

MSORO SCHOOL AND GILIMON VILLAGE 2024 DONOR REPORT: Gemeindeverband Wasserversorgung Blattenheid SCHULPROJEKTE SAMBIA NUMBER 40 DRILLED OCTOBER 2024

The Challenge – to bring clean, safe water to the villages and schools of the Luangwa Valley in a way that enables them to avoid human/wildlife conflict and ensures that the communities benefit from and engage with wildlife conservation as well as improving health, school attendance, productivity, all-round well-being and quality of life.

Around 40,000 people live in the villages of Msoro Chiefdom and the population is rapidly growing. It has doubled in the last 20 years and continues to grow yearly. The communities are mixed; most of them farm close to subsistence level depending on growing their food, mainly maize and sorghum. It's a very large and quite diverse Chiefdom; parts of it are very hard to reach, impossible in the rains, and it's one of the areas of the Luangwa Valley that is least served by conservation and charitable organizations. This year, 2024, we received a file full of applications from Msoro so headed down to see how we could help. We found the situation very urgent with a serious lack of functional water points. Many communities are either using shallow hand-dug wells which dry up by October each year, walking long distances to already over-used boreholes or resorting to dry river bed wells which are shared with domestic and wild animals.



Msoro Villages – shallow, unhygienic well.



Community gathers to hear the good news that clean water is coming.



Previously drilled borehole done by 'cowboy' drillers– never worked.



Water hole used by people and animals



Well capped and small pump installed - not enough capacity meaning a very long wait from before light for women water collectors. Capped wells are unhygienic and most only function for 7 months per year.



Completely unsuitable for human use, but sometimes there's no alternative when wells – like this one above, dry up.



Extremely happy community hear they will get their borehole! Straightaway the ladies start collecting stone for us to buy from them for the building of the surrounds and soak away.

Msoro Secondary School

Approximately 300 pupils attend Msoro Secondary and in the nearby Gilimon Village, there are about 25 households.

A borehole had been drilled by another organization but it failed, leaving the school and surrounding households without water. This has been particularly problematic for the secondary school girls who are boarding. No water for showering, cooking, or laundry..... Almost unimaginable.



Offloading at Msoro School for the drilling



Willing Msoro pupils helping with the offloading



Drilling is underway at Msoro School/Gilimon Village



The beautiful new borehole!



Happy Msoro Headmistress and thrilled pupils trying the hand pump for the first time!

“One of the most important aspects of wildlife conservation is to get the co-operation of the local community. It has been shown that this is not possible unless they can receive material benefit from their wildlife.” Norman Carr 1958 Luangwa Valley.

Now that the community has access to plentiful clean, safe water – there is no need to boil the dirty river water for drinking. This is a fundamentally important factor in the fight against deforestation which, along with habitat loss, is one of the greatest threats to the planet’s biodiversity.

Makolekole boreholes and surrounds with water-saving ‘garden ponds’

Our boreholes are designed with ‘garden ponds’ rather than hidden, ineffective soak ways. They provide the community with the opportunity to create successful vegetable gardens and water for domestic animals. We have found this is also stopping water waste, improving food security and variety, and helping against malaria by putting a stop to muddy puddles where mosquitoes breed.



At a busy borehole, quite a lot of water is inevitably spilled when filling buckets for the family’s water supply. After drilling our first few boreholes and installing the usual ‘soakaway’ - a large pit filled with stones that are meant to allow the wastewater to soak away gradually, capped with a heavy concrete lid at the end of the runoff - we noticed that in our area which so often has a thick layer of clay near to the top of the surface, the water was filling the pit very fast and not soaking away. We tried larger pits, drilling a hole into the bottom of the pit to try to get past the layer of clay, and using smaller stones – all to no avail. Almost every soakaway we encountered on our travels was overflowing and surrounded by mud. Animals tried to drink the water but it was always too shallow and dirty so it was no use to man nor beast – except mosquitoes for whom the stagnant puddles form ideal breeding conditions.

