

Participatory Education for Primate Conservation in Paraguay, the Forgotten Heart of South America.

Rebecca Smith
rebeccasmith2807@gmail.com

Cyril Rosen Award 2020

Abstract

Environmental education is the most effective way to change people's perspectives on conservation and inspire individuals to protect their natural heritage. This project aimed to educate underprivileged children about primate conservation in Paraguay through interactive and hands-on lessons, inspiring leadership skills and changing opinions about Paraguay's wild primates. Capacity building through training teachers will ensure that participatory environmental education is a more significant part of children's daily education. By focusing on schools bordering San Rafael "National Park" (Tekoha Guasu), one of the most important and threatened natural areas in the country, this project will have resounding impacts on primate conservation in Paraguay.

Introduction

Paraguay is predicted to become the first country in the world to lose all its moist forests, by as soon as 2028. The Upper Paraná Atlantic Forest (BAAPA) is a highly diverse ecosystem that covered 86,000km² of eastern Paraguay. The Paraguayan economy is heavily reliant on industrial agriculture (soy production accounting for 18% of the GDP), which has completely decimated the unique BAAPA. In spite of the Zero-Deforestation Law (2542/04) implemented in 2004, 91% of the forest had been lost by 2016. By 2019, only 9,368km² of high quality forest remained, with a 58% reduction since 2000.

Around 1.9 million of Paraguay's 7 million people live below the poverty line, with the situation in indigenous communities being extreme. Natural resource conservation is an extremely low, if not non-existent, priority, in spite of reliance on nature for clean water, income and food. Though environmental education can change perspectives on conservation and inspire individuals to protect their natural heritage, primary education in Paraguay is among the worst in the world. It was ranked in 2018 as 137 out of 138 for maths and science by the World Economic Forum, with almost no focus on life sciences. This lack of environmental education means that even the children living closest to natural areas

have limited understanding of the value of nature and view wildlife, including primates, as pets or pests.

Fundación Para La Tierra (PLT), a Paraguayan conservation organisation (80086144-2) with sites in Pilar, Ñeembucú and Alto Vera, Itapúa, founded the country's first Eco-Club program, "Voces de la Naturaleza", in 2016. Through this program we invite children to participate in weekly eco-clubs that follow the participatory education curriculum developed by PLT. The curriculum is an open access resource of more than 400 interactive lessons including games, scientific enquiry activities and arts and crafts. The curriculum focuses on teaching children leadership skills and empowering them to take on the role of teacher for younger children. Children are encouraged to explore nature, whilst developing pride in their country's natural heritage.

In Paraguay, very little is known about primates or the threats they are facing and in general there is a large disconnect from the natural world. The prevailing attitude is that only three types of monkey can be found in Paraguay: the capuchins (*Sapajus cay*) and night monkeys (*Aotus azarae*), which are believed to make good pets, and howler monkeys (*Alouatta caraya*), which are thought to be venomous and dangerous. Few people have heard of the titi monkey (*Plecturocebus pallescens*) or black-tailed marmoset (*Mico melanurus*) of the Chaco. One module of PLT's innovative curriculum is focused on the conservation of Paraguay's primates and their habitats. By delivering this module in schools and training teachers' participatory environmental education in both the campesino and Guaraní communities closest to "Area para Parque" San Rafael (Tekoha Guasu) we addressed this lack of knowledge which is one of the biggest threats to the welfare of primates.

Environmental Education Program

As a result of rapidly changing COVID-19 regulations in Paraguay we carried out visits to the schools every two to three months but included more schools than we had originally planned. Each school visit lasted for between 40 and 60 minutes depending on the number of children that were attending that day (particularly in the Mbya schools families are still semi-nomadic and children do not attend school every day). Lessons were carried out in Spanish or Guaraní depending on the requirement of the school.

Lesson themes included learning about Paraguayan primates – what species live in the country and where, what they eat and (in non-indigenous schools) why monkeys should not be kept as pets, the importance of not polluting water ways, community mapping, what animals live in different habitats in the area and why forests should be protected. All classes involved a mix of arts and crafts, games and either a short video or presentation using the projector.

In July 2021 we were privileged to be invited to expand our education program into four more Mbya Guaraní schools. Unfortunately, after one visit one of these schools closed as a replacement teacher could not be found.

In total we visited 10 schools (four Mbya Guaraní and six *campesino*) in the Alto Vera and Itapúa Poty districts and reached more than 600 children. Children's knowledge of Paraguayan wildlife visibly improved during the program and even months later 100% of children were able to name the five primate species of Paraguay and what habitat they lived in. It is extremely important to note that not a single child was able to do this at the start of the program.



Figure One: Participatory lessons in Santa Domingo, Mberu Pirapo'i, PotreroGuaraní and Arroyo Moroti.



