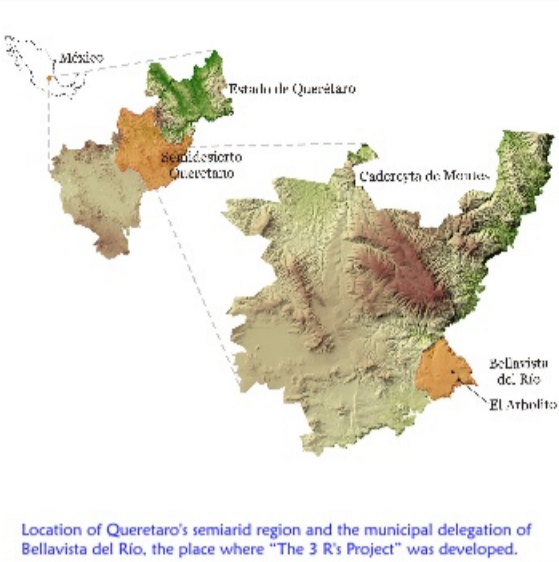


CONSERVATION OF CACTI WITH THE PARTICIPATION OF LOCAL COMMUNITIES

Jardín Botánico Regional de Cadereyta, Querétaro, México



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ABSTRACT:

The State of Querétaro (México) has different species threatened by extinction. Illegal collection and commercialization of specimens carried out by people from extremely poor local communities, is highly detrimental to species survival. In this BGCi funded project, 5 youngsters, chosen from the families who gather and sell cacti in danger of extinction, were trained for 12 months, so that they could build in their community a pilot nursery where 5 selected species would be reproduced. Our poster shows the results of this venture, in which the participants were expected to recognize biodiversity as a local and universal value.

INTRODUCTION AND GENERAL BACKGROUND:

The semi-arid region at Bellavista del Río (also known as "Mesa de León"), in the municipality of Cadereyta de Montes, in the Mexican state of Querétaro has historically been recognized to be an area with a rich concentration of species belonging to the cactus family. Recent research conducted by the personnel of the Cadereyta Botanical Garden "Ing. Manuel González de Cosío" has confirmed so, by having documented in the area a third of the total species registered in the state of Querétaro for this botanical family (Sánchez et al., 2006).

Unfortunately, as a result of ecological factors and human impact, a large number of cacti species are now facing serious impediments to survive.

As a result of this environmental crisis, at least 5 of the 31 species of cactuses growing in the region are now living under threat of extinction. Due to the threat they are now facing, it has become urgent to include them in conservation programs.

It is for this reasons, and as a response to the call made in México through the "Investing in Nature" program, that this project, that we entitled: "The Three R's which you are, conservation of threatened cacti with the participation of local communities", was proposed by our botanic garden, aiming at preserving such species in their natural habitat.

The project was implemented at the community known as "El Arbolito" (The Little Tree). This rural community belongs to the Bellavista del Río municipal delegation, a place close to the sites with a larger concentration of endangered species, most of them spreading along the streams of the Moctezuma River's canyon. This area is well known to cactus collectors worldwide for being an area where many cacti grow, among others, species is the beautiful "Golf Ball Cactus", *Mammillaria herrerae*,; all of them highly menaced by plunderers.

PROJECT GOALS:

The main goal of our work is to convoke youngsters from the community of "El Arbolito" and to select 5 team members (selected among those families involved in the illegal commercialization and gathering of cactus), in order to have them trained in the propagation of some of this endangered species.

The project's name includes the letter R in 3 headings; these three R's constitute the steps or goals to ensure the conservation of local species under threat, specifically those which are exclusive to the region. Consequently, the goals of this program were written as follows:

FIRST "R", Recognize. The selected individuals recognize the biodiversity as a local and universal value even though their survival is threatened.

SECOND "R", Reproduce. The five selected persons receive basic training to obtain horticultural knowledge in order to operate a small unit of artificial propagation (greenhouse).

THIRD "R", Recuperate. The participants are specially trained with elementary criteria to propose actions of conservation and sustainability to recuperate the species of their area, initiating a process of leadership in their community.

PROJECT DEVELOPMENT:

Selection Process of candidates. Candidates were selected using an evaluation procedure designed to identify students with a natural intelligence, assessing their attitudes toward nature and rating their ability to relate to it in a positive manner.

FIELD PRACTICES. The 5 selected youngsters participated in 5 field practices that were conducted in situ. During these practices they recognized the environment where cactuses evolve and develop and the basic techniques used in scientific applied research for the evaluation of species populations and their natural communities and also they recognized the 5 endangered species targeted in the project: *Astrophytum omatum*, *Echinocactus grusonii*, *Echinocereus schmollii*, *Mammillaria herrerae* and *Thelocactus hastifer*.

At the end of these field practices, an informational leaflet was designed and published. The brochure has the purpose of broadcasting this project's activities, as well as making known the importance of local species conservation.

PROPAGATION WORKSHOP. Having selected one species per student, a propagation workshop was conducted along a period of six months. The fundamental aspects of cacti physiology needed for artificial reproduction was included in the course outline. Each participant elaborated a propagation protocol for his (her) chosen species. Afterwards everyone practised what they had learned!

BUILDING GREENHOUSES FOR CONSERVATION. In order for "5 conservation kids" to be able to accomplish the goal of the project, 2 greenhouses (100 square meters each) were installed. The first greenhouse was built on the grounds of the Cadereyta's Botanical Garden and the second one, in their own community at the elementary school of "El Arbolito".

PROJECT RESULTS:

The goals of our commitment were fully accomplished. Having completed their formation process, these five students are now capable of recognizing the species living in their habitat, evaluating their survival conditions, reproducing them in greenhouses and starting a transformation process in their communities making it feasible to lower the destructive factors of endangered species.

The greenhouse installed in their community is now under their control, so it is to say, our "conservation kids" have already begun to understand how to manage Nature for its conservation!

CONCLUSIONS:

An effort of this kind, is unprecedented in the State of Querétaro (México), our work, aimed at preserving endangered cactuses in the region represents a first step in the creation of a simple and practical model that may be applied by local communities. In order to ensure its consolidation and continuity this effort will require the on going support from all possible instances involved in accomplishing our goal.

Our conclusions must be presented from two different and complementary perspectives: 1) From a technical point of view, it is desirable to see an increase in the number of specimens being reproduced. We would like to see the number of species incorporated into the recovery program, augmented until we have enough lots to attempt their reinsertion into the environment. And to see the demand of uncontrolled recollected specimens from among wild population diminished, by enhancing the feasibility of acquiring artificially reproduced plants. 2) From a social aspect, a desire to collaborate actively in such an important task has been awakened among the local inhabitants. People want to be part of the efforts being made to preserve their natural heritage; realizing that by not appreciating its biological, cultural and economic worth-which they practically ignored prior to their coming in contact with the program- allowed the pillage and destruction of such species. Support of these young horticulturalists by local authorities and the community is essential to strengthen the foundations recently laid.



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