



Accelerate Water and Agricultural Resources Efficiency in Zambia (AWARE)

Overview

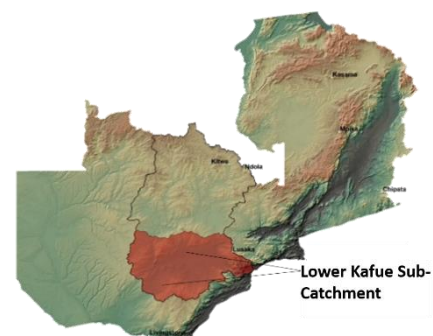
AWARE at a glance

The European Union (EU) and German Federal Ministry for Economic Cooperation and Development (BMZ) funded Accelerate Water and Agricultural Resources Efficiency (AWARE) project aims at enhancing climate-smart Water Resources Management (WRM) and efficient agricultural water use for smallholder farmers in Zambia's Lower Kafue Sub-Catchment (LKSC), applying a gender sensitive approach. To achieve this objective, the project works in five areas:

1. strengthening of WRM capacities at the national level,
2. strengthening of capacities of WRM structures on the sub-catchment level,
3. strengthening of Water User Associations (WUAs) in the sub-catchment,
4. introduction of new technical options for smallholder farmers for a climate-smart and efficient use of water resources, and
5. capacity development of public and private agricultural extension service providers to train smallholder farmers on efficient water use, harvesting and irrigation.

Ultimately, AWARE supports the sustainable commercialisation of smallholder farmers in Zambia.

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| Project name | Accelerate Water and Agricultural Resources Efficiency (AWARE) in Zambia |
| Funded by | European Union (EU) and German Federal Ministry for Economic Cooperation and Development (BMZ) |
| Main partners in Zambia | Ministry of Water Development and Sanitation (MWDS) and Ministry of Agriculture (MoA) |
| Project region in Zambia | Lower Kafue Sub-Catchment (LKSC): Central and Southern Province |
| Funding Volume | EUR 17.2 Mio. (EUR 13.5 mn EU, EUR 3.7 mn BMZ) |
| Project Duration | February 2019 until September 2023 |



Implemented by



The 54-year-old smallholder farmer Angelina Hamalambo grows maize, groundnuts and horticulture crops in the Mutama-Bweengwa area. Angelina is one of many smallholder farmers in the Lower Kafue Sub-Catchment (LKSC) who struggle to water their crops and livestock, especially in the dry season.

'When it's rainy season we have a few wells which we use but they dry up quickly. Currently there is no water here, so we fetch from the next village. Because of the long distance to where we fetch water, it is even difficult for us'

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Water: a resource at risk in the LKSC

Zambia has abundant water resources and arable land, yet the country falls short to develop its agricultural potential in full. Smallholder farmers like the the 54-year-old Angelina Hamalambo struggle with the effects of climate change, droughts and shifting rainfall patterns. While population and economic growth lead to rising demands on the resource, human and animal encroachments on rivers, deforestation for charcoal production and overgrazing reduce the water available. In consequence, conflicts over water resources by competing users on local level occur, directly impacting the agricultural productivity and livelihoods of smallholder farmers and many others.



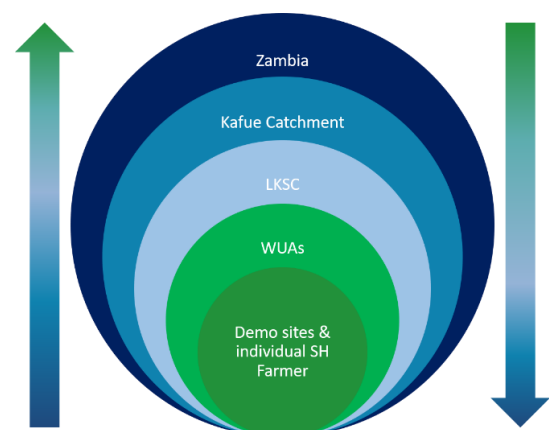
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Smallholder farmers such as Angelina produce around 80% of Zambia's crops. Often, they lack the knowledge and financial resources to harvest, store and use water in an efficient and economically sustainable manner to water their fields and livestock.

The Lower Kafue Sub-Catchment is home to approximately 60% of Zambia's population and ¼ of its smallholder farmers. The region's 59,000 km² are strongly confronted with climatic variability such as droughts, flash floods and dry spells – a threat for the livelihood of Angelina and many others.

AWARE's approach

AWARE seeks to enhance climate-smart water resources management and efficient agricultural water use for smallholders in the LKSC. In partnership with the Ministry of Water Development and (MWDS) and the Ministry of Agriculture (MoA), AWARE promotes Integrated Water Resources and Watershed Management. Building on the institutional framework provided by the Water Resources Management Act No. 21 of 2011, AWARE contributes to building the capacities to regulate and manage water resources at catchment level, to protect and restore water resources in particular watersheds, and to promote climate-smart water harvesting and irrigation practices amongst smallholder farmers.



AWARE follows a community-based approach and adheres to the principles of integrated WRM in Zambia's WRM Act. The project supports the different governance levels of water resources management – from national to Catchment, to Sub-Catchment, and to the level of the Water User Associations (WUAs). AWARE collaborates equally closely with national and local stakeholders in the agricultural sector, especially public extension officers of the Ministry of Agriculture and smallholder farmers – such as Angelina.

Maxwell Mweetwa, 57 years, is a smallholder farmer in Magoye, an area within the Lower Kafue Sub-Catchment (LKSC). Maxwell observes that water has become scarce in his community and is scared that it will affect the future of his community. That's why he and other community members took part in the implementation of Integrated Watershed Management Measures to protect the Magoye river.

