

Final Evaluation Report

Your Details	
Full Name	Andrea Mariel Neme
Project Title	Contributions to the conservation of large terrestrial mammals and the food-security of the Indigenous and Peasant communities of the Argentine Dry Chaco
Application ID	37496-1
Date of this Report	October 9, 2024

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
1- Detect large terrestrial mammals present in the area, map their distribution and address their habitat requirements.				<p>We successfully conducted the proposed number of interviews (120 with Criollo communities and 30 with Indigenous communities), identifying large terrestrial mammal species, their distribution areas, and species of nutritional value to Criollo and Indigenous communities. Additionally, we created a map featuring the 12 medium and large mammal species recorded during the interviews.</p> <p>The incorporation of explanatory variables is currently in progress to run models and generate distribution maps for endangered, endemic, and nutritionally important species, identifying priority conservation areas.</p>
2- Diet monitoring				<p>This objective was fully achieved. We collaborated with 20 Wichi women and 27 Criollo participants (men and women). The monitoring process took place over eight months, from May 2023 to January 2024. Each month, we organized meetings and workshops to facilitate horizontal knowledge exchange and address any questions or concerns.</p> <p>The results of the monitoring were processed in May 2024.</p>
3- Participatory Mapping of hunting territories				<p>This objective was fully achieved. Between October 2022 and April 2024, we conducted walks through hunting sites to create maps with the Wichi community, involving a total of 26 young and adult members. From</p>

				July 2023 to February 2024, we also monitored the hunting sites with 20 members of the Criollo communities. Criollo and Wichi participants learned field techniques, including GPS use and the Locus Map application, while sharing their knowledge with the scientific team.
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2. Describe the three most important outcomes of your project.

- a) Changes in Wild Meat Consumption:** A significant proportion of respondents still consume wild meat, though in smaller quantities compared to the past, with a notable decline over recent decades. Nineteen species, including mammals, birds, and reptiles, were identified as part of the diet. Mammals were the most consumed group, with 12 species, three of which are classified as threatened by the IUCN: *Tolypeutes matacus*, *Tayassu pecari*, and *Catagonus wagneri*. Compared to previous studies, both the biomass and species diversity of wild meat consumption have decreased.
- b) Drivers of the Change in Wild Meat Consumption:** The decline in wild meat consumption can be attributed to several factors: 1) **reduced availability** of wild animals due to deforestation, road construction, and overhunting; 2) **socioeconomic changes**, including increased state assistance and access to wages, enabling local communities to purchase alternative food sources; 3) **restricted access** to hunting areas because of land privatization, fencing, and increased control by authorities; and 4) a **cultural** shift related to the rise in domestic livestock farming, which has reduced traditional hunting practices.
- c) Updated Map:** We have developed an updated map showing the presence of medium and large mammal species of conservation importance, endemic species, and nutritionally valuable species for Criollo and Indigenous communities.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

One of the unforeseen challenges we encountered during the development of our project was Argentina's economic situation. The country's annual inflation rate was very high, forcing us to revise the initial budget and carefully decide how to use resources more efficiently. As a result, we reallocated our purchases. For example, instead of buying a GPS and a tablet, we covered these needs by using equipment from other projects and directed the funds toward more urgent supplies.

The project took place in the Dry Chaco region of Argentina, where access to the activity sites with the communities is quite challenging. The roads are unpaved, many are in poor condition, and they become impassable during rainy days. As a result, we were forced to postpone our workdays on several occasions due to rain, waiting for the roads to dry out before accessing the areas of interest.

Additionally, I had the collaboration of two field technicians. One assisted with logistics for the Wichi community, while the other supported the Criollo communities, along with help from volunteer students. However, the technician assisting with the Wichi community left the project in June 2023. As a result, I had to manage logistics with a single technician for both communities, which required reorganizing dates and outings to complete the remaining activities.

4. Describe the involvement of local communities and how they have benefitted from the project.

This project was inherently participatory, with the Criollo and Indigenous communities playing a fundamental role in carrying out the proposed activities. Participants included young and adult, men and women. As a result, they learned to use new technologies, strengthened their skills, applied field research methods, and created spaces for dialogue and knowledge exchange between community members and the scientific team.

