

Final Evaluation Report

Your Details	
Full Name	Talemos Seta Shanka
Project Title	Ex-situ conservation of selected endemic and threatened plants in Gullele Botanic Garden, Addis Ababa, Ethiopia
Application ID	32347-2
Grant Amount	5856
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Date of this Report	11 Oct 2021

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
Garden preparation and establishment				Site clearing and preparation was fully conducted, and RED LIST theme established.
Collection of five selected threatened and endemic plants from different parts of the country for ex-situ conservation in the Gullele Botanic Garden				Two field trips planned for collection were successfully conducted. Plant materials for the five plant species were collected except <i>Polyscias farinosa</i> , which we failed to get either the plant itself or its materials in two successive field trips from its expected locations (needs urgent intervention at national level by the stakeholders).
Plant propagation				Seed propagation for <i>Acacia negrii</i> , <i>Rhus glutinosa</i> A. Rich. subsp. <i>glutinosa</i> <i>Maytenus harenensis</i> , propagation by cutting for <i>Commiphora monoica</i> , and uprooting some seedlings of the <i>Commiphora</i> sp., have been done.
Garden Care and Management				Continuous care, management and monitoring has been conducted for evaluation report.

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

The project activities have been conducted successfully except the fact that we were failed to collect one species as it was totally absent in the GPS located point. During our fieldwork, we have faced a lot of challenges such as transportation problems, walking for at most 6 hours on foot to find the targeted species, security problems in the collection areas, falling from trees. Even if we faced such challenges, the field trips were very exciting as we all are conservationists and ecologists from the botanic garden. The people who worked with me were highly committed for their responsibilities of collection.

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

a. Establishment of Red List Garden in the Gullele Botanic Garden so that species of this project were planted

Part of the Botanic Garden allocated for IUCN Red List theme was cleared and prepared (Fig. 1)



Fig. 1. Site clearance and preparation done for Red List Theme (Oct. 2020)

Separation of blocks was made in between each IUCN RED list Category (fig.2).

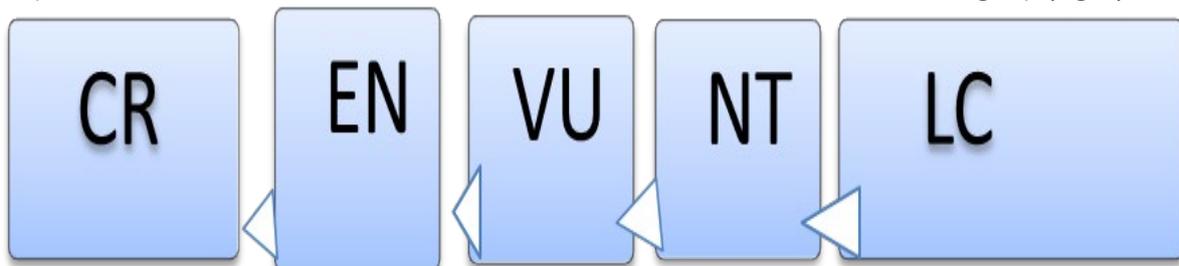


Fig.2. The order of planting philosophy in IUCN RED List Theme

b. Propagation of *Acacia negrii* has been done

After so many times of searching for it in at least three field trips (one field trip was conducted with other members for other collection activities of the botanic garden), only 17 seeds and two seedlings of *Acacia negrii* were collected from Chilimo forest and in the way from Addis Ababa to Ambo town. From the field in Chilimo forest, we collected the two seedlings from its population under the mother tree. The two seedlings were treated in the greenhouse for one month and planted in the IUCN Red List theme of the garden. After about 4 months of staying alive, the seedlings died even with frequent watering and management. The collected seeds were treated and sown in the pot and put in the controlled greenhouse. However, only 10 seeds were grown among the 17 seeds in the greenhouse may be due to

the dead embryo in the seeds of the tree. Therefore, only 10 seedlings are alive now and getting better and growing better in the greenhouse (Fig.3)



