



Country: Uganda
Sector: Manufacturing
Project: Demand-side management of water use in micro, small and medium-sized enterprises in Uganda through promotion of water use efficiency techniques and practices
Grantee: Directorate of Water Resources Management (DWRM)
Partner: Uganda Cleaner Production Centre

The SWITCH Africa Green programme was developed by the European Commission to support African countries in their transition to an inclusive green economy, the main objective being to promote sustainable development. This is based on sustainable consumption and production (SCP) patterns, while generating growth, creating decent jobs and reducing poverty.

Acknowledgements

This impact sheet on 'Demand-side management of water use in micro, small and medium-sized enterprises in Uganda through promotion of water use efficiency techniques and practices' provides a snapshot of results and achievements of the project under the Green Business Development Component of Phase I (2014-2019) of the SWITCH Africa Green programme. This component supported micro, small and medium-sized enterprises (MSMEs) in applying and adopting SCP practices within their business operations.

The project was implemented by the Directorate of Water Resources Management, Ministry of Water and Environment in partnership with Uganda Cleaner Production Centre (UCPC) with the support of the SWITCH Africa Green National Focal Point Dr. Tom Okurut, National Environment Management Authority (NEMA), Uganda and National Coordinator Twine Teddy Nsubuga, United Nations Development Programme (UNDP), Uganda. The grants were managed by the United Nations Office for Project Services (UNOPS) and coordinated by Celia Marquez with support from Mercy Gatobu.

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BACKGROUND

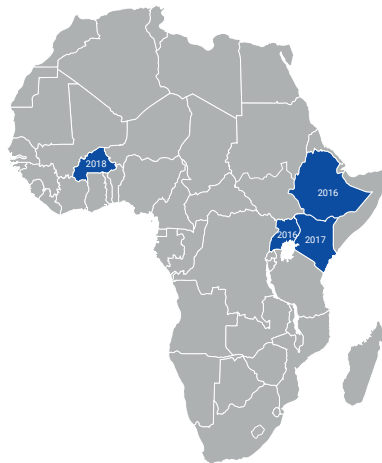
In Uganda, the demand for fresh water has increased significantly due to economic growth and development, improved standards of living, growing populations and increasing industrial growth. Variability in weather and climate has further affected the supply-side for fresh water as evidenced by decreasing levels of water in the aquatic ecosystems of Uganda. The manufacturing sector uses large amounts of water in its processes. Unfortunately, there is limited awareness among MSMEs of the total costs associated with water use and the impact of wastewater discharge into the environment.

Declining availability and quality coupled with a growing demand for fresh water are creating significant challenges to businesses and entrepreneurs who have traditionally taken clean, reliable and cheap water for granted. Water resources managers and MSMEs in the manufacturing sector in Uganda are facing numerous challenges that call for adoption of water

use efficiency measures to reduce increasing pressure on the available freshwater resources.

The SWITCH Africa Green supported project was implemented by the Directorate of Water Resources Management in Uganda's Ministry of Water and Environment, in the water

management zones in Uganda: Albert Water Management Zone (AWMZ), Victoria Water Management Zone (VWMZ), Upper Nile Water Management Zone (UNWMZ) and Kyoga Water Management Zone (KWMZ). The project was implemented to address challenges faced by MSMEs in the manufacturing sector in water management.



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OBJECTIVES

- To enhance water use efficiency and increase productivity in MSMEs in the manufacturing sector in Uganda
- Create awareness about water conservation measures among MSMEs
- Facilitate adoption and optimization of efficient water use techniques and practices to create model MSMEs for sustainable water use in the sector





BENEFICIARIES

The project supported over 60 MSMEs to implement water efficient techniques and practices through awareness raising, capacity building, water audits and provision of technical support.



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OUTPUTS

Improved capacities of Business Development Services (BDS) to promote SCP practices by MSMEs

Four training workshops on the different significant aspects of water management and conservation were conducted for 39 MSMEs in the four water management zones in Uganda.

Detailed water audits and wastewater sampling for 41 selected MSMEs in the four zones were carried out to determine the physio-chemical and bio parameters of the industrial effluents. Results of the sampling formed the basis of in-house training that was conducted in 28 MSMEs on resource efficient and



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cleaner production, environmental legal requirements, occupational health and safety and material flow analysis.

The project provided 24 MSMEs with technical support on implementing water efficient techniques and practices as well as building capacity of floor workers on effective water management.

Increased networking among green businesses

Networking and exchanges with other enterprises integrating sustainability into their operations was made possible through participation in various networking workshops and fora. Beneficiary MSMEs participated in an exhibition at the Ministry of Water and Environment Joint Sector Review in 2015. They also participated in the public-private dialogue on wastewater management organized by Kampala Pollution Task Force with support from GIZ.

Improved awareness on sustainable water management practices

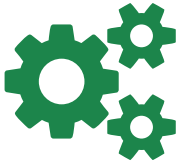
A total of 28 awareness raising workshops were conducted in the four water management zones where MSMEs, government, academia, policy makers, regulators and industrial associations were represented.



OUTCOMES

Savings from improved water efficiency

Implementation of project action at the enterprise level resulted in an average increased water productivity of about 35.54 per cent per MSME, thus increasing water efficiency.



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Green investment in water management

The demonstrated benefits of water efficient measures attracted an investment of USD577,220 to implement the water management practices learned from project implementation.

IMPACTS

Environmental Impacts

Improved material productivity

After implementing the water management practices, each MSME improved their materials productivity resulting in an average annual saving of USD114,015.



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Improved water productivity

The MSMEs that successfully implemented the water saving initiatives achieved an average annual water saving of about

29,282m³. This led to an average annual saving of USD40,776 per enterprise. It is projected that all the enterprises involved in the project can achieve an average annual water saving of 336,576 m³ per annum.

Reduction in pollution load of wastewater discharge

The quality of effluent discharged by the enterprises was improved, where biochemical oxygen demand (BOD) and chemical oxygen demand (COD) reduced by about 68 per cent for several MSMEs and pH levels reduced from alkalinity towards neutrality by 12.8 per cent.



Total annual savings of about USD548,939 from reduced water demand and about USD865,342 from improved raw materials management was achieved by the MSMEs which implemented the SCP practices.

Economic impact

Additional income for MSMEs

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LESSONS LEARNT

- MSMEs have high potential to reduce water efficiency, thus increasing their revenue and reducing pollution loading in wastewater discharged.
- Through public-private partnerships, grants can trigger investment from the private sector in water efficiency measures.
- Evidence of the amount of savings that can be made by an enterprise through implementing water efficiency measures creates buy-in of other enterprises and encourages investments in improving technology to further develop water management within the company.



“ Before SWITCH Africa Green there was a lot of wastage. We have now introduced changes in water consumption. It opened our eyes to see where we were wasting our resources and how to reduce and reuse it.”

James Kunya,
Sugar Corporation of Uganda Ltd (SCOUL).



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