

SAIWI Trip Report: Kenya 2014

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Three SAIWI students traveled to Mua Hills, Kenya during June 4th - July 1st, 2014 to teach local community members techniques to prevent soil erosion and loss of topsoil and also water harvesting. The soil in Mua Hills has a high clay content, making it susceptible to erosion during the intense rainy seasons which occur twice each year (**Fig. 1**). Residents in the area rely heavily on farming for their livelihood and face water shortages during the dry season as well as loss of precious topsoil with erosion during the rainy seasons.



Figure 1. Examples of soil erosion in Mua Hills, Kenya

Our trip adviser was Muthoka Mutua, founder of International Development Missions in Reno, NV, a co-partner with SAI. He provided us with the inspiration for the project as well as background information and technical support during the entire project. Since time and funding allowed, we also installed a plastic tank and gutter system to collect rain water runoff for at the home of a resident in the area. The tank was installed at the same locations as the previous year's SAIWI project site.

During the first week, we surveyed potential sites for our project and spoke with community members about our goals and where the project might benefit the community the most. We

decided to place our site at a home along a well-traveled road in the town of Kisikini in Mua Hills. After choosing a site, we purchased tools and gathered sandbags from the town of Machakos and began the project on the fourth day. Our project drew a lot of curiosity from those passing by on the road, and we had much volunteer help from local community members. We dug the first trench and also began the water retention holding pond during this week. The trenches were 3 feet wide, 3 feet tall, and roughly 168 feet in total length (Fig. 2). We diverted the rainwater off of the road and into a holding pond that was 8 feet wide, 16 feet long, and 5-7 feet deep (Fig. 3).

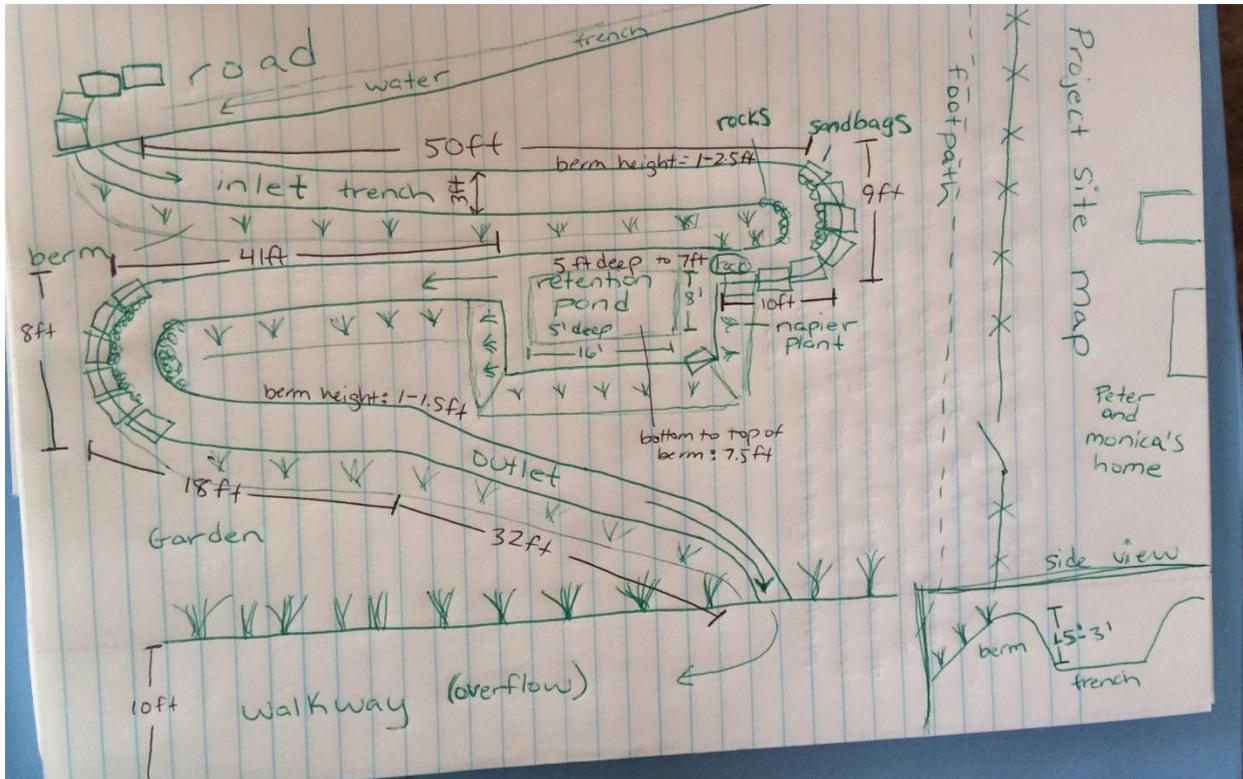


Figure 2. Sketch of project site in Kisikini, Mua Hills.

We placed sandbags along the inner and outer corners of each bend in the trench system to prevent erosion. On the up and downhill sides of the trenches, we compacted the soil down and planted a hardy, native local grass called Napier to help stabilize the berms. We completed the project within two weeks. Following completion of the erosion control and water harvesting project, we held a formal talk with the community to explain the purpose of our project and goals of SAIWI. Over the weekend of June 20th-22nd, we took a trip to Amboselli Park to see the native wildlife and take a break.



Figure 3. First trench diverting water from the road (left). Three SAIWI members standing in the start of the holding pond for water harvesting (right).

During our third week, we assisted several community members, who had helped us with our project, to map out a trench and pond system on a second property. Because we finished our project early and had project money left over, we decided to install a second 8000 L plastic rain tank and gutter system at the home where the 2013 SAIWI trip installed a plastic rain tank. The first tank installed in the summer of 2013 was not quite sufficient to meet the family's water needs for a year, so we decided to install a second rain tank for the home. We also chose to invest in a second tank for the home since the family members were active community members in the town and would use the water provided from the first rain tank to supply water to schoolchildren who walked along the road by their home.

Recommendations for potential trips planned to Kenya in 2015 would be to follow up with the main soil erosion control and water harvesting project and see how the system performed after the rainy seasons in 2014-2015 and possibly make adjustments or improvements. If the system proved successful, replications of the project at other sites may be performed, which could provide further positive benefits for the community.