



**Haiti Health Initiative**  
PARTNERS PROMOTING HEALTH ONE COMMUNITY AT A TIME

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## March 2011 Mission to Timo, Haiti Agriculture Report

### **INTRODUCTION**

One of the objectives of the March 2011 mission to Timo, Haiti was to conduct a baseline assessment of the community. As a former county extension agent, I was assigned to identify environmental problems in Timo, provide recommendations for solutions, and educate the people on how to implement those solutions. I worked closely with Renaud Thomas, a native of Timo and an agronomy student from the State School of Agronomy to identify problems during the trip. Thomas and I agreed that education is critical to improving the agriculture in Timo, which will thus better the diet and lifestyle of the people. As a team, we found that the Haitian people, including the people of Timo, are very bright, concerned about their children, and quite willing to learn from us. Through proper education and with the right resources, the agricultural system in Timo can flourish.

### **REVIEW OF ACTIVITIES/RESULTS**

As previously mentioned, Thomas and I were able to identify many problems related to the environment in Timo. If Thomas could be licensed following his graduation from the State School of Agronomy and return to Timo, we could implement and evaluate the programs which we agreed on.

During the March 2011 trip, we discovered the following existing environmental problems in Timo:

1. Non-functional water distribution system. The developed water system was destroyed in the earthquake. We observed that the reason the culinary water system wasn't working was that the 2" pipe had been shoved together and heated rather than glued securely together.
2. People washing clothes, bathing, and drinking water from the same river.
3. Not growing crops in dry season.
4. Inbreeding of goats and cows. This creates a much smaller amount of milk production.
5. Animal parasites.
6. Not growing enough fruit.
7. Insects in beans and papaya plants and stored corn.
8. Animals grazing on seedling trees or leaves pulled from palm and other trees.
9. Great portions of hillside faces without grass and ground cover that get lots of rainfall.
10. Lack of soil nutrients.

11. Food processing, storage and preservation. Corn and other crops are stored on trees. We suspect that part of the insect problem is because of this open storage.

12. Waste management. The garbage thrown over edge of the hill is not sanitary and promotes disease. We observed that the community uses very few paper products.

13. Lack of income above basic survival needs and lack of resources in general.

14. Transportation. Donkeys and small horses work as the current transportation vehicles.



*Severe deforestation in hills above Timo. Large portions of hillside faces have no grass, ground cover, or tall trees, creating potential flood and mudslide danger.*

### **FURTHER NEEDS**

As we hiked from the village to the paved road, we looked very carefully at the trail which currently acts as a road. If the property is available so that the trail could follow the ridge of the hill, it would not be as steep and there would be less risk of rolling rocks down onto homes below. With a track hoe, Steve Larsen with his skills could put a good road in just a matter of weeks. Other equipment very likely would not work because of the steepness of the mountain. A rock dislodged would soon be bouncing many feet in the air and cause a lot of damage, including destroying homes and threatening human life.

### **RECOMMENDATIONS FOR SOLUTIONS**

We can visualize a lot of exciting possibilities for HHI to help in Timo. The key is to get approval from the Haitian government and establish a non-governmental organization (NGO) in Haiti. It is imperative to cooperate with the local Timo organization known as Fond Paysans Fond'Oies (FPF). It is necessary to fund an education specialist such as Thomas who could provide community education in livestock, gardens, crops, fruit trees, food storage, food preservation, developing enterprises, health education and other needs as determined. Once the community of Timo is educated in these things, continued support can be provided by HHI. We can then move to another community and complete the process again, thus fulfilling our mission of "helping one village at a time."

Proposed solutions to individual problems mentioned previously:

1. Work with the residents of Timo to properly develop the water systems. During the March 2011 trip, Steve Larsen, HHI water and construction expert, did an excellent job of showing the residents how to properly glue plastic pipe.

2. Build a catchment basin with a perforated pipe with rocks over it that would carry water but would not be washed out in the high waters of the rainy season. The pipe might need to be sanitized after floods. Water treatment with filters is a possibility and should definitely be considered.

3. Build planter boxes with drip irrigation systems to water vegetables, and make hangers for topsy-turvy tomato plants, carrots, cabbage, and other vegetables. Squash and pumpkin plants could be planted on some side hills away from grazing areas. The planter boxes should be located in areas that are somewhat protected from high winds. The next step would be to develop a more sophisticated irrigation



*Insects found in papaya.*

system for the dry season which would provide three to four crops per year instead of the one or two they are now producing. We suggest that large water barrels be provided to catch rain water from the roofs of homes. This water could be used in the drip irrigation system or for hygiene purposes. Increasing the number of crops per season would also require more fertilization.

4. Enhance the livestock gene pools, particularly with blood lines that have demonstrated characteristics of high lactation. Goat milk would enhance the health of the Timo people dramatically. Artificial insemination (AI) has been shown to be quite successful in goats. The gestation period is 150 days, there is semen readily available, and the equipment is fairly inexpensive. We are currently investigating if it is possible to use liquid nitrogen in Haiti, which is required to protect the semen until it is used. We will investigate the possibility of introducing higher producing milk goats into the village of Timo.

