

Final Evaluation Report

Your Details	
Full Name	Jenilee Maarit Montes Fontalvo
Project Title	Comparative study of Dragonflies diversity associated to ambients impacted for artisanal mining, with purpose to sensitize native families. Chocó-Colombia
Application ID	18676-2
Date of this Report	April 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
Inventory of dragonflies and macroinvertebrate populations.				This inventory was completed; however, it will always be updated as field trips are carried out in the area.
Protocol for community biomonitoring of aquatic environments.				A great advance was made in the standardisation of the monitoring protocol, but important technical information is still needed for the management of good criteria and analysis for its use. The standardisation of an index is planned, which to date has only been used in Africa, but which could be replicated in the long term in other environments.
Theory and Practice Workshops				Although the workshop was well received, the programme needs to be strengthened with more visits to the area.
Communication of the initiative and Papers				The importance of water care, monitoring and the importance of dragonflies was communicated to different populations, including the Tutunendo community, scientists, and decision makers.

2. Describe the three most important outcomes of your project.

a). The first result refers to the Quebrada la Piedra, one of the main water sources near the town of Tutunendo and a tributary of the great Tutunendo River, where aquatic macroinvertebrates and adult dragonflies are identified, which corresponds to the basis of the standardisation of the biomonitoring programme.

b). On the other hand, the first theoretical and practical workshops were held: "The Dragons of Tutunendo" aimed at young people where they identified the local problems and were trained in the techniques of water biomonitoring and identification of the associated fauna (macroinvertebrates, adult dragonflies).

c). Finally, the importance of these organisms and water conservation was communicated, the programme was presented in different scenarios, from the local level, through the community council, to entities that could be important allies in the future, such as the Pacific Research Institute IIAP and other universities.

More than learning, the awareness achieved by the community of Tutunendo related to water protection is our greatest success, in addition to developing a self-recognition as a factor that can alter the health of aquatic ecosystems.

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

The biggest problem that the project has had corresponds to situations related to the frequency of visits to the area, the project had two field trips and a workshop of several days, however, due to security problems first and then the pandemic events, trips to the area were affected. Unfortunately, Tutunendo is in an area where although it has already diminished it is still influenced by national violence.

In the ongoing nature of a biomonitoring project, this is a very important factor that must be taken into account, a scheme to prevent these events must be implemented. In order to solve this communication problem, a contact group was created via WhatsApp and a contingency agenda was organised to be carried out this year, where we will resume the programme with the help of the community and students, and we are also working on the presentation of the project to different entities related to local social and environmental development to get support for the continuity of the programme.

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

The main objective of the project is totally social, all the objectives are projected for the creation of a water conservation programme supported mainly by the work and knowledge of the community of Tutunendo, our main goal is to create a clear and continuous initiative to work with the community.

The Dragons of Tutunendo is the first community water biomonitoring project, which includes not only the knowledge of aquatic macroinvertebrates (widely used for this purpose) but innovates in the use of dragonflies in their adult stage. Adult dragonflies are easy to identify without being sacrificed and are important indicators. In addition, the area has a great richness in the diversity of this group of insects, which means that their knowledge could become in the long term a reason to be considered as flagship species of the locality, even of the Department of Chocó.

5. Are there any plans to continue this work?

This work is fully planned to be executed in the long term. Los Dragones de Tutunendo is a community biomonitoring project that hopes to create, standardise and maintain a programme of conservation and restoration of water systems. In the long term this initiative could be replicable in any other aquatic ecosystem. A very long term projection could consider the creation of a dragonfly network corresponding to the replication of this project in any country and type of aquatic environment. This idea has already been considered and presented in different working groups of conservationists in Latin America and has had a great acceptance.

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

The results of the project have been shared to different types of populations: to the scientific community through events and congresses in the Conservation Area, including the Rufford-Galapagos 2019 meeting and also the ICCB International congress for conservation Biology -Cartagena, Colombia 2017, and Aquatrop (Macrolatinos) Ecuador-2018 through the SOL Sociedad de Odonatologia Latinoamericana.