We realized that we should be looking at this issue differently. Water is precious and becoming more so with unreliable rains and an ever-increasing population, so we decided we should USE the excess water instead of letting it go to waste. Instead of a soakaway - we put in a small ‘garden pond’. Domestic animals use the pond for drinking water thereby not using the family’s precious supply, ducks in particular love the ponds and breed much more prolifically with water always available, and with their water supply they stay away from the source which can then be kept clean for human consumption. Many recipients of our boreholes create productive vegetable gardens that provide plentiful fresh greens for home; sometimes there is even enough to sell. This means children in particular are getting a more varied diet rich in vitamins and minerals that they would otherwise miss out.



Village Headman with a productive vegetable garden. He has constructed the garden fence using empty sacks that would otherwise be thrown away. Until the Village received a borehole it was too difficult to get water for gardening.



Food security and variety in the village have improved immensely with this simple innovation. There is no water waste and no muddy puddles for mosquitoes to breed - we are told that the incidence of malaria has reduced. Ducks and chickens breed more successfully, goats don't have to wander to find water.



Beautiful front garden made possible with plentiful water nearby for easy and non-wasteful watering.



Proud gardener in the Village Community Garden which is irrigated with the overflow from the village borehole (in the background) growing green leafy vegetables like rape, spinach, and Chinese leaves.

Measurable Outcomes



WE ARE POSITIVELY CONTRIBUTING TO 9 U.N. SUSTAINABLE DEVELOPMENT GOALS

FACTS AND FIGURES – BENEFITS OF ACCESS TO CLEAN, SAFE WATER CLOSE TO HOME.

Measurable outcomes – figures given by the District Health Director at Mambwe District Health Office, Jumbo.

- WATERBORNE DISEASES IN GENERAL DROP BY AT LEAST 50%
- INFANT DEATHS DUE TO DIARRHEA DROP BY 99%
- ADULT DIARRHEA CASES DROP BY AT LEAST 50%
- NO CHOLERA CASES RECORDED ONCE BOREHOLES INSTALLED
- SKIN INFECTIONS LIKE SCABIES REDUCED BY 75% DUE TO THE AVAILABILITY OF SAFE WATER
- CASES OF BILHARZIA REDUCED BY 80%
- INFECTIOUS EYE DISEASES LIKE TRACHOMA REDUCED BY ABOUT 50%
- ACCESS TO IMPROVED MENSTRUAL HYGIENE IMPROVED BY 80%
- TIME SPENT COLLECTING WATER FROM RIVERS AND OTHER NATURAL SOURCES REDUCED BY 100%
- DEATH AND INJURY CAUSED BY CONFLICT WITH WILDLIFE DURING WATER COLLECTION CUT BY 100%
- ACCIDENTS CAUSED BY WATER COLLECTION FROM UNSAFE SOURCES EG WELL COLLAPSE, AND CHILDREN DROWNING - DOWN 100%

ESTIMATED 'ECONOMIC' BENEFITS UNICEF estimates rural water collection to take 33 mins per trip. In the Luangwa Valley, we estimate at least 45 minutes per round plus waiting time (some trips take longer than an hour), and there are usually at least two water collection trips per day. We estimate at least 2 hours per day are taken up collecting water in a village without local water source. That is 730 hours per year - 91 'working days'. Average basic labor wage per day = \$3. Cost of time lost to water collection = \$273 per year per 'working' woman. In a village of 200 – there are approx 25 households i.e. 25 women/girl collectors - 25 x \$273 = \$6,825 per year, per community. Over 30 years (minimum lifetime of borehole) = \$204,750

This does not include the economic loss from illness and death caused by waterborne diseases and accidents. It also does not include the number of school hours lost (particularly for girls) which is incalculable.

