

Summary of Climate Adaptation Activities in Santa Lucia, Querétaro, México

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Santa Lucia is a small community tucked among the rolling hills between Amealco and San Juan del Rio in the state of Querétaro. Its arid climate and reduction in rainfall over the last 40 years have created dry conditions and hardships for the mainly agricultural community. Through the Climate Crowd surveys given by myself and students in the community, we discovered issues in crop production due to a continuous decrease in rainfall year after year. This has led to crops being more susceptible to plagues and insect infestations. Decreased rainfall and extreme temperature fluctuations season to season is another effect seen in Santa Lucia that has created issues. After interviewing various community members, the general environmental issues identified were a decrease in food production due to extreme weather conditions, trash in the streets, and an overall lack of environmental consciousness.

Our project sought to help the younger generation of Santa Lucia and the surrounding communities better understand the local effects of climate change and how to design environmental projects to combat those effects. With the help of the middle school, which is a participant in Mexico's Sustainable Schools Program through the SEMARNAT agency, and the high school of Santa Lucia, we created a project to help teach the youth of Santa Lucia how to plan and implement environmental projects. Teachers in the community and I gave presentations on basic climate change science, environmental activities suitable for the area and how to plan and implement an environmental project. Then, students planned and built various environmental projects.

A group of students built eco-benches which use plastic bottles filled with trash as the bricks to help students understand pollution and how we affect our environment. Two groups built hoop gardens which are small scale greenhouses that help protect plants from heavy rains or lack of rain and freezing temperatures. They also hold in moisture and heat so plants can thrive longer in conditions that are not ideal. Finally, a group built a xeriscape garden that is a living example of how to landscape using local materials and native fauna that need little water.

In the end, 3 eco-structures, 10 hoop gardens and 1 xeriscape garden were built with the help of 155 students, 6 teachers, and 2 administrators. Two manuals were created detailing the environmental projects and a binder of the all information given to the students can be found in the middle school, high school and local library of Santa Lucia. These projects helped the youth of Santa Lucia in project planning and management while exposing them to local environmental issues. It also gave them practical tools they can use to be more resilient to local effects of climate change in the future. The projects completed with the aid of this grant will continue as active projects in the schools and be a living example for the community for many years to come.

