Final Evaluation Report

Your Details	
Full Name	Mehari Girmay (PhD)
Project Title	Rehabilitation of rare and threatened species through capacitating and involvement of the local community in and around Hirmi Forest
Application ID	33352-B
Date of this Report	September 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
Capacity building on forest management and restoration				Training has been conducted for 220 local communities from May 16-19, 2023, on the following topics: • The concept of rehabilitation and forest conservation. • The overview and findings of the two projects in Hirmi forest ecosystem. • The role and responsibilities of the communities in the forest management and conservation. Raised points and conclusions: A number of actors have committed ecocide during the war, which has affected the environment besides to the community. Therefore, it is important to research the impacts of the war on the entire forest ecosystem and implement the necessary conservation measures.
Leading experience sharing and beehive distribution				20 householders who had been selected by the local leaders based on their contributions to forest conservation participated in a 1-day session and shared their suggestions on how to manage the forest in cooperation with local leaders and local experts. Each of these householders received a beehive.
Terracing and rehabilitation of the most degraded areas				Following to reconnaissance survey done on October 2023 on the study area about 1,000 ha of severely degraded area was selected and a GPS point has been taken. In late May 2023, the selected site has been terraced by mobilising the local community. Although it was intended to grow the targeted species in the nursery area

				of the Shire-Mai Tsebri Agricultural Research Center, the reality on the ground showed that a significant number of the ecosystem's species were extremely threatened by the war. Plantation was therefore not limited to the project's planned targeted species. Accordingly, more than 2,000 seedlings of 20 different plants (including the targeted species) that commonly grow in Hirmi forest was planted across 1,000 ha.

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

It is critical to weigh this project's outcomes from the perspectives of ecosystem outcomes, social outcomes, and scientific outcomes:

a). Ecosystem outcomes: The project has been endeavoured to enhance rare and threatened species accompanied by restoring the approximately 1,000 ha of degraded forest habitat.

b). Social outcomes: The project has been provided a capacity building training for the three districts in and around the study project. This trend also enables to share a leading experience among the community on forest management, conservation and sustainable utilisations. Besides, a beehive was given to each of the 20 householders who have demonstrated expertise in conservation and an interest in beekeeping farming. This will have important role in improving the social life as well as create a positive linkage between the community and the forest ecosystem.

c). Scientific outcomes: during the training session various experts from different level of the country has been participated. This enables to create a threshold in conducting associated research and conservation actions. Furthermore, an article (1, 2, 3) were published by acknowledging The Rufford Foundation.

As indicated on the item number 3, the projects have completed a variety of duties relating to ecological restoration, public awareness, and providing guidance on how decision makers might proceed to carry out sustainable conservation actions in their future plan. Hirmi forest is one of the potential forest areas to preserve both floral and animal biodiversity. However, before we've conducted a study, the regional and federal governments were not given the essential attention as intensely as they could have been. But in the most recent three study phases, which were carried out in partnership with RF, both the government and the scientific community have shown an interest. In addition, this study has revealed the presence of numerous wildlife species including leopard (*Panthera pardus*), bush pig (*Potamochoerus larvatus*), wild cat (*Felis silvestris*), jackal (*Canis aureus*), warthog (*Phacochoerus africanus*), baboons (*Papio* spp) and various kinds of birds inside the

forest ecosystem which allowing for further research by the relevant experts, researchers, and organisations.

In general, this project has been successful in achieving its goals of increasing public awareness, communities able to generate with income through beekeeping and daily employment and attracting the attention of scientists and conservation groups.

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

The dreadful security problem in northern Ethiopia has been a real and significant challenge for 2 years, in addition to the ordinary hardship location of the project in a remote place that makes transportation difficult. The project eventually fell behind schedule by more than 1 year. Although there are still issues with security, infrastructure, and community readiness at the moment, the current signal of peace in the area makes it possible to carry out the project. During our fieldwork, two security officers were provided by the government. As ecologist and long experience in research and fieldwork the faced obstacles were passed through creating a smooth relationship with community, local leaders and research centres.