With the community council and other entities with which we want to generate alliances, the communication of the project was done through a descriptive and detailed report of the process. An explanatory and descriptive video of the process was also created as dissemination material, which has been used to communicate with these entities and the community.

The initiative has generated great interest, we received the invitation to communicate our experience in a book about dragonflies that will be published by the Universidad del Rosario of Colombia, also knowing our work, we were invited to participate in a chapter about Citizen science in the book: Dragonflies and damselflies: Model organisms for ecological and evolutionary research, Second Edition, (Oxford University Press) which is in the process of publication.

We are in the process of further evaluating ecological and conservation information to publish two articles on these two topics. We are currently generating an article on the inventory of dragonflies in Chocó where the information obtained in this process will be of great value.

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

The next important steps for the project are related to the standardisation of the monitoring methodology and the index for the identification of key organisms for biomonitoring in the locality, and which can possibly be extrapolated to other localities at national and international level.

This project is designed so that in the long term, localities can replicate this initiative, as well as create a communication network to support the development of all the particular initiatives.

In the short term it will be important to seek strategic allies for the implementation of the project, we will be doing the management to achieve support from local entities that can also ensure the operation and maintenance of the project as a local policy, for this we will be in meetings and talks with them.

With the community we will conduct a small workshop to resume communication with all the young people in the programme and the community council, for this we will also make a call for volunteers at the national level, in order to diversify the activities to be carried out and emphasise the interdisciplinary component.

On the research side, we will conduct a new field trip where we will continue to inventory the flagship species and standardise the sampling methodology.

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?

The project logo was used in all the events where the project was presented, as well as in the workshops where it was used in a printed banner, also the logo was used in the credits of the video where the project is presented.

The Rufford Foundation has been the main collaborator of this initiative, it is presented as the main support for the realisation of this idea, that is why it always has an important position in the credits of all the products and talks that have arisen. In the book on dragonflies soon to be published by the University of Rosario in Colombia, it is described how the foundation supported with two grants, the realisation of this community initiative.

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

Leon Perez: Biologist specialized in Odonata taxonomy; he helped in the identification of biological material.

Samuel Casseres: Environmental biologist, with experience in community management and environmental education, he is in charge of the creation of the workshop and outreach plan with the youth.

Aquiles Santodomingo: Psychologist with social emphasis, he is the specialist in social analysis and pedagogy used in the project.

Beatriz Carrillo: A student in her last semesters of Biology, she has been in charge of supporting the creation of all the documents and consolidation of the project's information.

Jhonfer Berrio: Biologist recently graduated from the Technological University of Chocó, through the analysis of the biodiversity of Phytoperiphyte he contributed to the information of the conservation status of the streams, he is also one of the local leaders who contributes to the realization of the workshops with the community.

Cristian Lemos: Biologist recently graduated from the Technological University of Chocó, through the analysis of the biodiversity of Phytoperiphyte he contributed to the information of the conservation status of the streams, he is also one of the local leaders who contributes to the realization of the workshops with the community.

Zuleyma Mosquera: Biologist and Director of the Limnology group at the Technological University of Chocó. She works in the analysis and identification of biological material.

Keyner Martinez: Audio-visual producer, contributes with the realization of the audio-visual material necessary for the communication of the project.

Janine Montes: Psychologist, provides advice for workshops and communication with the community.

