring process took time and this situation in a way interrupted the implementation timelines.

Lessons

- Local entrepreneur scheme is very instrumental in successful mobilization of communities towards maintaining a more sustainable environment through behavioral change to eliminate indiscriminate plastic waste disposal.
- Use of local entrepreneurs also encouraged community members to clean their environment at a significant financial reward.
- A thorough stakeholder analysis and engagement should be done at the design stages of future projects to avoid the withdrawal of key partners at critical times – as it has been in the case of school authorities within the Shama district.

Case of Dixcove

The Dixcove community waste management model on the other hand sought to establish a plastic waste recycling centre at Dixcove to produce “Trashy Bags” made with water sachet bags. This was also meant to increase household incomes through the re-sale of plastic waste for re-cycling and creating employment opportunities for local folks. The project provided employment opportunities for 5 youths (3 female and 2 male) within the first 3 months of the project's inception. The three females were trained in Accra at Trashy Bags Ghana for 3 months in the manufacturing of trashy bags. The main objective of the training was to build capacity of the female youth to manage a plastic Recycling Training Center at Dixcove and also provide training for other interested youth. The two males on the other hand, were selected to be the main focal people at the collection centre. The project also provided a source of income for plastic waste pickers as well as many individuals and families – about 100 households. The individuals who collected and sold plastic waste to the collection centre under this project benefited directly from allowances to be paid by the Trashy Bag Manufacturing Centre and other companies.



**Figure 6: Trainees from Dixcove trained in Avenor Accra.
(From left is Elicia, Ravivi & Eunice)**



Figure 7: Trainees being welcome by the staff of Avenor



Figure 8: A group picture taken by the staff of Avenor and trainees from Dixcove

The three trainees graduated and returned to Dixcove in July 2013. The community and the traditional Council organized a durbar for the trainees. The Chiefs of Dixcove welcomed their daughters from Accra and congratulated them for the good works. They were also charged never to relax on the work but rather work harder to train other members of the community and also ensure that the project attracts tourist and foreign exchange to their community.



Figure 7: Trainees completion of training at Avenor, Accra



Figure 8: Trainees being introduced at the durbar

Bag manufacturing centre

Trashy Bag products have been a novelty for tourists who visit the country. To keep the cycle of financial viability constantly spinning, the project finalized a cooperation agreement/business relationship between plastic waste recycling entrepreneurs in Dixcove (Dixcove Plastic Waste Recycling Centre) and Trashy Bags Ghana, a non-governmental and social entrepreneurial organization based in Accra, to secure ready market for the trashy bags from Dixcove. Revenues to be mobilized from the sale of the Trashy Bags shall finance the operational cost, allowances of the 5 youths who will be directly engaged to manage the centre, and other contingency cost that may arise with time.

The Centre is being administered in a way that it receives and re-uses plastic waste sold to it by plastic consumers or community thrash pickers. Consumers or trash pickers have the opportunity to be given cash back when they return plastic waste to the Centre. Cash back

will be dependent on a kilogram of plastic returned or any other acceptable calculation. In this case, when one uses a plastic container or drinks, for instance sachet iced-water, there is financial motivation to keep the sachets and return them in exchange for cash.

Currently the three trainees are being housed temporarily in one of the offices in the Lower Dixcove chief's palace and it is expected that the permanent structure will be completed very soon for the trainees to move in. However, the community has opted to utilize the fund allocated for the construction of the centre as a contribution to complete a community centre, which is under construction, and allocates some rooms for the Trashy Bag production centre.



Figure 9: Trainees at work at their temporal location

Challenges

- **Project acceptance:** Failure of similar projects in the past made it difficult for the community to initially accept the project. Community members were reluctant to buy in into the plastic waste project due to previous experience with Cyclus. Because of this mistrust, the key stakeholders were taken through a lot of sensitization and dialogue for them to be convinced. The penetration became easier when the stakeholders understood and accepted the project. A lot of support was received from the stakeholders. The acceptance, commitment and involvement of the opinion leaders played a vital role in the project implementation.
- **Lack of awareness of causes of flooding and climate change issues:** It was learned that people were unaware of the climate change causes and mitigations. This was revealed when a sensitization programme was organised to create awareness of the negative impact of the indiscriminate disposal of plastic waste on the environment.
- **Lack of awareness of the re-use potential of plastic waste:** It was learned that, the people in Dixcove did not know that used plastic waste could be re-used. This perspective was shifted through community awareness creation.

