

Final Project Evaluation Report

Your Details	
Full Name	Nayely Martinez Melendez
Project Title	Conservation and management of non-timber forest resources: the case of epiphytes and fungi in logged forests in southern Mexico
Application ID	25259-1
Grant Amount	£5000
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Date of this Report	29 th July 2019

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
Generate basic knowledge about the influence of human activity on particular communities with ecological importance				The results obtained have provided very interesting information about the ecological mechanisms that underlay the diversity in managed forests, however more detailed studies are still needed on how these phenomena originate on a larger time scale.
Generate proposals for the management and conservation of epiphytic and fungal species				Once the fieldwork is completed, the proposal of new forms of management to promote the diversity of these species has to go hand in hand with constant communication with the landowners, who often prioritise what is more profitable in the short term.

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

There were few difficulties during the development of work in the Jitotol community, which were mainly external, for example, the constant highway closures that occur in response to political disagreements. Except for those exceptions, there were no major complications to carry out the field work.

The unfavourable environmental conditions hindered the access and development of field work in "Los Ocotones", however, this situation was resolved by reorganising the dates of field work.

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

1. In the evaluation of forest structure, our results showed that there are no significant differences between silvicultural treatments after 15 year of logged. This indicates that so far there is no significant impact on the forest, which suggests that management is meeting one of the sustainability criteria. These data should be evaluated years later to contrast these results.
2. The diversity and biomass of vascular epiphytes was no different between silvicultural treatments. This is a good indicator since epiphytes are sensitive to

environmental changes. Good forest management and conservation of unmanaged areas can guarantee the flow of propagules and contribute to the diversity of these plants. It is suggested to continue with this evaluation years later.

3. The most important result of the work carried out in Jitotol is the impact shown by the intensification of forest management on the structure of the wild mushroom community, however the nature of the species within the community must be fully recognised in order to define patterns at a much higher spatial level.

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

In the study on wild mushrooms in the municipality of Jitotol, the contribution of the work on the interests of the owners was directly discussed. The main contribution of the work would be the presentation in the form of brochures with information about the diversity of species that develop within their lands, their ecological importance, their value as an edible species and their potential for economic use

The knowledge of epiphytes as a non-timber forest resource is important for the conservation of deforested forests around Los Ocotones. Knowing its ecological function in capturing water in higher altitude forests is relevant for its conservation. Local communities benefit indirectly, since the results of our project will contribute to the conservation of epiphytes at high altitude sites, since they are the natural sponges of the forests, they help capture rainwater along with their host trees, feed the currents and supply water to the population of the lower areas.

At the local level, there are several species with potential for reproduction and exploitation for legal commercialisation.

5. Are there any plans to continue this work?

Yes, it is considered to continue and follow up on field work during this current year, however the development of the results and discussion of what is obtained which requires time at the desk is also required. Fortunately, the financing granted has helped us to solve our field work principally without any other complications.

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

We plan to write and publish the main information obtained from the work through scientific articles. We hope these can be published the following year, mentioning of course the support provided, same information that we will be happy to share as soon as it can be made public.

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

The financing was mainly used for equipment in the fieldwork not only during the past year, but this year the use of the information obtained from some devices continues. The main objectives of the project have been achieved so far, although the work has not yet been completed in its broad sense, we can say that a good term has been reached according to the objectives established since the beginning. The future and scope of the project after this stage is still under consideration, due to the need to develop new approaches that would involve work time not yet considered.

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
Subsistence payments for local team	1,000	1,000		
Laser distanometer	154	154		
Spencer® 66'/20m English/Metric Logger's Tapes	77	77		
Garmin® eTrex® 10 GPS	77	218	+141	This payment was complemented with what was left over from the purchase of climbing equipment
Tuff-Stuff™ Vinyl Glo Flagging (10 units)	18	18		
WatchDog B102 Temp/RH Logger	1,500	1,112	-388	We choose a more economic model. The rest was used to supplement food and fuel expenses
Rope climbing equipment	1,300	839	-461	We choose a more economic model. The rest was used to supplement food and fuel expenses
Fuel	414	716	+302	

Food	460	700	+240	
Commission for interbank transfer		166	+166	Commission charged for "Banco Santander Mexicano"
Total	5,000	5,000		Local exchange rate used: \$1 (peso Mexicano)= £ 0.03827

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

The first step would be to convince the owners about the use of forest management that encourages the conservation of wild mushroom and epiphytic species and at the same time, make proper use of these resources.

A second step would be the long-term evaluation of this exploitation scheme that involves environmental, political and social factors.

Finally, a third step would be based on the results obtained from this case study, encouraging and replicating the scheme in different regions of the country. Of course, each of these steps is with a long-term focus and necessarily requires the formation of a multidisciplinary team and the association with different political and institutional sectors

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?

Yes, we did use the Rufford Foundation logo in a reunion in "El Colegio de la Frontera Sur" to present advances in field work and information analysis. This logo will also be published at the next Nacional Botany Reunion (<https://www.socbot.mx/congreso/>) to be held in the city Aguascalientes, Aguascalientes, Mexico in October 2019.

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

M. in C. **Nayely Martínez-Meléndez**: She coordinated the project and expenses. She coordinated and sampled the vascular epiphytes in the field, as well as the analysis and presentation of the information to the interested parties (evaluation committee in El Colegio de la Frontera Sur, San Cristóbal de las Casas, Chiapas, México).

M. in C. **Ricardo Irving Pérez López**: He carried out the fieldwork, registration of environmental and structural variables of the forest as well as the analysis of biodiversity information of wild mushrooms in forest regions under management within the municipality of Jitotol, Chiapas.
https://www.researchgate.net/profile/Ricardo_Perez_Lopez.

Ing. **José Rafael Ramos Moreno**: He guided us to select sites with treatments silvicultural in Los Ocotones, Cintalapa, Chiapas.

Dr. Neptalí Ramírez Marcial: Principal advisor of the project, provided mainly advisory in terms of analysis of the obtained information and experimental design https://www.researchgate.net/profile/Neptali_Marcial.

Dr. Mario Gonzales Espinosa: He provided methodological and theoretical advice when designing the work on fungal diversity in Jitotol. He greatly supported the monitoring of compliance with the objectives set and the search for suitable forms of financing. https://www.researchgate.net/profile/Mario_Gonzalez-Espinosa.

12. Any other comments?

We want to make your knowledge that we are very happy with the performance of our work thanks to the economic support granted, which we are sure could not have been done without your valuable support. We are very grateful that this type of support is increasingly accessible in order to develop knowledge for the conservation and a better use of natural resources. Thank you.





















