Haiti Health Initiative
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Agriculture Report

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INTRODUCTION

The people of Timo grapple with major agricultural issues. They generally raise livestock and crops with some success. But Haiti's dry season, which lasts from October to February, creates a season of scarcity for vegetables and livestock forage crops—issues that we believe can be solved by utilizing small garden irrigation systems and forage crops more suitable for dry weather. Additionally, the terrain in Timo is mountainous, and above 80% of the native forest has been removed for wood and charcoal production, leaving the hill sides vulnerable to soil loss through erosion—an issue that could be improved by replanting trees, implementing adapted forage species, and enforcing proper grazing management.

The goal of our agricultural team was to introduce the people of Timo to more efficient agricultural techniques, to install demonstration drip irrigation systems, to provide a limited amount of open pollinated vegetable seeds that can be grown year after year from saved seed, to establish a forage species evaluation/demonstration trial, and to determine if improved animal genetics was available locally that was capable of providing milk to the diet of the villagers.

REVIEW OF ACTION

Education. We thought that a thorough understanding of the principles of modern agriculture would improve the situation of rural Timo significantly. We conducted a seminar for the local farmers on three different evenings. Fourteen to eighteen people attended each seminar (including 2–5 women). Areas of discussion included the use of drip irrigation systems to improve production during the dry season; the

use of legumes, with proper inoculants, to build nitrogen in the soil; the establishment process and proper grazing management of forages; the growth characteristics and adapted environments of various forage species; the process of making compost; the use of green manure cover crops, on a rotational basis, to build the soil in the garden area; the use of compost and manure to build the fertility of the soil in the small family garden area; the use of urine as a nitrogen source; and the management of honey bees.

Irrigation. In an effort to relieve difficulty during the long dry season, we installed three drip irrigation systems in small garden areas. The drip systems were on the property of Gary Réjouis, Junior Beauvais, and Gustave Etienne. A small bag of 20-20-20 soluble fertilizer was provided for inclusion in the water used in the drip irrigation systems. This should dramatically increase production in these small gardens.

Plants. To create healthier and more abundant forage crops, our team installed a demonstration trial garden of five grass and four legume forage varieties along with a couple of grass/legume mixtures. This trial was fenced to keep livestock out. The plots were 60 cm X 60 cm in size, and were planted on Gustave Etienne's property adjacent to the main trail. A diagram of the garden follows.

North

Teff Grass	Berseem Clover/Teff	Orchardgrass
15 cm wide path		
Birdsfoot Trefoil	Berseem Clover	Tall Fescue Grass
Hairy Vetch	Perennial Ryegrass	Alfalfa
15 cm wide path		
X	Meadow Bromegrass	Hairy Vetch/Tall Fescue/Birdsfoot Trefoil/Perennial Ryegrass

Additionally, we provided open pollinated varieties of numerous garden vegetables so that the seed could be saved and used year after year. Tomatoes, peppers, and onions were also planted in nearby Renaud Thomas' nursery to grow plants that could be transplanted to the gardens.

Animals. The goats and cattle are used as pack and transportation animals, not for milk. The nutritionist felt that the addition of milk and milk products to the diet of the people would improve overall health. We visited the market in Decouze to evaluate the goat genetics available in the area, hoping that we could introduce milk-giving animals to Timo. Unfortunately, we found no goats of a recognized breed, other than pygmy goats. Since the genetics needed couldn't be found locally, milk-giving goats will need to be brought in through artificial insemination or importation.

FURTHER NEEDS AND RECOMMENDED SOLUTIONS

Though our team achieved much while in Timo, there is still work to be done to improve agricultural conditions. The people of Timo make a concerted effort to reduce erosion by planting contour strips of grass or placing leaves and brush behind stakes that are placed across the slopes; but we can help them fight the erosion around their homes by evaluating more forage species for the hillsides, like crested wheatgrass, intermediate wheatgrass, and Russian wild rye. These plants, adapted to mountainous terrain, could help the erosion problem significantly.

Fertilizer and compost can also help the health of crops. Fertilizer may be available seasonally, and the people of Timo may find it economical to invest in some nitrogen for their crops. Manure, urine, fertilizer, and compost should be tested in one of the drip irrigation gardens to demonstrate their benefits to crop production. In addition, honey bee keeping could provide another source of food and supplemental income to the village. A few supplies, such as a smoker, could be provided, but the rest should be built from local materials.

Renaud Thomas' nursery should be used to show others how to grow transplants, which would make their gardens more successful—and they could get them started 8 weeks before the rainy season starts. A fruit and wood tree nursery is also being developed by Renaud Thomas.

By providing a small plow and demonstrating how animals can be used to till the soil in areas that are not exceptionally steep, the animals of the village can be put to better use. Milk-giving animals still need to be introduced, and nest boxes for chickens to lay eggs in may also prove useful.

An evaluation of the operations of the installed drip irrigation systems still needs to be done. The evaluation would consist of testing the system to insure that it is continuing to function properly, and that the filter and drip tape are not plugged up.

PERSONAL REFLECTIONS

"The conditions that the people live in are very basic, with a room the size of most American bedrooms serving as the entire house and no electricity or running water.

The villagers in the area that we worked were very friendly and kind. I was impressed with their desire to help and willingness to serve each other. It is easy to develop a fondness for the people. . . . They are eager to learn and listen closely to the instructions that you provide.

I returned home with a . . . feeling of connection to all humankind living around the world. Their needs and desires became more real to me. The situations that we are each born into are certainly far from equal and yet our potentials to contribute and achieve are really the same if the resources to achieve can be provided."

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