

## The Rufford Foundation

### Final Report

---

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

---

#### Grant Recipient Details

<b>Your name</b>	Juana García Flores
<b>Project title</b>	Mayan community knowledge for the conservation and restoration of forest systems in Tabasco, Mexico
<b>RSG reference</b>	23400-2
<b>Reporting period</b>	Twelve months
<b>Amount of grant</b>	£5000
<b>Your email address</b>	jugaf8@gmail.com
<b>Date of this report</b>	October, 2018

**1. Please 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
Monitor studies of survival and growth of 8 native flora, wild medicinal species reintroduced in the communities of Tomas Garrido Canabal and La Cumbre				This was carried out through an annual cycle of five monitoring studies of survival and growth in height, basal diameter, and coverage of the species reintroduced in two sites of acahual from the communities of Tomás Garrido Canabal and La Cumbre.
Monitor the incidence of light through the canopy cover, which is estimated with a densiometer concave spherical, in sites where the species were reintroduced.				Five monitoring studies of the incidence of light on plants reintroduced in the communities of La Cumbre and Tomas Garrido were carried out. This took place in order to identify if this variable affects the survival and growth of the species.
Identification and data collection of height and chest height diameter of the associated flora of the reintroduced seedlings of different species.				The identification of flora species associated with the reintroduced species was conducted. A total of 10 surrounding area sites of reintroduction were marked, in order to identify the floristic composition of the referenced ecosystems necessary in the ecological restoration.
Soil sampling of the various reintroduction sites of species and GPS data log.				Soil sampling was conducted in the different sites of reintroduction of species. 8 samples were taken composed for each community. Each soil sample comes from five soil samples taken at 20 cm deep.
Physicochemical analysis of the soil samples from the reintroduction sites of species.				Physicochemical analyses were conducted from 16 soil samples in the laboratory of soils and plants of El Colegio de la Frontera Sur.
Development of a manual on the uses, forms of uses, selection and reproduction of social and ecological species of interest in the region.				The manual is close to being done, which then will make way for the review phase by the members of the committee to evaluate the doctoral research project, so that afterward the editorial review will follow, which will be done by the institution that I'm

			affiliated with. Then finally it can be sent to be printed. At this current time there is no printed manuals.
Delivery of final report and manuals to the ethnobotanical working participants, authorities of the communities and institutions affiliated to the project.			A report of the ethnobotanical work has been delivered, as well as the initiated processes of ecological restoration to the representatives of the communities, who are part of the study and the collective Almandros for a better world. During the first semester of the following year the delivery of the printed manuals to all participants of the study will take place.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

Overall, the objectives of the project have been carried out. However, with respect to the different stages involved in developing a manual for distribution, I have found that the times required are greater than those contemplated, therefore the two last objectives were moved in regards to delivery of the final report to Rufford.

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

Ethnobotanical and etno-ecological research has taken place for the identification of medicinal native tree species, prioritised to be used for ecological restoration work and conservation of tropical forests.

Ten priority species were identified to initiate processes of ecological restoration within the study area, taking into account the collection of germplasm for the reproduction of the species through the germination of seeds in a community nursery established in the community of Tomás Garrido Canabal.

Eight species were reintroduced in two community fields of Tomas Garrido Canabal and La Cumbre communities to generate a process of forest restoration. The growth and survival of reintroduced species have been monitored for a year, as well as the environmental factors that allow the analysis of growth and the survival of the species.