Other economic, social, and conservation benefits;

- Improved nutrition
- Improved food security
- Improved opportunities for small businesses such as veg/chili growing
- Improved relationships with conservation organizations and contribution to bio-diversity conservation
- Important contribution to tackling rapid deforestation which contributes to climate change – no need to boil water for drinking – so much reduced need for firewood.
- More time for small enterprises for economic benefit
- More time for sports, arts, culture, and simple enjoyment of life
- **Perhaps most importantly – girls are freed up from the drudgery of hours per day spent collecting water. Instead, they can attend school, realize their potential, and forge their destinies.**

UNICEF Millennium Development goal. 'For children and families to benefit from clean water and sanitation, water points and sanitation facilities must be accessible. Distance is critical because the shorter the distance to clean water, the more consistently it will be utilized. Furthermore, as fetching water is a task most commonly assigned to girls and women, shortening the distance between households and water supply is essential to reduce the time girls spend fetching water, which in turn will provide them with more time to attend school.'

Sustainability.

To ensure the sustainability of our boreholes

- Liaison with Water Resources Management Authority (WARMA) the national body overseeing water usage in Zambia, ensuring sustainable use and recording all water sources and usage. We have to gain a permit for each borehole and, after drilling send a detailed report of location, use, water quality, depth of the borehole, and details of terrain. We are fully licensed with WARMA – drilling without a license is illegal. It is costly and very time-consuming to maintain WARMA compliance. They ensure high-quality work, keep records of water usage, and police illegal or sub-standard practices.
- We work in partnership with local authorities, health authorities, traditional authorities (ie the Chiefs), and village authorities (i.e. the head-persons).
- We require each village to form a Borehole Committee responsible for ensuring the borehole is kept clean, maintained, and used properly.
- Each borehole is handed over to Local Authority custodianship to ensure community water supplies are audited and reported. The Local Authority also provides spares for maintenance.
- We have developed a WASH handbook which each recipient village is given. This contains basic WASH training and advice in both English and Nyanja to facilitate WASH sensitization.
- We provide backup for assistance with maintenance or any problems encountered with our boreholes, each headperson and borehole committee Chair has our contact numbers.
- Detailed reporting to donors and facilitating donor visits.
- To the best of our knowledge 100% are still working, any problems we attend to within a few days, and regular checks are made to ensure all is working well.

One of our proudest 'sustainability' achievements is our partnership with Mambwe Council. We sponsor training sessions for Area Pump Menders (APMs) and equip community members with the skills, tools, and know-how so that they can be called upon to maintain and mend India Mark 2 handpumps in their area. In 2024 we trained 17 APMs. We plan to train at least 17 more in 2025 as well as sponsor some Water and Sanitary Hygiene Peer Education sessions in our communities.

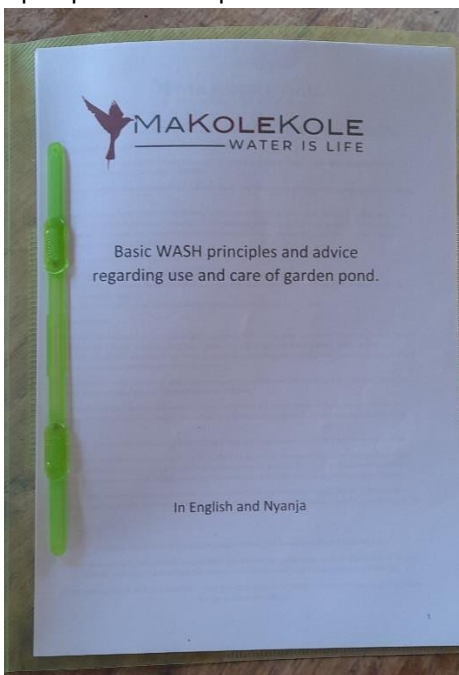


Area Pump Mender Training sponsored by Makolekole and facilitated by Mambwe Council Water Department.



The participants mend their first community hand pump.

The speeches and certification ceremony.



Fidelis presenting the WASH folder to a borehole committee - The folder is in English and Nyanja

THANK YOU – FROM MSORO SCHOOL AND GILIMON VILLAGE AND US ALL AT MAKOLEKOLE

You have transformed hundreds of lives in the most meaningful way possible. One day we would love to welcome you to Zambia to meet your community. In the meantime – please spread the word about the work we are doing here and let your friends and family know what a difference can be made by giving communities access to clean, safe water – close to home.

Mandzi ndi moyo - Water Is Life