

Final Evaluation Report

Your Details	
Full Name	Cecilia Beatriz Barriga Bahamonde
Project Title	Conflicting ecosystem services in the Peruvian Amazon: Indigenous communities and fruit-eating mammals
Application ID	28950-1
Grant Amount	£6,000
Email Address	cbarrig@gmu.edu
Date of this Report	30 December 2021

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
To relate the community structure of frugivorous mammals to plant recruitment				I successfully collected all the data necessary to analyse the community structure of frugivorous mammals and plant recruitment as planned. I will analyse the relationship in the following month.
To relate community structure of frugivorous mammals to ecosystem services				I successfully collected the necessary data to assess the ecosystem services as planned. I will assess and relate them to the community structure of frugivorous mammals in the following months.
Practical recommendations to be applied in a forest management plan				After the analysis of the previous objectives, I would be able to provide practical recommendations to the indigenous communities.

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

Due to the COVID-19 pandemic, many indigenous communities were not allowing any outsiders to enter their territories. This made it difficult for me to go to the Palma Real community. Thus, I contacted other indigenous people through FENAMAD (Federacion Nativa del rio Madre de Dios y Afluentes) and arranged to go to the Masenawa indigenous community instead. Due to the pandemic, SERFOR required me to update my research permits, which caused further delay in my research.

Between each field site, my field assistant and I took COVID-19 tests that were not in the original budget. This increased the expenses and time spent in the city. We both caught COVID and showed mild symptoms during fieldwork before we were able to go to the city to receive testing. After completing our fieldwork, we quarantined in the city for 14 days. This caused a significant delay in my timeline.

Finally, due to family reasons, I was unable to analyse all my collected data. Thus, I am extending the allocated time for this and focusing on finishing this portion of my project in the coming months.

3. Briefly describe the three most important outcomes of your project.

My project provided important and current information and materials (i.e., photos) about the mammal community of indigenous lands for their tourism and conservation interests.

It also helped create a better understanding of the importance of frugivorous mammal biodiversity in the provision of key ecosystem services for local communities.

Finally, this project provided current and reliable data for my dissertation research, which will allow me to offer science-grounded recommendations in relation to hunting and the management of other subsistence activities for indigenous communities.

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

All members of the indigenous communities of Infierno, Boca Paríamanu, and Masenawa were aware of and involved in the project. Since the beginning I contacted the president of each community and obtained their permission to conduct my project on their land. Thus, they facilitated my interaction with other community members. I visited each house to explain the project and its importance and then visited again to conduct surveys. In compensation for their time, I gave a supply of food to hunters who agreed to continue registering their prey in the following months.

Most of the community members showed a great interest in the project and future results. They mentioned how they will use the data for their conservation efforts, such as national and international agreements of payments for climate change mitigation actions and to attract more tourism to their communities. Community authorities also mentioned that they will use the data to enforce internal agreements with regards to forest management.

I hired local guides to guide me the first days and to deploy and pick up the camera traps. Whenever possible, I hired a different person so more people could gain a wage. At the same time, I trained them in the use of camera traps and GPS. A total of nine community members benefitted from this. Additionally, I hired three local students from Universidad Nacional Amazonica Madre de Dios as field assistants during different parts of my fieldwork. They were trained in all the methodologies used to assess the mammal and plant community and to survey people's use of ecosystem services. I paid them for their services, lodging, and food. The community also benefitted from the payment of my stay. My field assistant and I stayed at the communities' lodges or houses and hired community members to cook for us.

5. Are there any plans to continue this work?

I will continue with the analysis and incorporating it in my dissertation. If necessary, I could return to gather more data. The Masenawa indigenous community is just

beginning to be more interested in some conservation activities. Thus, I would like to discuss with them ways to continue with a project that could help them in their endeavours.

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

I will travel to each community to present and explain the results and recommendations in an assembly. I will also present my results to FENAMAD and SERFOR. I will leave a hard and digital copy in each place.

My results will be available as part of my doctoral dissertation. Additionally, I plan to publish them in peer-reviewed journals and in publications for general audiences. I will submit an article to journals such as Conservation Biology, Biodiversity and Conservation, Ecosystem Services, and Ecosystems and People. To reach the non-scientific public, I will publish articles in Spanish and English in blogs and in the websites of the communities. These publications will be shared through social media.

7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

The project was delayed due to the COVID-19 pandemic until December 2020. As soon I was able to travel to Peru, I booked my flight and purchased the materials. I conducted fieldwork from January to July 2021. From August to November 2021, I entered and analysed part of my data. I had anticipated to have finished analysing and writing an article for publication and presenting my results by now. However, personal circumstances prevented me from completing those last tasks.

8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Round-trip air ticket Lima-Puerto Maldonado	150	159	+9	
Terrestrial and fluvial trips to 3 communities, 2 pax	450	200	-250	Difference in price
Lodging in communities for 3 months, 2 pax	1500	1400	-100	Difference in price
Food for 3 months, 2 pax	1400	1300	-100	Difference in price
Subsistence payment to local guide	700	365	-335	I required less days from local guides
Camera traps (22)	1190	2497	+1307	I purchased 32 camera traps

				instead of other materials
Compass (2)	60		-60	
Game scales (15)	235	78	-157	I purchased 6 scales
Field notebooks (8)	80		-80	
Refreshments and materials for the meetings with the communities	235		-235	
Total	6000	5999		

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

The important next steps for my project are to finish the data analysis to answer my research questions and develop recommendations for the indigenous communities. The following step will be to publish the results and present them to each community. I also feel it is very important to help these communities in their conservation efforts, to attract tourists and to achieve sustainable development. I will keep in contact with them and maybe develop more conservation projects together.

10. 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?

I did not use The Rufford Foundation logo since I have not published anything yet. I will certainly use the logo and acknowledge the foundation support to my project in each publication I make.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Dr. Thomas Lovejoy was my dissertation advisor and helped in the development of the project since the beginning. Dr. Lovejoy also connected me with people working in NGOs in Peru who helped in the implementation of the project.

Dr. Chris Kennedy is a member of my committee and helped in the development of the ecosystem services part of my project.

Dr. Rebecca Forkner is a member of my committee and helped in the development of the ecology part and overall connection of my project.

Dr. Trond Larsen is a member of my committee and helped in the development of the biological field assessment methodology of my project.

Dr. Chris Kirkby helped me in the ideation of the project and connected me with people from the indigenous communities or people who worked with them.

Edwin Eduardo Jurado Rojas was my field assistant for most of my fieldwork. He accompanied and helped me in every activity and identified plant species in the field.

Edwin Ccorimanya Astete was my field assistant in the second part of my fieldwork. He helped me to pick up the camera traps and accompanied me in some surveys to members of the communities.

Yadhya Lisbeth Ramos Quispe helped picking up camera traps from one field site.

12. Any other comments?

I would like to have the opportunity to apply for a Second Rufford Small Grant once I have finished my dissertation and discussed new ideas with the communities.