

The objective of our project was to tackle the urgent challenge of water scarcity in rural Eswatini by implementing sustainable water solutions for marginalized communities. Through meticulous planning and implementation, we effectively established water tanks at various locations, markedly enhancing the quality of life for a substantial number of individuals. A key accomplishment of this initiative was the reduction of health problems associated with water scarcity. With access to clean, potable water, we have reduced the incidence of waterborne diseases, especially among children. This has led to healthier communities with an improved level of well-being. Moreover, the installation of water tanks has freed up a lot of time for community members, especially women, who were previously burdened with the chore of water collection. This is now newly gained time that can be productively used in agriculture, education, or even small-scale enterprises to help people and families improve their socioeconomic situation. Moreover, this project has reaped the benefits of possibilities for sustainable development and community building. Through our insistence on practices that are environmentally friendly, such as recycling, we have lessened our ecological footprint and set a most satisfactory example for future projects. Moreover, successful implementation of this program may serve as a model for all other communities facing similar challenges, thus inspiring replication and generating more positive change.

Initially, the sites we visited to implement our water tank idea were severely water-scarce. Site A, a preschool situated in a remote mountainous region, exemplified this challenge. The lack of accessible water frequently resulted in health issues among the children, such as stomach aches and headaches, due to poor hygiene and inadequate hydration. Before the installation of the water tanks, parents and staff were compelled to undertake arduous journeys to collect water from distant rivers, often contaminated, further exacerbating health risks. Additionally, water rationing, a common practice in such situations, proved ineffective with young children who require consistent access to clean water. Since the installation of the water tanks, we have witnessed significant improvements in the hygiene and hydration of the children at Site A.

Site B is a home headed by a sickly grandmother who resides with her children and grandchildren. Previously, she faced the difficult task of traversing long, steep paths to collect water from a nearby river. This river, once a reliable source of water, has dwindled to a mere stream due to the appropriation of water by affluent homeowners through sophisticated piping systems. This difficult task exerted significant physical strain on the grandmother, exacerbating her existing illnesses. Furthermore, the consumption of water from the contaminated river led to the development of additional health issues, such as stomach problems. With the installation of water tanks and a tap in her yard, the grandmother's burden has been significantly alleviated. She no longer needs to undertake these strenuous journeys, allowing her to prioritize rest and focus on her health.

Lastly site C is a home headed by another sickly grandmother who resides with her two grown sons, three daughters and a young grandson. One son and the daughter are employed full-time, leaving him unable to assist with the difficult task of water collection. The other son, unfortunately, struggles with alcoholism, making him unreliable and unwilling to contribute to household chores. As a result, the burden of water collection falls solely on the grandmother and her young grandson, who must prioritize his studies. This demanding task places significant physical strain on the grandmother, further compromising her health and limiting her ability to care for her family. By building her the water tanks she is now also able to prioritize less strenuous household chores as well as her well-being.

Through the implementation of water tanks at Sites A, B and C we have significantly improved the quality of life for the affected communities. Previously at Site A, children frequently suffered from waterborne illnesses due to the lack of access to clean water. By providing a reliable source of water, we have reduced the incidence of these illnesses, creating a healthier learning environment. Additionally, the reduced burden on parents and staff, who no longer need to spend time and energy collecting water, has allowed them to focus on their children's education and well-being. At sites B and C, the installation of a water tank has transformed the life of elderly women and their families. Before the intervention, the elderly women faced the arduous task of collecting water from distant, contaminated sources. This physically demanding task, coupled with the consumption of contaminated water, had a significant negative impact on their health. With the installation of the water tank, they are no longer burdened by this task, allowing them to prioritize her health and well-being. Moreover, the increased availability of clean water has improved the overall hygiene and sanitation conditions within the two households.

We are immensely proud of our team's commitment to sustainability, which was evident in our recycling efforts. By prioritizing eco-friendly practices, we not only minimized our environmental impact but also demonstrated our dedication to creating a lasting positive change. Most importantly, we are honored to have contributed to the well-being of our fellow Swazis by providing a sustainable solution to their water needs. We believe that our project serves as a model for future initiatives, inspiring others to implement similar solutions and further expand the reach of our impact.

The enduring successes of this project lie in its tangible impact on the lives of the communities we have served. The reduction in waterborne illnesses and the increased time saved from water collection will have a profound positive effect on these communities. Furthermore, the project has served as a model for sustainable development, demonstrating the power of simple, effective solutions. By prioritizing recycling and eco-friendly practices, we have not only minimized our environmental impact but also set an example for future projects.

A substantial portion of our budget was allocated to the procurement of primary construction materials, specifically cement, river sand, and plaster, which constituted the fundamental components of our water tanks. Additionally, a significant investment was made in the acquisition of 500 mL bottles sourced from domestic recycling centers to supplement our existing collection. Recognizing the complexity of the construction process, we engaged a professional builder to undertake the tank construction after encountering difficulties with our initial self-build attempts. Further expenditures were incurred for labor associated with soil filling of the bottles, as well as the procurement of essential tank components such as nets. Lastly, frequent site visits necessitated significant transportation costs.

Through this project, we have gained valuable insights into the pressing issue of water scarcity, recognizing the dire circumstances faced by many communities. We've also become acutely aware of the urgent need for practices like recycling, to combat pollution and preserve our planet. The project has also taught us the complexities of project planning and execution, highlighting the challenges and rewards involved in bringing a project to fruition. Ultimately, this experience has instilled in us a deep sense of empowerment, as we have witnessed firsthand the potential for positive change and the ability to make a tangible difference in the lives of others.

If we were to undertake this project again we would prioritize the hiring and deployment of our second builder from the outset in order to streamline the construction process. Secondly, we would proactively research local customs and practices regarding land ownership and site selection, particularly in areas like Nkonyoyo, where women are empowered to independently identify suitable sites as we were under the belief that like many parts of Swazi traditional land only men had a voice in matters regarding land acquisition. This would have prevented unnecessary expenses associated with intermediaries. Additionally, we would adjust our target number of water tanks to seven, opting for a smaller size to optimize resource allocation. Finally, we would conduct a more thorough cost analysis, anticipating potential unforeseen expenses to ensure adequate financial planning.