“Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has.”

-Margaret Mead
Who WE ARE

Students at the Pennsylvania State University in the College of Engineering. We are a design team (#7) in the class EDSGN 100 Section 003. Our current major preferences are Chemical Engineering.

Nick—sophomore
Hamdan—sophomore
Cassandra—sophomore
Seth—freshman

What We Did

Made a drip irrigation system as cheap as possible with locally available materials in Cameroon. Our product has main and sub-main lines made of Thermoplastic Rubber (TPR) Tubing. The sub-main lines are connected to the main line with plastic junctions. Holes can be punched in the tubing in increments of the consumer’s desire.

Why TPR?

TPR tubing is inexpensive, durable, flexible and partially recyclable. The price of TPR listed by a manufacturing company in Cameroon is $100-150 USD/metric ton. The TPR is also insensitive to the high temperatures experienced in Cameroon due to its proximity to the equator compared to other products. The tubing can also be recycled after the plastic is extracted from the rubber.

Why We Did It

Cameroon is a developing country in the continent of Africa. It has sparse resources, including water. The design was made with the cheapest locally available materials to meet ends with Cameroon. The system allows water to be efficiently transferred from a tank onto the plants without being wasted. The concept of drip irrigation allows for water to travel into the ground and be absorbed by the plant roots. The hot temperatures in Cameroon make it hard to keep plants nourished, as the water evaporates before the plant can take in any nutrients.

A Little on How it Works

The main concept of how this system works is gravity. The tank is elevated and water flows into the main line which lies at a slightly higher elevation than the sub-main lines to ensure that water reaches the ends of the main line and sub-main lines. The water will then be pushed through the holes in the top of the tubing due to the pressure distribution.

Contact Us

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