

Increasing Resilience to Climate Change Through Reforestation of Native Species



Planting agave in borders was a Pre-Hispanic tradition to prevent soil erosion and promote water retention. Agave has been disappearing from Atltzayanca recently, but agave is an extremely important crop that produces pulque, an alcoholic drink with probiotics. Promoting agave and its ecosystem services is a priority of the Environment Secretary of Mexico.



Atltzayanca is increasingly under threat by climate change. Revealed by surveys from the World Wildlife Fund, Atltzayanca is seeing a shorter, more unpredictable rainy season, increased drought, and more extreme temperatures. These changes have resulted in community members to change how they use their natural resources. Primarily, community members are deforesting their shared, communal land due to less productivity in their agricultural fields.

From the help of Peace Corps and USAID I was granted a Small Project Assistance Grant to work with state government officials, municipal government employees, and community members to implement a series of projects aimed to reforest the communal and agricultural land of Atltzayanca to both mitigate and adapt to climate change. During the spring of 2018 (March to May) I co-planned these projects with the neighborhood presidents of Atltzayanca, The Municipal Ecology Councilman, and the local Farmer's co-op. We then worked to implement these projects to conserve the working landscapes of Atltzayanca, develop better landscape management practices, promote ancient water-vention practices using agave, plant windbreaks to prevent erosion, and reforest the communal land. In total, we planted 9,000 pine and juniper trees in the farmer's co-op's communal land, 4,000 Pinyon trees for production in the agricultural lands, 4,000 Mexican Cypress in windbreaks, 4,500 agave for soil retention, and 2,000 Fresno trees for a riparian reforestation project. All in all, we planted about 22,500 trees.

This project will have a lasting impact on Atltzayanca. Community members now have the capacity to solicit and implement appropriate projects to protect their soil, water, biodiversity, and croplands. Furthermore, community members will benefit economically from the timber resulting in the trees we planted, pine nuts from the pinyon trees, and pulque from the agave plants. Finally, Atltzayanca will benefit from overall tree planting as a means for climate change mitigation and adaptation through the conservation of their soil and water.