

Final Evaluation Report

Your Details	
Full Name	Tlacaelel Rivera Núñez
Project Title	Articulating agrifood supply networks among peasant communities on a watershed level to stabilize forest frontiers in a tropical mountain biodiversity hotspot
Application ID	25445-1
Grant Amount	£5,000
Email Address	tlacaelelrivera@gmail.com
Date of this Report	March 09, 2022

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. Identify the economic and agricultural sources of food provisioning by families of forest and agricultural frontiers				
2. Map land use changes at forest frontiers caused by peasant families to meet agrifood objectives				
3. Analyze the structure and functioning of agrifood provisioning in the high and low areas of the micro-watershed studied				
4. Involve local communities in exploring innovations to their food supply strategies that may contribute to stabilizing land use changes in their forest frontiers carried out to meet agrifood objectives				

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

Given our many years working in the study zone, our methodological and technical knowledge, and the inter-transdisciplinary nature of the working group, thus far we have had no difficulties carrying out the study.

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

- 1) Within the study micro-region, we identified two economically differentiated groups of peasant families: (a) "GOT-MY-HERD", consisting of 5% of domestic units studied, which are principally located on the agricultural frontier and have an average of over 100 hectares and over 50 head of cattle, specialise in livestock, are recipients of many government programs , and have relatively high annual incomes; and (b) "GOT-MY-HAND", consisting of 95% of domestic units studied, which are located on forest frontiers as well as on agricultural frontiers, have an average of less than 3 ha, carry out a variety of economic activities, are recipients of few governmental programs , and have low annual incomes.
- 2) Maize and beans make up over 60% of food consumed in the study micro-region. The remaining 40% consists of fish, beef, fruits, and vegetables, as well as processed foods. Maize and beans are cultivated principally for self-provisioning; beef is produced by local farm families and fish provided by external suppliers, while fruits, vegetables, and foods processes distributive networks. Eighty percent of "GOT-MY-HAND" families are unable to cultivate

enough maize and beans to eat year round, and therefore carry out two principal coping strategies: (a) they migrate within Mexico or abroad in search of paid work that will provide them with enough income to eventually purchase additional cropland, principally on forest frontiers; and (b) they complement their diet with up to 40 species of seasonal wild vegetables, mushrooms, fish, and insects found in the diversified maize fields, woods, and riverbeds which are traditional peasant foods, known as a “hidden harvest”, locally associated with rural poverty.

- 3) The peasant families identify four principle alternative food provisioning sources: (a) government programmes that provide money to purchase food; (b) increasing their land area for producing maize and beans, thereby encroaching upon forest frontiers; (c) establishing savings and loan associations for women; and (d) establishing local food cooperatives. As an additional alternative, we are developing a socioecological board game as a social learning tool that simulates those four scenarios involving decision making in which we will address cultivation of over 25 previously wild vegetable species using simple irrigation techniques, in order to assure their availability year-round.

4. What do you consider to be the most significant achievement of this work?

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

The six study communities have accepted, become interested, and participated in the study through collective decision making in ejidos assemblies. They have allowed us to carry out structured surveys regarding peasant economy with 120 men and women heads of households, as well as map 60 farms on the forest frontiers.

As partial beneficiaries, we have shared resulting data on the peasant economy with the families, which has helped them reinforce and reorganise their social reproduction strategies. Also, resulting farm maps have been used by the communities to modify their land ownership systems.

The main beneficiary families of the study participated in the design and implementation of a sociological board game in which, through simulations, they explored alternative community strategies to improve their agrifood provisioning without increasing land use pressure on forest frontiers. The observations of community members and the social learning resulting from the game were used to develop pilot actions aimed at the collaborative design of a community work plan that includes the implementation of alternative food provisioning strategies.

6. Are there any plans to continue this work?

The project was fully completed.

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

We published the following articles (attached), in which we gratefully acknowledged the funding provided by Rufford:

Rivera-Núñez, T., Estrada-Lugo, E. I., García-Barrios, L., Lazos, E., Gracia, M. A., Benítez, M., ... & García-Herrera, R. (2020). Peasant micropower in an agrifood supply system of the Sierra Madre of Chiapas, Mexico. *Journal of rural Studies*, 78, 185-198.

García-Barrios, L., Rivera-Núñez, T., Cruz-Morales, J., Urdapilleta-Carrasco, J., Castro-Salcido, E., Peña-Azcona, I., ... & Espinoza, J. (2020). The Flow of Peasant Lives: a board game to simulate livelihood strategies and trajectories resulting from complex rural household decisions. *Ecology and Society*, 25(4).

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

Our proposed study includes the following four stages: 1) spring semester, 2018 - fieldwork to carry out interviews and mapping; 2) fall semester, 2018 - multivariate statistical analysis and visualisation and analysis of social networks; 3) spring semester, 2019 - designing the socioecological game; and 4) fall semester, 2019 - implementing the game in participatory workshops and developing a joint agrifood innovation work plan.

9. 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. *Exchange rate of 26.31 Mexican Pesos per £.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Fuel for transportation to the area and internal mobility	1026	1026		
Feeding during field work	1368	1368		
Lodging in the field	342	342		
Conduction of participatory workshops	1140	1140		
Printing of socioecological board games	475	475		
Complementation of equipment for ethnographic work	649	649		
TOTAL	5000	5000		

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

Continue communicating research results in academic spaces.

11. 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?

In addition to the acknowledgements in the papers, the Rufford logo was used in our academic participation on workshop titled “New Approaches to the Participatory Steering and Evaluation of Complex Adaptive Systems” hosted by the Center for Evaluation of Complexity Across the Nexus, of Surrey University in Guildford, UK.

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

Activities	PhD Tlacaoel Rivera	MSc Riccardo Pavesi	PhD Luis García	PhD Erín Estrada	PhD Mariana Benítez	PhD Elena Lazos	PhD Amalia Gracia
Survey design and application	X		X	X		X	X
Mapping productive plots	X	X					
Agrifood ethnography	X			X		X	
Multivariate analysis of surveys	X		X		X		
Visualization and analysis of social networks	X		X		X		
Developing GIS		X					
Writing paper 1	X		X	X	X	X	X
Writing paper 2	X		X				
Designing board game	X	X	X				
Implementing game	X	X	X				
Developing collaborative action plan	X	X	X	X	X	X	X

13. Any other comments?

None.