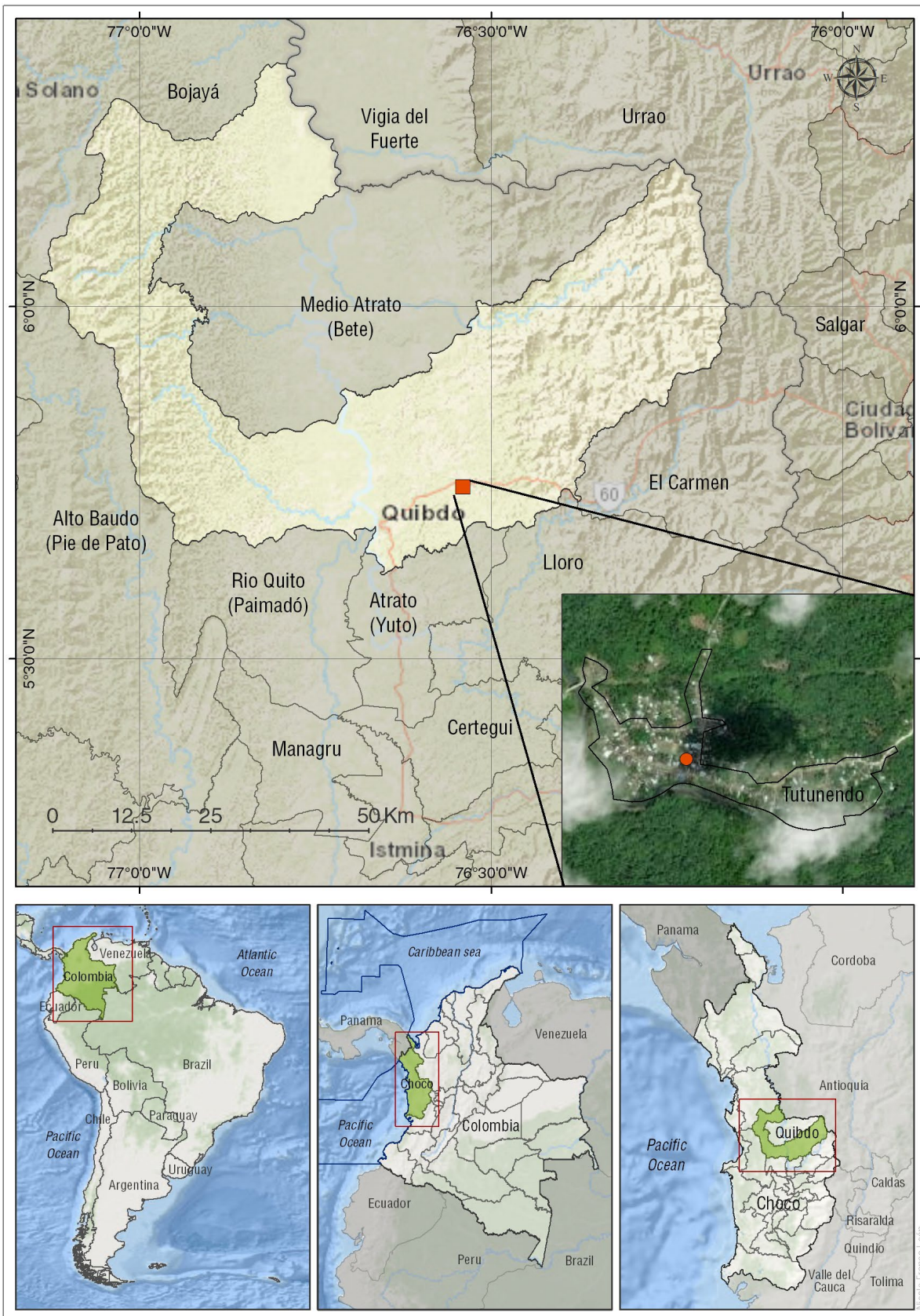
10. Any other comments?

Two important results that emerged with the project were:

1. The completion of the thesis entitled: ECOLOGICAL CHARACTERIZATION OF THE Phytoperiphyte COMMUNITY (CYANOBACTERIA AND MICROALGES) IN DIFFERENT SECTIONS OF A TROPICAL STREAM AFFECTED BY MINING, CORREGIMIENTO DE TUTUNENDO, CHOCÓ - COLOMBIA.

With the field work we were also able to collect the necessary information to carry out this analysis, where two biologists from the Technological University of Chocó graduated.

2. The project in this phase is linked to the initiatives supported by the Society of Latin American Odonatology, reinforcing through this the importance of these organisms as biomodels and bioindicators of conservation of aquatic environments.



Tutunendo Chocó Colombia Map.