Final Evaluation Report

Your Details	
Full Name	Clara Emilia Mosso
Project Title	Assessing impacts on ecosystem services provision and wildfire risk in the context of urban expansion and climate change in San Martín de los Andes, Argentina.
Application ID	30888-1
Date of this Report	August 31st, 2023

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 determine the spatiotemporal trends of urban expansion in San Martín de los Andes.			✓	This was achieved through the information gathered in participatory mapping activities with different stakeholders during the first trip to San Martín de los Andes (SMA).
To determine how the spatial patterns of urban expansion in this area affects water yield, sediment retention, and water purification in a climate change context.		✓		The mentioned spatio-temporal trends were analysed and translated into different scenarios of urban expansion through the information gathered from selected stakeholders during the second trip to SMA. These scenarios are currently being tested as inputs for the water yield and sediment retention ecosystem services provision models (InVEST). The water purification model was removed from the dissertation objectives as per the suggestion of my main academic advisor.
To determine how this spatial pattern, together with climate change trends, influence wildfire risk in the WUI of San Martín de los Andes.	✓			The objective of determining the influence of urban expansion patterns on wildfire risk was removed from the dissertation objectives as per the advice of my academic committee with the aim of reducing the complexity of the study and the required time to complete it.

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

a) Spatially explicit future urban expansion trends for the city of San Martín de los Andes. These were obtained from participatory mapping activities (first trip) that included multiple stakeholders: urban planners, forest planners, researchers, governmental agencies, neighbours, etc. These incorporate stakeholder's perceptions regarding past, current, and future urban expansion in the wildland-urban interface. These were a necessary input to define future urban development scenarios for San Martín de los Andes.

b) A ranking of perceived factors, social values, and social-ecological concerns that explain past, current, and future urban expansion trends in San Martín de los Andes. These were obtained from the qualitative analysis of the interviews

that were conducted during the participatory mapping activities with local stakeholders (first trip). Having this information organised is key to advance in the development of participatory methodologies with the potential or informing planning policies.

c) Spatially explicit urban development scenarios that were derived from the results of the participatory mapping activities conducted in the first trip and validated with key stakeholders during the second trip to San Martín de los Andes. These are inputs for InVEST's water yield and sediment retention ecosystem services models. In turn, these spatially explicit models allow the estimation of changes in the provision of the mentioned ecosystem services given different urbanisation scenarios.

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

This grant was awarded at the start of the Covid-19 pandemic. Therefore, this project was not exempt from the corresponding Covid-19 pandemic challenges, moreover since the funds were specifically requested to cover for international travel costs. This implied that both the dates and the objectives of the proposed trips to the study site had to be redefined multiple times. This was the main reason why none of the two trips were completed within the proposed schedule: the first trip to Argentina was only possible after November 2021. In addition, the economic stability of Argentina suffered a sounded fall after the award was granted and changes in the original plans were required to stay on budget. The forced delay in the execution of the planned trips made it difficult to establish solid partnerships with local institutions and agencies. Nonetheless, collaboration with individuals and small organizations was successful.

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

This project was developed with and for San Martín de los Andes' local communities. Through their participation in this project, local stakeholders had the opportunity to express their opinions and values regarding past, current, and future urban development trends in San Martín de los Andes. This was beneficial for participants because the elicited reflection on their current reality and foreseeable futures resulted empowering. The spatial component of this project is key in this last aspect: it explicitly shows that land use decisions' effects go beyond the resulting physical aspect of the terrain.

5. Are there any plans to continue this work?

Yes, since this work was only one part of my dissertation project. The next step involves evaluating the performance of the spatially explicit ecosystem services models used in this project given different input qualities.

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

Through the publication of scientific articles in peer-reviewed journals and presentations in different conferences and meetings. The next conference in which I will be presenting my work is ECOSERV 2023 (Poznan, Poland).

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

One crucial step is incorporating a transdisciplinary perspective to this study. This involves stablishing solid partnerships with local stakeholders and institutions. Achieving this last task often goes beyond the possibilities of graduate students on their own. The collaboration of academic institutions and NGOs is key to succeed in this endeavour.

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?

Yes, I used the Rufford Foundation logo in all materials produced so far in relation to the project. These include oral presentations and posters presented at different conferences.

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

Stephanie Kampf, main advisor

Clara Mosso, researcher

10. Any other comments?

No.