

STUDENT EXAMPLE

STUDENT A

Goal: Develop a plan for Haiti's farms to provide a community with sustainable agriculture.

○ Rationale: Although the farming techniques will be used in a specific community and farm in Haiti, due to Haiti's similar landscape throughout, the systems can be established in many areas, as well as mountainous rural agricultural landscapes throughout the world.

First objective: Objective 1: Determine the best engineering solution that collects rainwater and then uses the flood water to irrigate crops.

○ Rationale: In order for the team to determine the best engineering solution we must research 1.) methods of rainwater harvesting 2.) methods of crop irrigation 3.) sloped farming techniques, and then determine cost, efficiency, and reality for each example.

Second objective: Objective 2: Develop a plan to put in place the engineering solution in farms.

○ Rationale: This plan can only be developed specifically once the engineering solution is identified, but plans must be made to 1.) raise funds 2.) determine the resources that must be from the community and 3.) install the solutions.

Third objective: Objective 3: Locate a specific education program that can most effectively instill sustainability in both young and working populations.

○ Rationale: Throughout the community, there must be a place in which 1.) young students learn the importance of sustainability so that they continue to make ecological choices and keep the solutions going, and 2.) farmers learn how to correctly put in place, manage, and upkeep the systems so that there is as little wasted resources as possible and as much food harvested as possible.

STUDENT B

Goal: Reduce the effect of flooding on subsistence farms in rural Haiti

First Objective: Investigate current practices of subsistence farmers.

Rational: The techniques farmers use or don't use, such as which types of crops and field structure, can have major effects on flooding, and the team needs to know what can be improved upon.

Second Objective: Investigate farms in with different slopes/geography.

Rational: By finding what the conditions for most of the farms are, and the extent of the damage caused by flooding, the team can tailor solutions to benefit more individuals.

Third Objective: Research the effectiveness of replanting forests in unused land, destroyed by flooding.

Rational: By studying how trees counter flooding, our team will be able to determine the most effective reforestation strategy.

COLLECTIVE SET

Goal

Develop a plan to reduce the effect of flooding throughout subsistence farms in Kenscoff, Haiti and find a sustainable solution utilizing excess water.

- Rationale : By creating a plan to reduce the effect of flooding in Kenscoff, we will have produced a thoughtful, educated response to addressing Haiti's excess water which, in turn, could potentially contribute to a higher crop yield for rural farmers if recognized.

Objective 1: Conduct research on why farmers in Haiti are pushed to farm in steep, mountainous regions and on how the steepness of the slope affects agriculture and the economic contribution that the farmers can contribute.

- Rationale: In order to have a better understanding of why the farmers are using undesirable terrain for their crops we must research for any conflicts between farmers or the government for desirable land. If the poor choice of land is due to dispute then we could add compromise to our solution.

Objective 2: Research common farming techniques and practices used by farmers in Kenscoff, Haiti that might increase the effects of flooding.

- Rationale: By researching the farming techniques in Kenscoff, Haiti, we will be able to determine solutions that will reduce flooding and protect more crops.

Objective 3: Research the most favorable engineering solution that collects rainwater and then uses the flood water to irrigate crops.

- Rationale: In order to determine the most favorable solution for managing flooding, we need to investigate different types of engineering solutions that can be used in subsistence farms in Kenscoff. The most favorable solution can potentially help manage the excess water by using it for irrigating crops during the dry season.

Objective 4: Design a specific education program that can most effectively instill sustainability in both young and working populations.

- Rationale: For our solutions to work, we must educate the population on how to maintain and continue working with the land rather than working against the environment. For this education plan to work, we must (1) locate a program (2) develop a curriculum for the farmers learning how to maintain their new farming solutions (3) develop a curriculum for younger students to care about the resources and landscape around them as well as how to take care of the land.