5. Provide resources and education to the residents concerning the recognition and treatment of animal parasites.

6. Make a real effort to plant more bananas, papaya, coconut, mango and other fruit-bearing trees. Timo residents would need to feed forage or leafy branches to livestock to prevent them eating seedlings.

7. Identify Haitian insects and how they can be controlled. Again, resources and education need to be provided to the community. Within weeks after the March

2011 mission, Thomas identified all of the insects that destroy fruits, crops, trees, plants, and stored food products and the insecticides and pesticides which are approved for insect treatment in Haiti. Thomas also provided a purchase cost of these products in Haiti.

8. Find plants suitable for grazing areas. Set up test plots with various seeds and determine which plants grow best in Timo by providing the most forage, and then plant those seeds that do the best. Also set up grazing rotation plans so that grazing plants are able to drop seed at least once every 2 years.

9. Cover hillsides with grasses, legumes or other adaptable plants which will prevent erosion, preserve moisture and provide grazing for livestock. We recommend test plots 10' X 20' experimenting with several varieties. Grazing should be on a rotation basis. Example: Rotate pastures from 1 to 2 to 3 to 4 to 5 to 6 then start the rotation process again at 1. Since the residents of Timo tether their animals, they could graze in plot 1, then rotate to 2 to 3 to 4 to 5 to 6 to 1, etc. easily. We need to determine the height we want the plants to reach before we graze. Each of the grazing plots needs to drop seeds at least every other year. We are not sure of ownership of the land. We need to determine if everything is community property or if individual acreage is assigned. Thomas is investigating legumes and grasses that might have been tested, proven adaptable and productive in Haiti. He is searching for the availability of these seeds and their cost.

10. Provide soil testing equipment to Thomas so that he can test the soil and develop a regular soil fertilization and nutrient program.

11. Assist with food processing, storage, and preservation. We will need to investigate storage methods that will work in a humid climate. Education could be provided in drying, canning, and other methods of preservation to help the community gain a supply of preserved foods.

12. Consult a waste management specialist. Educate the people on possible waste disposable techniques. Develop a program to sort plastics.



*The livestock belonging to Timo residents experience many problems from inbreeding, such as reduced milk production, and often feed on seedling trees, preventing growth.*

13. Organize a cooperative bank where the villagers could borrow money for seed, fertilizer, insecticides, tools, and other needs. This could be done after developing food production that goes beyond family needs. Some enterprises could and should be developed. Possibilities would be eggs, vegetables, beef, and goats. They may be able to sell these goods at the market. The loan would need to be repaid so that the money is available for new borrowers.



12. Evaluate whether it is possible to build a road. If a road is developed, some individuals or families might have a transportation business taking people from the village to the market on the main road, and vice versa. Hopefully, by developing some enterprises, the Haitians would be able to pay for this transportation.

## **PERSONAL REFLECTION**

Lavon Day, M.S.

“The minute we started down the trail to the village of Timo, I immediately began to visualize what could be accomplished in Timo. It could be summed up basically as follows: train someone in Timo who could go out, as I did as an Extension Agent for Utah State University, to identify the problems and find solutions. I identified 14 areas in which we could have a real impact on the quality of life for the Timo residents. These range all the way from waste management to improvement of plants and animals which would not only provide food for them but also provide some marketable products, so they could send their children to school and obtain health care. The HHI trip to Haiti was a fantastic experience for me. What a great team to work with! Even though there were some challenges and some unexpected problems, the team buckled down, was positive, worked with enthusiasm and smiles, and in my opinion was very effective.

“My passion is for HHI to generate funding, not only to send the medical teams in, but to assist key people we have trained in recognizing problems, finding a solution and educating others in the community. This fulfills the goals and mission of HHI. Once we train and educate one village, we move on to the next village, involving the people we have already trained in training the people in the neighboring villages. I loved my first experience going to Timo, Haiti with HHI and I am happy to aid the organization in reaching its goal of helping the Haitian people lead healthier lives.”

*Lavon earned his Master's degree in Agricultural Education and Agronomy from Utah State University. He worked for 10 years as an Extension Agent and Area Coordinator for the Utah State University Extension division in Southeastern Utah and with the Ute Indians at Ft. Duchesne. He served as State Advisor for the Utah State Technology Student Association (TSA) for seven years and Director of Corporate Affairs for the largest coal mine operation west of the Mississippi for thirteen years. He has served on several local and state medical education boards, as Chairman of the Board of Trustees for the College of Eastern Utah, and as Vice President for the Utah National Parks Council for the Boy Scouts of America. Lavon traveled to Haiti with the HHI team for the first time in March of 2011. He looks forward to his continued missions to that village and other Haitian villages in the near future.*

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