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SWITCH AFRICA GREEN CASE STUDY

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INDUSTRIAL SYMBIOSIS

STORIES FROM
BENEFICIARIES

BIO-DATA

Project Title:	Enhancing resource productivity and environmental performance of MSMEs through the concept of industrial symbiosis
Grantee:	Ghana National Cleaner Production Centre
Partner:	Africa Roundtable on Sustainable Consumption and Production
Enterprise (MSME):	Polytank Ghana Limited
Year Established:	1992
No. of Employees:	334
Sector:	Integrated Waste Management
Type of Business:	Manufacturing of Plastic water storage tanks
Location:	Light Industrial Area, Spintex, Accra, Ghana.

PROJECT BACKGROUND

The Industrial Symbiosis Project introduced to MSMEs the concept of useful uses for waste generated either in-plant or by another company. This was to aid in the effective management of waste by moving waste generated up the waste hierarchy.

Through the project the MSMEs were trained in the following:

- Concept of industrial Symbiosis and Benefits to the MSME
- Process Mapping to identify resource inputs, product output and waste streams either for a specific product line or the entire facility.
- Data Collection/Gathering for resources/wastes.
- Prioritizing waste stream for Industrial Symbiosis
- Waste segregation.

ISSUES ADDRESSED

Polytank Ghana Limited is the largest and leading manufacturer of on-the-ground and over-head plastic water storage tanks in Ghana. It is diversified with a widespread product range that is recognized throughout the industry as the finest available. Due to the scale of their production the company receives weekly shipments of raw materials which come on wooden pallets. The pallets were designed such that it was not possible to be used by the company due to its small size making it difficult for lifting with a forklift. Thus every month over 2000 pieces of the pallets and broken pallets pile up at the company's facility due to the lack of proper/cheap disposal methods. This also created a problem of compliance with environmental regulations

The company contacted the GNCPC on the issue of the of the pallets. Thus GNCPC advised the company to identify artisans who have need for wood as part of the production. Based on the advice of the GNCPC the company was able to identify an artisan named Michael in the manufacturing of wooden dog kennels.

The artisan was really interested since he was located just 100 meters away from Polytank thus he is able to source cheap wood with little transportation cost. The collaboration provides cheap but quality raw materials for the artisan. Polytank Ghana Limited on other hand enjoys double benefit by avoiding disposal cost but rather earns something from the sale of their waste. It also gives them an opportunity to reduce their carbon foot print thereby increasing their environmental performance thus making the compliant the management of their solid waste

PROJECT IMPACT

As a result of this synergy
528
tons of wood pallets were
diverted from the landfill and
GHG savings of
950.4tons
CO₂e.

Polytank Ghana limited earns
Gh¢5000.00
per month from the sale of
the broken wooden pallets to
the artisan. This would have
otherwise not been possible if
they had continued giving it
out as fuel wood for free.

Michael the artisan is able
to save over
50%
on transportation costs and
has been able to employ
2
people to assist him in
manufacturing the dog
kennel.

CHALLENGES IN IMPLEMENTATION

The initial challenge the team encountered was finding an appropriate end user of the waste.

The lack of data for the quantity of waste wood generated by Polytank Ghana Limited.

The cost of transportation of the wood was prohibitive for most MSMEs due to the distance between their various locations.

LESSONS LEARNT/FUTURE PLANS

The company intends to scale up the implementation of the concept of Industrial Symbiosis in the management of most of their solid waste. As such they are constantly in communication with the GNCPC to identify suitable end users for some of the solid waste they generate.



From top to bottom, image of wooden pallets converted to pet house (animal 'homes').

CONTACTS

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SUPPORTING PARTNERS



IMPLEMENTING ORGANIZATIONS

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