Figure Two: Lessons in Taguato, Arroyo Moroti and Mberu Pirapo'i. School teachers are taking an active role in the lessons and Para La Tierra's Education Director Jorge Ayala is leading the class in the bottom right photograph.



Figure Three: Lessons in Mberu Pirapo'i and Mariscal Lopez. Mberu Pirapo'i is the headquarters for the "Área Educativa No.1" Education Zone 1 for the Itapúa Department for Indigenous education.



Figure Four: Lessons in Perlita La Esperanza, Arroyo Moroti, Mberu Pirapo'i and Taguato.

Teacher Training

As a result of the COVID-19 pandemic we were not able to conduct the teacher training in the way that we had originally planned. We had intended to bring all the teachers from each district together to conduct a training workshop lead by Jorge Ayala (Education Director of PLT), however with constantly changing regulation and also increasingly unpredictable weather that caused us to cancel the workshop twice we decided to change our approach. We provided eight of the ten schools with the Voces de la Naturaleza curriculum supplement and focused solely on practical training rather than a workshop with a presentation. Teachers were encouraged to be involved in the participatory classes conducted by the primate team. This turned out to be an extremely successful approach.

In total 30 teachers (12 in Mbya Guaraní schools and 18 in *campesino* schools) participated in this practical training, with several commenting about the change in level of engagement seen in the children and how they were excited to implement this methodology in other areas of their teaching.

In rural Paraguay, children attend school for only half a day, with some children attending in the morning and some in the afternoon. It is very common for teachers to rotate between schools which means that training the teachers in these participatory techniques and providing materials such as the Voces de la Naturaleza curriculum supplement means that more children that the PLT team can reach are able to benefit from the classes.



Figure Five: Teachers participating in Mberu Pirapo'i, Perlita La Esperanza and Oga Ita schools.



Figure Six: Teachers participating in Mberu Pirapo'i, Arroyo Moroti and Potrero Gauraní schools.

Other benefits of this program arose from our close relationship with the Mberu Pirapo'i Mbya Guaraní school. Mberu Pirapo'i is the headquarters for the "Área Educativa No.1" Education Zone 1 for the Itapúa Department for Indigenous education with head teacher Reina Rodriguez being the director for eight indigenous schools (seven Mbya Guaraní and

one Makâ school) across Itapúa. Reina's involvement means that the curriculum is now able to reach these closed communities, several of whom are too far away for the PLT team to reach (even following invitations to visit the schools).

Two teachers from Mberu Pirapo'i have unofficially joined our education team, working with PLT staff during visits to other schools, and are without doubt our strongest partners in the area.

Reach of Project

School	Number of Students	Number of Teachers	Number of Visits	School Type
Mberu Pirapo'i	80+	5	12	Mbya Guaraní
Arroyo Moroti	70+	2	5	Mbya Guaraní
Potrero Guaraní	40+	2	5	Mbya Guaraní
Mboi Ka'e	100+	3	3	Mbya Guaraní
Santa Domingo	15-20	2	4	Campesino
Tagauto	60+	6	4	Campesino
La Esperanza	60+	5	6	Campesino
Oga Ita	17	1	3	Campesino
Mariscal Lopez	17	2	5	Campesino
Santa Ana	25+	2	5	Campesino

Issues caused by COVID-19

Unfortunately, the COVID-19 pandemic did have a big impact on this project and caused delays and also adaptations to our originally planned methodology. Schools closed in Paraguay in March 2020 (when the country's borders closed) and originally the government stated that they would reopen in May 2020. However, non-indigenous schools remained closed for nearly 18 months, a disastrous blow for children in a country with an already weak education system. Indigenous schools in the Itapúa department did not stay closed for long but due to the travel bans within the country and also for the safety of the team and the communities we did not resume our visits until July 2021.

Teacher training was incorporated into the visits rather than bringing all teachers together for a workshop. This turned out to be a successful way of training the teachers and gave the training a more holistic feel, rather than a top-down approach.

Conclusions

Although COVID-19 did have a large impact on this project in the end we were able to successfully achieve our objectives, actually reaching more students and teachers than we had originally hoped for. Our relationships with the communities surrounding San Rafael (Tekoha Guasu) have gone from strength to strength even while being tested by the pandemic. The flexibility and understanding of the team at PSGB have been extremely helpful during this hard period and on behalf of the PLT team and all of our community partners I would like to extend my gratitude to everyone in the Conservation Working Party and to Howard Rosen for the grant and the support.

The Para La Tierra primate team's work in San Rafael and the communities surrounding it is by no means over with this grant. We work with the schools and communities on a monthly basis and are currently working to implement a program of economically beneficial reforestation with two Mbya Guaraní and one *campesino* community, using the hooded capuchin monkey as the project's flagship species.