Fig.3. Seedling of Acacia in greenhouse

c. Successful propagation and growth of *Rhus glutinosa* in IUCN Red List theme

The seeds of this shrubby plant were collected from two different field trips (to Bale mountains National Park and Chilimo forest) (Fig 4a and 4b). Up to 10 seedlings and 10 kg of seeds of this plant were collected. Once seeds were collected, they were pre-treated with cold water, sown on the soil bed and many more seedlings were germinated. The germinated seedlings were transplanted to plastic pots of smaller size and put under the shade in the nursery. Tens of thousands of this plant has been propagated in the nursery so that the conservation status would be in a better condition in the garden.

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

Up to 10 local community members from the surroundings of Gullele Botanic Garden have been involved in this conservation project and benefited from it by getting daily wages to help their day-to-day livelihood. They have participated in site clearing and preparation for IUCN Red List establishment, plant material collections, seed and plant material propagation, soil bed preparation, pit preparation, shading construction, watering and weeding activities.



Fig.4a. Some of the seedlings of *Rhus glutinosa* planted and managed in the RED LIST THEME (photo captured: 15/7/2021)



Fig 4b. The seeds of *Rhus glutinosa* A. Rich. subsp. *glutinosa* (Feb. 2021)

5. Are there any plans to continue this work?

Yes, I have a plan to continue this work by including other threatened and endemic plant species of the country. From this project, one species, *Polyscias farinosa* which I failed to get will be added in the next project for further assessment to identify its conservation status. In addition to *Polyscias farinosa*, other tree and shrub species will be further collected, propagated and planted in the Red List Garden of the Gullele Botanic Garden and if possible Dilla University Botanic Garden, southern Ethiopia (lowland plant species). By using this ex-situ conservation method, we are increasing the plant diversity of the Gullele Botanic Garden in particular and in the country in general.

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

I have planned to share the results of this project by presentation to staff and other external bodies (international conferences), publishing it in international journals, preparing brochures and storing in ticket office to be given for both domestic and international tourists visiting the Gullele Botanic Garden.

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

I have used the grant as per the plan of this project, which is one year (August 2020-Sept 2021).

8. 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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Garden preparation	750	750		
First round plant collection	1586	1586		
Second round plant collection	1586	1586		
Travel cost for two fieldworks	470	470		
Equipment cost	100	100		
Propagation, care and management*	1000	1000		
Labelling, Description and Accessioning	85	85		
Administration cost (5%)	279	279		
Total	5856	5856		1£ = 48.9429 ETB

This project now is owned by the Botanic Garden, and garden care, management and monitoring are the regular activities of the Botanic Garden being done.

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

Garden care and maintenance (replacing the dead one) are among the important next steps to be considered. As conservation is one of the prime objectives of the botanic Garden, Gullele Botanic Garden will take care of this project as part of the regular activities.

10. 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?

I have used The Rufford Foundation logo during email communications with my friends and publicised it for the participants of the project and other bodies during the project work.

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

Dr. Talemoss Seta - project leader and involved in all activities of the project

Mr. Debela Daba - involved in the collection process with other duties and responsibilities.

Mr. Gudeta Chelchisa - involved in the collection, propagation and transplanting of seedlings

Ms. EHITE Degu - involved in the nursery activities

Ms. Abebech - involved in the Greenhouse activities

12. Any other comments?

I found that this project has supported the main role of the Gullele Botanic Garden with regard to conservation of endemic and threatened plants and such a project should be continued for the future. It encourages the ex-situ conservation of plant species selected for propagation. Supporting such a botanic garden means giving strong emphasis to conservation, climate change mitigation, soil and water erosion control etc.

I highly acknowledge The Rufford Foundation for the financial support of this project. I hope that the foundation would further support us to strengthen our conservation activities.