

## Final Project Evaluation Report

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Your Details	
<b>Full Name</b>	Ssemwanga Mohammed
<b>Project Title</b>	Assessing potential of Using Integrated-Ecological Management Systems in Rescuing, Regeneration, and Conservation of critically-endangered Bothriocline species
<b>Application ID</b>	25305-1
<b>Grant Amount</b>	£5000
<b>Email Address</b>	Ssemwanga Mohammed
<b>Date of this Report</b>	April 24 <sup>th</sup> , 2019

**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
Evaluating the current conservation status, spatial distribution and species richness of Bothriocline species				Baseline information on Bothriocline species conservation status collected. Indigenous knowledge on the species conservation, and ecosystems functions were collected from resident and stakeholder communities using open-ended questionnaires and key-informant interviews.
Identifying and ranking ecological threats to the Bothriocline species conservation				Human-use threats were arable farming, deforestation and grazing which destroy species protective vegetation cover within the sites. Natural threat was climate change.
Rescuing Bothriocline species from native ecosystems, regenerating species samples into mass seedling, and re-propagation for conservation				We spent a lot of time and resources trying to locate the existing species plant population. After persistent search in the known ecosystem with help of local farmers only two plants were located from within the native ecosystem which was positively identified by farmers and us.
Assessing species performance under different conservation management practices				We have rescued the species and multiplied into many seedlings using tissue culture techniques. The species performance under growth chamber (laboratory) and greenhouse conditions was assessed. But the growth performance in the natural environment under difference agronomic management systems has not been done due to limitation of funding.
Data analyses				Data for the species propagation in lab and greenhouse conditions analysed. No data from natural environment experiment is done.

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

At the beginning, all the activities were executed according to the planned schedules (timeframe) and budget. However, when it came to locating the species physical specimens from their known native locations and ecosystems, it was a very difficult task. This was because the main critically endangered target species (*Bothriocline auriculata*) was feared extinct. After conducting nine tedious and intensive eco-geographical surveys, two specimens were located not by the project team only but after good cooperation and involving of local farming communities with their leadership. This exercise was somehow costly and consumed unprecedented time. The persistence was due to the fact that success of the rest of the project activities and output were hinged on locating the target species which was already confirmed as critically endangered even by the IUCN.

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

- (a) Bothrine (*Bothriocline auriculata*) species baseline conservation status data collected and reported.
- (b) The existing *Bothriocline auriculata* species specimens rescued and regenerated into mass seedlings for propagation and conservation.
- (c) Manuscript drafted for publication in peer-review journal.

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

The team collaborated with six local farmers and three resident community foresters who guided the project team in surveying for the target species within the species known native habitats. Secondly the project team composed of two staff from the National Forestry Resources Research Institute (NaFORRI) and one student from Makerere University College of Agriculture and Environmental Science who supported in data collection.

**5. Are there any plans to continue this work?**

Due to limitations in the budget, the fourth objective was not fully executed, as planned. Yes, there are plans to continue with assessing the species growth performance beyond the laboratory and greenhouse conditions. Given the funds, we plan to first propagate the species in natural environment and assess its survival under natural weather and soil conditions. If successful, the species will further be conserved in-situ and ex-situ environments guided by the data got from the trials.

After accomplishing the aforementioned activities, we plan to first train the local communities (farmers and stakeholders) on how to conserve the Bothrine species and integrate it in the farming systems and conservation programs such as pharmacology and agroforestry. The community will be sensitised on the potential socio-economic opportunities to be exploited from conserving the species such as use of the species in landscaping, eco-tourism, botanical gardens and aesthetics among other conservation related activities. The training will be informed by the

scientific data collected during the species growth performance and conservation trials under the natural environment.

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

The results will be shared using existing formal and informal dissemination channels. The formal dissemination channels will include; mass media, seminars, community-based meeting and agro-training workshops during extension. The results will be published in form of reports and research summaries on the websites of the stakeholder institutions; National Environment Authority (NEMA), and National Forest Resources Research Institute (NaFORRI) as well as on the Makerere University repository. We are planning to draft a manuscript to be published in peer-reviewed journals under open access mode for the international conservation community.

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

The project activities ran from May 2018 to April 2019. Although the project planned for three solid objectives as describe in the Part 1 of this report, activities for the third objective were partially accomplished due to limitation of the budget, as the funds were finished as a big percentage went to the extra activities under the first objective. Therefore efforts have been made to make sure that the duration taken to execute the proposed project activities are in tandem with the planned scoop of activities, work plan and timeframe.

**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
Field Survey and Scouting of the plant species: Bothriocline plants species in native ecosystem	870	870		Spent as budgeted
Sample collection: Bothriocline plants and Soil Samples	250	1250	+1000	Spent due to demand in getting the species specimen
Indirect Research Costs incurred during projects (Stationary and air time)	540	540		Spent as budgeted
Equipment for experimentation of Bothriocline auriculata species	1140	1140		Additional funds from other activities for lab
Field travels costs (Fuel costs)	850	850		Balance transferred to

				cover soil lab analysis
Direct Research Costs during seedling production and laboratory analysis	1350	350	-1000	Money put to survey and collection of the species specimens
<b>TOTAL</b>	<b>5000</b>	<b>5000</b>		

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

The most important steps are to:

- a) Assess the growth performance of the new tissue culture seedlings obtained under this project under the natural environment conditions.
- b) Document the species data based on growth performance and suggest potential conservation interventions sites based on the experimental data.
- c) Train local stakeholders mainly farmers about the agronomy and conservation actions to be taken to restore the species populations.
- d) Sensitise the farmer community and conservation bodies about the potential conservation opportunities available when they conserve the species such as landscaping and aesthetics opportunities.
- e) Distribute the species seedlings to the stakeholder institutions including gene banks and recreation centres for ex-situ conservation.
- f) Train local farming communities for incorporation into their conservation programs and farming systems such as agroforestry and reforestation actions.
- g) Promote both ex-situ and in-situ conservation of the species in local government departments and public institutions such as planting the species in compounds of the schools, hospitals, botanical gardens and road sides etc.

**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?**

Yes, the Rufford Foundation logo was used on several occasions for publicity. For example, we put the Rufford logo the header and footer part of the questionnaires printed and used during community engagement activities. The foundation logo was also put on the banner displays during the community meeting held. In all instances, the logo was used to acknowledge the funds received from the Rufford Foundation.

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

<b>Name of Members</b>	<b>Affiliation</b>	<b>Duties and Responsibilities</b>
Ssemwanga Mohammed	Makerere University	Principal Investigator
Nalika Hady	Makerere University	Community mobilizer
Namukasa Harriet	NaFORRI/NEMA	Communication officer
Mutebi Siraj	LC chairman	Stakeholder mobilisation officer
Nakakawa N. Fionah	Makerere University	Data collection assistant
Sembatya Med	LC 1 leader	Community leader
Nakiguli Fatumah	Makerere University	Project manager

**12. Any other comments?**

The most important lesson we learnt was that, in searching for any critically endangered plant species, involvement of local farming communities and leadership is very important and should never be underestimated. And the prerequisite financial resources to cover the participants' per diem and transport should be planned for in advance as well as allocating enough time for scouting the species specimens in the native ecosystem. Future projects which do not account for the community involvement in species account, should do it at their own peril.

Nonetheless, we acknowledge support from the Rufford Foundation. As the Principle Investigator, I am very thankful of the prestigious grant support from the foundation.