Participation of the Wichi Community

- 1- Women (aged 18 and older) participated in dietary monitoring focused on wildlife. We conducted two workshops where the recording forms were collaboratively developed with the participants. The forms included images of various foods, including mammal species of nutritional value to the community, along with the names of each food in the Wichi language. The participants completed these forms over eight months, from May 2023 to January 2024. Monthly meetings were held for horizontal knowledge exchange and to address questions and clarify doubts.
- 2- Men, particularly young men (aged 18 and older), actively participated in mapping the community's hunting sites through walks conducted between October 2022 and April 2024. During these walks, adults shared stories and experiences about the sites with the youth. At the same time, we monitored wildlife using recording forms. Together with the participants, we held a workshop to create these forms, which included images and Wichi names for the fauna species identified by the community, as well as the hunting sites' names in Wichi. Additionally, we conducted eight training workshops on using GPS and the Locus Map application to georeference the hunting sites and wildlife presence (tracks, droppings, burrows, sightings).

Participation exceeded expectations, with 40 participants involved.

Participation of the Criollo Communities

Men and women participated in dietary monitoring and wildlife monitoring, as well as in mapping hunting sites. We held two training workshops on using the Locus Map application and five workshops to develop the dietary and wildlife recording forms. The wildlife monitoring forms included details such as animal species, type of trace, location (GPS point), type of forest, estimated number of individuals, and whether the animal was hunted. Participants were asked to complete these forms while carrying out their work in the forest. The dietary monitoring forms included a list of various foods, including wild animals. Monthly meetings were held to share experiences and address any questions or concerns. These activities took place from July 2023 to February 2024.

A total of 27 Criollo individuals participated, meeting the expected number.

Benefits for the Involved Communities

Capacity Building and Technology Management: The project enabled young and adult men and women to acquire and apply field research methods, enhancing their skills in dietary monitoring, mapping hunting sites, and wildlife monitoring within their territories.

Active Participation and Empowerment: The high level of participation, which exceeded expectations, demonstrated the strong interest and commitment of the communities. This participatory approach gave them an active role in the research and decision-making processes concerning their territories. Moreover, their involvement in monitoring activities increased awareness of environmental changes and the importance of conservation, promoting more sustainable practices and supporting the protection and continued presence of the communities in their territories.

Intergenerational Knowledge Transfer: During the mapping walks with Wichi men, opportunities for exchange were created between younger and older participants. Adults passed down stories about the visited places to the youth, emphasizing the importance of preserving their traditions and culture.

Financial Incentives: Through INTA and the Ministry of Labor, Employment, and Social Security, participants received a salary for their involvement in the project. This incentive not only encouraged greater participation but also provided significant support to participants, given their socioeconomic circumstances and the current situation in my country. In total, 60 individuals received salaries as part of the project.

Valuation of Local Knowledge: The project respected and integrated the communities' local knowledge by using traditional names and creating accessible recording forms. Spaces were established for listening to shared stories and knowledge, thereby contributing to the preservation and transmission of this knowledge.

5. Are there any plans to continue this work?

Yes, I want and need to continue this work. This is an ongoing project that is also part of my PhD, and there are still objectives to be achieved to further the research and strengthen collaboration with the Indigenous Wichí and Criollo communities of Chaco and Santiago del Estero. This work contributes to knowledge exchange, communication, and community empowerment. In the current context of my country, it is essential to address the challenges faced by these communities, as well as the scientific and environmental challenges in the Dry Chaco region, which has one of the highest deforestation rates in the world. The conservation of its forests and the well-being of the communities that inhabit them is crucial. To advance in this direction, the following activities are planned:

- 1- Determine the availability of nutritionally valuable mammals for Criollo and Indigenous families:** Medium and large mammals will be monitored using camera

traps to assess the diversity and abundance of species important for local communities. The goal is to determine the relationship between the availability and consumption of these species, which will help in developing sustainable conservation strategies.

2- Community participation and capacity building: Community involvement will be essential for the sustainability of this work. The local participants in this project expressed great satisfaction and enthusiasm for the activities conducted so far. Therefore, we will organize workshops to train participants in the use of camera traps, empowering them to become field technicians.