A social relationship with the collective "Almandros for a better world" has generated, represented by families of five communities. The connection has allowed the development of all phases of the project, including the appropriation of this project by the collective, generating a continuous development of processes involving the conservation and restoration of the rainforest.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).**

The project has been worked with the accompaniment of the collective "Almandros for a better world" who is represented by members of five communities: Oxolotán, Tomas Garrido Canabal, La Cumbre, La Pila and Cerro Blanco Quinta Sección. With these communities, capacity building has developed through technical training on methods of seed collection, germination of seeds, breeding and reintroduction of seedlings and nursery management practices. A community nursery has been established in Tomas Garrido Canabal, whose management and care is done by the collective. The collective to participate directly in all processes and stages of the project. The collective has participated directly in all of the processes and stages of the project. The relationship of the collective has developed and strengthen with the research institute, El colegio de la Frontera Sur and the Intercultural University of Tabasco, campus Oxolotan, as well as with public organisations, which has allowed the strengthening of their internal processes; which has been positive in the reevaluation of their traditional knowledge as essential for the conservation of its forests.

**5. Are there any plans to continue this work?**

This project is part of postgraduate studies at a doctoral level, which has a duration of 4 years. It will conclude in the year 2019. After this, it is expected to continue with postdoctoral studies, to give continuity to this project of restoration and conservation of tropical forest systems. In addition, the appropriation of the project by the local population will give continuity to a research process in the long term.

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

The results of the work have been consistently presented to the people of the communities and the members of the collective CAMUM. The presentation of the manual for distribution will be another way to publicize the results to the local population. Results have been presented at national conferences and in the meeting Rufford 2017 in Belize. A scientific article has been prepared and sent to a journal of national and international scope for your publication evaluation. The publication of the thesis next year will be another means of publication of results.

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

The main purpose of the grant was to cover the field work of the second half of 2017 until the first half of 2018, which involved the monitoring of survival and growth in height, basal diameter and coverage of species reintroduced, as well as data on the slope and altitude of reintroduction sites; sampling of soils and their physicochemical analyses in the laboratory. The monitoring of environmental factors (light, humus) and the identification of areas with preserved vegetation which is recorded as the ecosystem of reference whose floristic composition was recorded.

The project should conclude in 2019, and by that year the delivery of results to the communities must also conclude, which is why it has been proposed deliver the manual for distribution to be printed that has been worked on in the last year.

**8. Budget: Please 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.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Materials: Suunto Precision Global Quadrant 0-90-0° with Declination Adjustment	114	116	-2	
Materials: Metric Fabric Diameter Tape Model 283D/10M	69	59	11	The surplus was used to cover costs of other materials.
Materials: Garmin GPSMAP 64 GPS	192	148	44	The surplus was used to cover the work of monitoring.
Materials: Spherical Crown Densimeters	80	87	-9	
Final report and manuals of disclosure in the four communities.	568	568		
Printing of the outreach manual of priority species	1607	1607		
Chemical analysis of the soil from the laboratory	594	513	81	The surplus was used to adjust costs of work sampling of soils
Soil Sampling in experimental plots in two communities. (Project leader, subsistence payment of community members and gasoline)	423	510	-87	
Monitoring of growth and survival of species and biophysical factors 2017-2018. (Project leader, subsistence payment of community members and gasoline)	1353	1395	-42	
<b>Total</b>	<b>5000</b>	<b>5004</b>	<b>-4</b>	

*Exchange rate from Mexican pesos to pounds: 23.6433 Mexican pesos / £ 1. (October, 2017) date of suvencion receipt*

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

The distribution of the research results through different means of publication is an important step to continue. Completing the delivery of results in communities.

Institutional connections for the generation of local markets of flora medicinal trees. Continue bonding with the collective CAMUM for a possible continuation of the project on traditional medicinal knowledge as a basis for the restoration of tropical forests.

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

The logo was used in the presentations of results at different congresses and meetings that were attended. The logo will be used in the reporting manual.

The RF advertising, has circulated from mouth to mouth with local population participating in the project and institutionally with colleagues, in addition advertising has been done on the website.

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

I have developed the project and I have led all the phases of community work. I have made the arrangements to obtain monetary resources and carry out the project.

**12. Any other comments?**

We thank the Rufford Foundation for the funds provided, since this has largely allowed the realization of this project.



Left: Growth of species. Right: Collective Almandros and Families.



Project presentation.