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

The local communities have different attachment with forest ecosystem. They have their wisdoms on how to use material culture, medicine and other benefits from the study project. However, the level of understanding is not similar among the communities, districts and individuals. To fill this knowledge gap, a capacity building programme on the scope of sustainable use and conservation, the threat status of specific species, and the methods for generating money from the ecosystem has been offered. After that, 20 beehives were given out to 20 householders. About 220 local communities close to the forest areas participated in the capacity building session. Furthermore, 18 experts, labours and gardeners were assigned from the staring to the end of the project as per their profession.

During the rehabilitation, tracing and plantation the local leaders have been mobilise the local communities in the three districts surround to the forest. Besides, the field guide, guards and daily labourer also take part in this project. At all activities and phases of the project we've been attempting to provide a guidance to develop a sense of concern for the conservation and proper management of their natural resources in general, floral species in particular. Therefore, the community has been involved in this project either directly as labourer, behave farming and restoration or indirectly by raising their concerns at various points.

5. Are there any plans to continue this work?

Of course! The last work was focus on plant ecosystem and their rehabilitation. The reality on the ground, however, reveals that some rehabilitation efforts as well as the

studies on the wildlife component are required. There is therefore a strategy to continue working on these scopes.

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

This has been /will be done through:

Publications: we've been published a lot of works to scientific communities

- Soil seed bank study of Hirmi woodland vegetation: Implications for restoration and conservation of natural vegetation, in Tigray, Northern Ethiopia.
- Wild Edible plants study in a Dryland Ecosystem of Ethiopia.
- Use and management practices of medicinal plants in and around mixed woodland vegetation, Tigray Regional State, Northern Ethiopia.
- Ecological and Ethnomedicinal study in Hirmi Woodland Vegetation and the Surrounding Districts, Tigray Regional State, Northern Ethiopia.

The results of the project will also be presented in national and international conferences.

Through awareness training: The second method of disseminating the findings involved holding integrated and inclusive training or workshops for all communities and local experts because the majority of the rural communities lack internet access. The local authorities have agreed to hold formal and informal discussions regarding the outcome of my project, the situation of several threatened species, and overall ecosystem conservation.

Mainstream Medias: I got an opportunity to forward my findings and other experiences in different local medias of the country including FM Mekele, Addis Media network TV (https://www.youtube.com/watch?v=dLXo8yFUwxk&t=1435s), Ethiopian television (https://www.youtube.com/watch?v=m4XIpqbDUqg&t=208s), Fana broadcast corporate (https://www.youtube.com/watch?v=hg_w4Uixj8U&t=1198s).

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

In the first place, I would like to thank RF on behalf of my project and the local community for their assistance in carrying out the previous successful project. it is recalled that most recent studies concentrated on the restoration of plant ecosystems. Still there are some floral species which require similar conservation. A thorough ecological restoration will help to preserve both wild animals and vegetation. For long-term conservation, attention, and eventual designation as a national park, the animal component of the ecosystem and its relationship with the floral resource demand thorough investigation.

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 have used the Rufford Foundation logo as ground banner in the three training sessions. Besides, on the beehive distributed to the 20 householders the logo of the foundation was stick. I create profiles on social media and post any foundation developments there as well as promote my networks and colleagues.

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

Team	**Role**
Mehari Girmay (PhD candidate)	principal investigator
Yirga Gebretsadik	Botanical data collector and researcher
Sebsebe Demissew (Professor)	Supervisor
Tamrat Bekele (Assoc Professor)	Supervisor
Hagos Teklu	Field guide
Hailu Ezra	Botanist researcher
Lemlem Hadgu	Agricultural expert
Sihel Tsehaye	Local expert
Gebru Berhe	Local leader
Araya Godefay	Local leader
Hiluf Gidey	Field guide
Dejen Abrha	Field guide
Mulaw Hadush	Guard
Debes Zegeye	GIS expert
Adhanom Abadi	Daily labourer
Shugut Weldu	Daily labourer
Birhanu Legesse	Daily labourer
Abrha Belay	Daily labourer

10. Any other comments?

I greatly appreciate RF providing the funding necessary to complete this project. I also hope to be awarded to conduct further forest ecosystem conservation as well as to study animal wildlife.