

RESTORING THE FORESTS IN GUANTÁNAMO, CUBA

The province of Guantánamo is located at the eastern end of the island nation of Cuba. While this region is known around the world for being home to a military base and prison that belong to the United States of America, little else is known about Guantánamo. Outside of the military base, life is challenging for the farmers and their families who live in the small villages and towns. For almost a hundred years, the main industry in the region has been sugar cane production, which has left the soil degraded and depleted. The *arid* conditions coupled with the *saline* soil make agriculture very difficult in the area and local farmers are struggling to grow enough food.



As the rains began in Guantánamo this April, local farmers were hurrying to get the first seeds planted for their new nurseries. The farmers have spent over a year now learning about *biodiversity restoration* and now they are ready for action. In a restoration project that is being supported by the Cuban government and the Canadian International Development Agency, the farmers are working to improve the quality of life in their communities by learning how to transform depleted lands into an ecosystem that has forest cover and enough shade and good soil to produce food and products for human use while at the same time bringing back biodiversity. This forest will provide services such as habitat for wild birds and animals, clean drinking water, and even a way for families to earn an income for harvesting forest products like fruits, tree saps and resins, and fibres for clothing and handicrafts.



Dagoberto Diaz is one of the farmers who are participating in this restoration project. He and his family live on a small parcel of land that used to be a sugar cane plantation. Now, because of the sugar cane, the earth on the farm is very dry and hard, the water is polluted, and the landscape looks barren and empty. Their life on the farm, like their neighbours' lives, is challenging. There is very little access to many of the goods that we take for granted in Canada, such as paper and pencils for school, tools, and even sometimes food and clean water.



Dagoberto and his son on their forest restoration site

Dagoberto knows that in order for his family to live a healthy life, the whole surrounding environment, including the water, soil, air, plants, and animals, must also be healthy. With the dream of a better life for his family and community, Dagoberto has decided to learn how to reforest his land by planting diverse *native species* of trees and plants that encourage the return of wildlife, improve soil health, and ensure a more secure supply of food from a more diverse source.

Large monoculture sugarcane plantations are not *sustainable*. Sugarcane has been grown in Cuba as an export crop for many years; however, the soil has gradually lost nutrients due to intensive plantings, and access to chemical fertilizers has decreased. Without the use of fertilizers the sugarcane crop is not so good as it once was. Dagoberto and his family now have the difficult job of bringing these worn-out soils back to life. They want to treat their land in a way that ensures that future generations can live productively; they are improving the soil with compost and planting trees to keep shade and moisture on the land.



Sugar cane requires large amounts of water and

Restoring an entire forest is **not** something that will happen overnight! It can take a whole human lifetime for a forest to reach maturity, which means that there are many goals that must be met before the farmers and their communities will see the benefits of their work. One of the most important aspects of this project is to ensure that the farmers and the community have a long term vision for their land. By drawing maps of their land in the present and the future, the farmers can imagine what the future might be like for these areas and have a goal to work towards over the coming years.



Planting trees for future generations

The farmers will also need to research the history of their land; by interviewing elders in the area, they will be able to find out what species grew naturally before the plantation of sugar cane began. They will also have to learn about the services that each species of tree or plant offers, as well as what those species will need to survive. For example, some trees provide shade, while other trees will only grow in shaded areas. Some trees' root systems hold soil in place, preventing erosion. Some trees are able to grow in saline soil, making the ground more welcoming for other types of plants by slowly removing the salt from the soil and restoring the soil's nutrients. Most importantly, all of the different varieties and species of tree work together to ensure that the soil, air and water stay healthy to support the web of life that depends on it, from now on.

Restoring biodiversity is about improving the land and quality of life for generations to come!

Word Definitions

Arid – Dry; having insufficient rainfall to support agriculture.

Biodiversity – The variety of all living things on the planet; also known as ‘our collective life support system’. This includes diversity within species, diversity between species, and diversity of ecosystems.

Biodiversity Restoration – The process of repopulating the variety of species that once lived in a certain area. Usually takes place in an area that has lost many of its native species due to either human impact or natural disaster.

Native species – Plants or animals that are from that area, and not brought in from somewhere else.

Saline – Salty; when pertaining to soils, containing salts that originally were not present in the soil. Saline soils make it nearly impossible to farm, as very few plants can tolerate saline soil.

Sustainable – An action is said to be sustainable when it meets the needs of present generations without compromising the needs of future generations.

Comprehension Questions

- 1) Where is the province of Guantanamo located?
 - A. Eastern Cuba
 - B. Western Cuba
 - C. South America

- 2) What was the main industry of the region of Guantanamo?
 - A. Coffee
 - B. Sugar cane
 - C. Tree planting

- 3) Which of these is not a result of sugar cane plantations?
 - A. Barren landscape
 - B. Dry, hard soil
 - C. Polluted water
 - D. Healthy growing conditions

- 4) Name three products that can be harvested from the forest that were mentioned in this article.

- 5) Name three services that trees can provide for humans and animals.

- 6) Why do farmers like Dagoberto want to plant trees?

- 7) What causes the soil to lose its natural nutrients?

- 8) Why do the farmers need to interview elders in the area?