

The Rufford Small Grants Foundation

Final Report

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

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Carlos Zamorano-Elgueta
Project title	Restoration of temperate forests in the southern Chile: integrating ecological and socioeconomic variables.
RSG reference	9922-1
Reporting period	October 2011 – September 2012
Amount of grant	£6,000
Your email address	carlozamorano@hotmail.com
Date of this report	4th October 2012

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
1. Define priorities area for forest restoration.			X	
2. Define where successful restoration programmes can be implemented that address both ecological needs and the need to improve living conditions of rural communities.			X	Restoration experiences were developed with the active participation of the small landowners. This interest of the local communities supports the success of the activities.
3. Design and developed forest restoration programmes to increase their chances of success.			X	Restoration experiences were developed with the active participation of the small landowners. This interest of the local communities supports the success of the activities.
4. Reverse or mitigate the impacts of unsustainable land use practices.		X		It is necessary monitoring the restoration experiences in the medium and long term to evaluate its impact in the rural productive systems. However, in this year some small landowners changed partially productive activities as livestock to facilitate the recuperation of the forests.

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

We have had difficulties that have forced us to modify some of the original proposed methodology. The main problem was the inability to achieve ALOS image, because the institution that had offered their support finally was unable to meet its commitment. In such circumstances we decided to use a Landsat image. Given their lower spatial resolution (30 m) we decided to expand our work area to the total surface of the Costal Range of the Región

de los Ríos. We established plots of 500 m² and increase the intensity of sampling in forest ecosystems. Plots of 1,000 m² would not have allowed the establishment of an appropriate sample size in the time available

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

This initiative was developed in nine small properties in two rural communities in the Coastal Range of the southern of Chile (Futa and Lomas del Sol community, with a total restoration surface of 15 ha). The territory is characterised by high rates of loss and degradation of native forests, and for the support of the State to unsustainable production practices on a large scale by the characteristics of the territory (plantations of exotic forest species, livestock and agriculture). In this context was developed this project with the active participation of the rural families, and each restoration experience was implementing through a field protocol for an adequate monitoring of each restoration area. This information will allow us to maximize our learning of this unprecedented initiative in Chile. This learning will be essential to increase the restoration area both in these communities and in others, our next step in the future. Along with this, the proper systematisation of the information generated by this project and the monitoring of each restoration experience will allow us to disseminate the results through talks and technical and scientific publications.

After several visits and conversations with the rural families, spontaneously some small landowners changed partially productive activities as livestock and intensive firewood production to facilitate the recuperation of the forests. The commitment of local communities for the restoration of native forests, despite the importance of these activities in the local economy, demonstrates the interest of rural families in restoration activities. No doubt this is a consequence of their own motivation, but equally we believe that this commitment was generated by their active participation in all project activities.

This project is the first experience in Chile of forest restoration in rural communities that integrate the local conditions diversity and needs and interests of the rural families. This represents an opportunity to explore the potential of these initiatives to promote the interest of rural communities in conservation and restoration of forest through a "domino effect".

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

The local communities had an active participation in each stage and activity of the project. The importance of the local knowledge and the local needs in the project were very important to the communities, in a context characterised by the development of projects which do not integrate or value the local realities and local knowledge. Each restoration experience was carried out with the support of the communities. Planting activities were performed on sample plots with a combination of species, density and spacing defined *in*

situ through the dialogue with the small landowners and according to the characteristics of each site.

Training activities were conducted on different topics such as the role of forests beyond timber production and planting techniques of native forest species. Furthermore, in the visits carried out in each restoration area, the rural families were trained in the selection of appropriate species according to the characteristics of each site.

5. Are there any plans to continue this work?

Based on the results of this pilot project, we plan to continue implementing restoration programmes with small landowners on a larger scale. Moreover, we expect to increase the restoration surface in each property included in this report and to include others communities.

To continue implementing restoration experiences in the territory we need projects that integrate scientific and technical knowledge with the local interests and needs. The diffusion of these experiences and the growing interest of the rural communities in the forest restoration certainly will encourage to research centers, NGOs and government agencies to consider restoration as an alternative to mitigate and reverse the process of degradation of native forests, including local communities. In turn, this successful project allows us to create spaces for discussion and debate for restoration can be considered a relevant discipline to the recovery of forests ecosystems and the wellbeing of the society in general and of the rural families in particular.

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

Recently, I was invited to participate as a tutor in the second edition of the online course "Basis of ecological restoration", developed by the Fundación internacional para la restauración de ecosistemas (International Foundation for the ecosystems restoration, FIRE) of Spain, and the Instituto de Ecología (INECOL) and El Colegio de la Frontera Sur, both research centres from Mexico. In this edition, more than 54 researchers participate from different countries of North America, Central and South America. Is a very important opportunity to share the results of our project, which will be included as a case study. Also we are preparing two articles (one scientific and one technical article) to be submitted for publication shortly, and a graduate student (Engineering in Natural Resource Conservation, from the Universidad Austral de Chile) is doing his thesis in our project. Furthermore, we are participating in conferences both in Chile and in other countries, presenting the results of this project.

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

The support of the RSG was very important in each stage of the project, mainly in the implementation of our restoration experiences. Thus, with the funds of RSG was possible to buy plants and much of the materials needed to implement each of the restoration areas.

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
Transport (fuel)	900	1,500	600	Additional funds provided by INFOR (Instituto Forestal – Forest Institute, a government research agency)
Transport (rent)	2,000	3,000	1,000	Additional funds provided by INFOR
Materials (office)	270	270	0	
Materials (fieldwork)	300	300	0	
Materials (gps)	500	500	0	
Fieldwork (food)	1,200	2,000	800	Additional funds provided by NGO Forestales por el Desarrollo del Bosque Nativo (Forests engineer for the Native Forest development)
Fieldwork (workshops, interviews)	750	750	0	
Fieldwork (staff)	2,500	3,500	1,000	Additional funds provided by NGO Forestales por el Desarrollo del Bosque Nativo
Accommodation (Coastal Range)	500	500	0	
Restoration (plants)	5,100	5,100	0	
Restoration (fencing)	4,100	4,400	300	Additional funds provided by NGO Forestales por el Desarrollo del Bosque Nativo
Total	18,120	21,820	3,700	

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

The high interest of local communities in the restoration of native forest need be stimulated developing initiatives with active participation of the local people to restore critical ecosystems services. In this sense our project represents the first small step. In each restoration experiences we plan to develop the next activities:

- Monitoring of diversity species of flora and fauna.
- Evaluation of ecosystem services (erosion, biodiversity, water production).
- Production of plants in nursery of Futa community and construction of a nursery in Lomas del Sol community for future restoration activities.
- Training in seed collection and plant production.

For monitoring and evaluation of each of the restoration experiences will be measured annually the following variables:

- Species richness of flora.
- Forest cover.
- Dasometric variables. Basal area, DBH, height.
- Natural regeneration. Species, diameter and height.
- Presence of exotic species.

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

In the commitment letter signed with each small landowner we use this logo together with the logo of the others institutions participants. This letter has no legal significance, but it is important to clearly define the activities and duties and also is very respected by the landowners. Also we use the logo in each presentation of our results in several conferences.

11. Any other comments?

Just thanks for your confidence in our project and for your support to so many initiatives in different countries around the world.