'I accepted to be part of the measures so that the coming generation can also learn and emulate from these good ideas we are now implementing'



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Water Resources Management

Managing Zambia's waters across its six hydrological catchments requires a national approach. AWARE works with the MWDS, especially its Department of Water Resources Development (DWRD), and the Water Resources Management Authority (WARMA) to develop a national strategy for water resources management. Based on national databases and linking to catchment management plans, a central IT-based permitting system (WaterEYE) has been developed, enabling water users across the country to apply for permits online and in turn enabling WARMA to approve water permits against a standardised process and register these centrally. The strategy as well as the permitting system strengthen the institutional set-up, enhance transparency and improve the monitoring of Zambia's water resources.



In line with Zambia's WRM Act, AWARE supports the development of catchment governance and planning structures, namely the Sub-Catchment Management Plan through the Lower Kafue Sub-Catchment Office (SCO) and the Sub-Catchment Council (SCC). The implementation includes the processing of all local water permit applications through the SCO and the identification of 10 designated areas for sustainable irrigation as well as 16 areas for Integrated Watershed Management and catchment protection.

In the LKSC, farmers like Maxwell Mweetwa are often confronted with flash floods and extended dry spells during the rainy season; and a lack of access to water during the dry season. Integrated Watershed Management (IWsm) and Catchment Protection Measures (CPM) help restore degraded lands, combat deforestation to increase local water availability, and improve groundwater levels. Through this, soil humidity and the potential for agricultural production is enhanced. Additionally, the measures improve water availability in the wider river system of the Kafue river – the country's most important source for drinking water and power production.



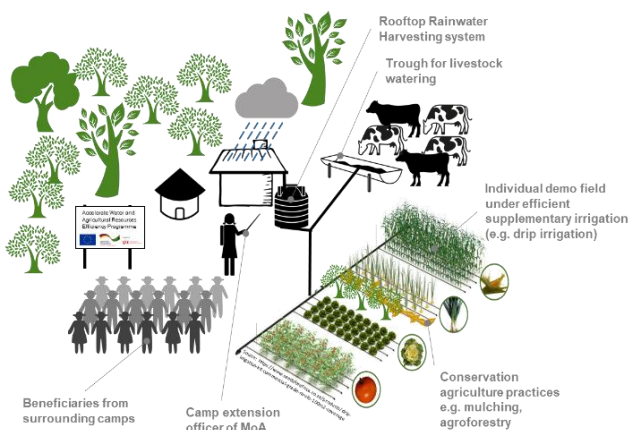
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The 16 IWsm measures are implemented by local WUAs in collaboration with traditional authorities and surrounding communities. WUAs are community-based structures representing different water users responsible for the management and protection of water resources in their respective jurisdiction. As part of its objectives, AWARE strengthens the capacities of two existing (Mutama-Bweengwa, Magoye) and supports the establishment of two additional WUAs (Chibila, Nangoma) in the LKSC to develop local water management plans and monitor compliance to these by all water users.

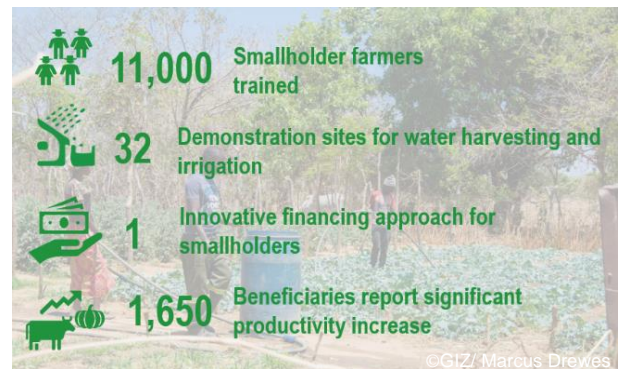
Agricultural Water Use

Efficient water use and management can improve water availability for smallholder farmers such as Angelina and Maxwell and enhances their climate resilience. AWARE trains more than 11,000 smallholder farmers in the dairy and horticulture value chains in water harvesting, storage and efficient usage in a climate-smart manner. Through the trainings, farmers will be able to learn how to harvest the limited water available in the most efficient way to boost their productivity – and improve their livelihoods.

Demonstration Site: Rooftop Rainwater Harvesting



The trainings take place at 32 demonstration sites. The sites showcase different technical options for harvesting and the efficient use of water. Options include the rehabilitation or improvement of small dams, permeable weirs, groundwater recharge measures to improve the yields from shallow wells or household-based rooftop rainwater harvesting systems. At the demonstration plots, multiple in-field technologies, e.g. potholing, mulching and drip-irrigation are demonstrated as ways to use water efficiently. The trainings to the 11,000 farmers will be conducted through public extension officers of the MoA and Ministry of Fisheries and Livestock (MoFL). The trainings are based on two comprehensive training manuals each for the dairy and horticulture value chain.



The lack of access to finance is a major challenge for smallholder farmers in Zambia. Comparably small investments into water harvesting equipment or efficient irrigation technologies are challenging to finance for most farmers. To support investments into some of the demonstrated technologies, AWARE is developing an innovative financing approach for smallholder farmers. To achieve this, AWARE works with financial institutions and equipment suppliers. At the same time, farmers are trained in financial literacy to support their commercialisation by treating farming as a business.

AWARE builds on trust between farmers and public extension officers of the Ministry of Agriculture and Ministry of Fisheries and Livestock



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