Lessons

- **Financial Incentives:** It was learned that, community members expect honorarium for every attended meeting, and will openly request for it. Again, adequate financial mechanism motivates community involvement. Currently the project has created fund, which will be used in buying the used plastics from the community members. The community is much excited since they can collect the plastics and earn some income.
- **Huge Market for trashy bags:** It was learned that Trashy bags has a huge potential both locally and internationally, however further training need to be offered to the

entrepreneurs to improve the quality of the finished products before it can attract international market.

3.3 Contribution to Livelihoods Improvement and Well-being

The initiative set a lot of activities in motion. Jobs were created through the two business models that were introduced. The beneficiaries who received different levels of training on plastic waste management as well as the individuals who engaged in the collection and sale of the plastic waste earned some significant financial reward. Moreover, the surrounding environment was improved as a result of the activities that were implemented through the project. Positive changes in environmental conditions (sanitized and disease free environment) are seen to be improving human health and well-being, promoting tourism and better health standards in these communities. In addition to the entrepreneurs and the people trained, the community members were proud to be associated with the project since it raised the communities' profile as clean havens.

4.0 CONCLUSIONS

- Community members are only encouraged to pick saleable plastic waste to the expense of all other solid waste in their environment because there is no form of financial reward for the non-saleable plastic waste. Cyclus Plastic Recycling Limited for instance prefers plastic bottles, gallons and home plastics to sachet water rubber and “black take-away” because they claim the latter are at their final recycling stage and are therefore of no use to them.
- The attitude of Cyclus Plastic Recycling Limited in the payment of community members has the tendency of damaging the interest and trust of local entrepreneurs as well as target communities in the viability of the project.
- One of the key approaches adopted by this project was to use school children within the beneficiary communities as strong agents of change through the formation of “sanitation clubs” in both Primary and Junior High Schools. This process started until the District Education Office resented the involvement of school children in the project implementation – citing possible dangers like truancy/absenteeism, and other unfavorable implications.
- A thorough stakeholder analysis and engagement should be done at the design stages of future projects to avoid the withdrawal of key partners at critical times, as it has been in the case of school authorities within the Shama district.
- It was learned that adequate financial mechanism motivates community involvement in solid waste management. The business models that were introduced in the four communities encouraged community members to clean their environment at a significant financial reward.
- It was also learned that, the people in the four communities had little knowledge about the relationship between indiscriminate waste disposal and flooding and climate change related issues. They also did not know that the used plastics could be re-used. These perceptions were shifted through community awareness.
- Past experience of some of the communities with waste management interventions by some companies made acceptance of the project difficult during the initial stages. However, continuous stakeholder sensitization and dialogue increased the acceptance, commitment and involvement of the community members and opinion leaders for successful implementation of the project.
- The traditional council, especially in Dixcove, has been actively involved in all the community programs and this has really improved the entire community involvement, understanding, acceptance and commitment to the project.

4.1 Implication for Future Waste Management Interventions

Information available indicates that this project will be the first of its kind in the entire Western Region of Ghana and the only one outside the Greater Accra Region. Hopefully, since the issue of plastic waste is not peculiar to only these four coastal communities, the project can be replicated in other communities as well.

- With enough financial resources, Daasgift recommends that in the future, the two business models that were experimented separately in Shama district and Dixcove could be implemented together in the same community since the models complement each other.
- Daasgift suggests that, when donors give money for project implementations there should be strategies for adequate evaluation and monitoring to ensure project sustainability.

- In future interventions, more solid waste management options/alternatives should be explored.
- These small scale interventions have chalked a number of successes and have set a lot of activities in motion even in the midst of challenges. Through the intervention of DQF, community members have really showed interest in the project and one can see the willingness to solve the sanitation issues within the communities.