3- Collaborating with policymakers and local communities: We aim to work with policymakers and local communities to implement strategies that improve the nutrition, food security, and sovereignty of these communities.

6. How do you plan to share the results of your work with others?

- In November 2022, we presented a conference and poster at the Jornadas Argentinas de Mastozoología, the annual meeting held in Iguazú, organized by SAREM (Sociedad Argentina de Mastozoología). We shared the work conducted with local communities in Santiago del Estero and outlined the activities planned within this project.
- In November 2023, we delivered two presentations at the Congreso Internacional de Manejo de Fauna Silvestre, a biennial event held in Santa Marta, Colombia, organized by COMFAUNA (Comunidad de Manejo de Fauna Silvestre en Amazonia y Latinoamérica). We presented the results of Objective 1 and our work with the Wichi community.
- In June 2024, we delivered the results of Objectives 2 and 3 to the participating communities in the form of infographics and maps.
- In August 2024, a scientific article was submitted to the journal AMBIO, which is currently under peer review. We plan to publish two more articles before May 2025.
- In November 2024, we will present the project results at the Jornadas Argentinas de Mastozoología, which will take place in the province of San Luis. Additionally, we will have the opportunity to meet with the PPBio Argentina team (Biodiversity Research Program) during this event.
- In the near future, I will prepare reports for policymakers and meet with them to present the materials.
- I am part of the Proyecto Quimilero team, and this group consistently shares our activities on social media. Throughout the project, the activities carried out and results obtained were regularly shared.

7. Looking ahead, what do you feel are the important next steps?

The next steps are:

1. To determine the relationship between wild meat consumption and the dimensions of food security, including the availability of medium and large terrestrial mammals of nutritional value for Criollo and Indigenous families, as well as accessibility to hunting sites.
2. To further investigate the nutritional quality of the foods that are replacing wild meat consumption and assess the food security and sovereignty of Criollo and Indigenous families. To this end, we have established a partnership with an NGO composed of doctors working in the study area.
3. To continue disseminating the results of this project across various platforms and engaging with different stakeholders to ensure that our findings are taken into consideration.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes, we used it in conference presentations and in the materials distributed to the local communities. Since this is part of my doctoral thesis, I had to present my work throughout the project, and in these presentations, the Rufford Foundation logo was also displayed.

Through the Instagram account of Proyecto Quimilero, we posted updates about the activities we were conducting, and we always acknowledged the foundation for its financial support.

9. Provide a full list of all the members of your team and their role in the project.

Andrea Mariel Neme: Project leader

Micaela Camino: Research advisor

Matias Mastrangelo: Researcher. Participated in the interviews.

Carla Rueda: Researcher and lecturer at the National University of Santiago del Estero. Took part in activities with local communities in Santiago del Estero.

Marta Rueda: Lecturer at the National University of Santiago del Estero. Participated in activities with local communities in Santiago del Estero.

Luz Vallejos: INTA staff. Participated in workshops with the Wichi community and local communities in Chaco.

Melina Faingerch: PhD student. Participated in the interviews.

María Guadalupe Laitán: PhD student. Participated in activities with the Wichi community in Chaco and local communities in Santiago del Estero.

Cecilia Escalada: PhD student. Participated in workshops and interviews with local communities in Santiago del Estero.

Giuliana Pernazza, Camila Haene & Eugenia Espeche: Volunteers in the project. Assisted me at various stages during the activities with the Wichi and local communities in Chaco.

Hugo Hernando Correa & Ivana Ghione: Field Technicians. Provided logistical assistance.

10. Any other comments?

I believe this project has achieved significant accomplishments. My team and I are very grateful for the funding we received from the Rufford Small Grant, as their support has been crucial for the development of this project. This grant allowed us to make

progress toward valuable objectives for all participants. Personally, I am very pleased, as the development of this project has helped me grow personally and professionally. I strengthened communication and trust with the local participants and hope to continue reinforcing this relationship. Without this funding, I would not have been able to advance so quickly in my doctoral work.



Meetings and workshops with Criollo communities



Meetings, workshops and wildlife monitoring with the Wichi community.