

The Rufford Foundation Final Report

Congratulations on the completion of your project that was supported by The Rufford 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	Dassou Gbèwonmèdéa Hospice
Project title	Assessing ecological status, threats and conservation of <i>Ipomoea beninensis</i> , an endemic plant species in Benin
RSG reference	20742-1
Reporting period	November 2016- November 2017
Amount of grant	£4965
Your email address	daspice2@gmail.com
Date of this report	6 November 2017

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
Assess the distribution and abundance of <i>Ipomoea beninensis</i> in its distributional area				<p>A total of 46 occurrences (of which five formerly recorded by Global Biodiversity Information Facilities, GBIF) belonging to seven localities, six towns, four phytogeographical districts, two regions (centre and north) of Benin and situating between 9°2' and 11° north latitudes in Sudanian and Guineo-Sudanian zones were recorded. Among the five occurrences of GBIF, three are already extinct.</p> <p>As regard population structure of the species, a total of 187 individuals were found in the seven localities. I considered that mature individuals are those having flowering during flowering period of the species. Thus, the percentage of mature plant populations was higher than sapling/seedling populations in all the sites except in Tantoukou and Servessi that housed largest sapling (70 and 55 respectively) populations. In other hand, largest seedling (10) populations were recorded at Servessi while no sapling was found in four sites namely Moussitingou, Ourarou, Tantoukou and Pessegou.</p>
Assess the socioeconomic importance and subsequent impacts of use on the species				<p>Four local names, two use categories, 12 uses were identified. Results are that local knowledge of <i>Ipomoea beninensis</i> is diversified and influenced by ethnic groups, gender, age category, profession and instruction level. It is used as forage and particularly as medicine plant; some different ethnic groups share similar ideas regarding uses.</p> <p>It should very important to evaluating</p>

			effectiveness role of the species in the treatment of different pathologies. Totality of respondents stated that the population of <i>I. Beninensis</i> has declined in recent times both in abundance and in distribution. Vulnerability Index revealed that plant is very vulnerable as regard its uses in study area.
Initiate a community based program for a sustainable conservation of the species in its distributional area in Benin.			We created a conservation programme involving users of the species, farmers, pupils, students, teachers, local conservationists (garden owners of study area), foresters, and Green Power NGO.

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

Major difficulty is relevant to the unavailability of the species due to vegetation fire during the first stage of the prospection. In addition, we noticed many occurrences of the species indicated by Global Biodiversity Information Facilities (GBIF) were converted in farmlands.

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

The three most important outcomes are:

- **Distribution and abundance:** the main area of *I. beninensis* is highlighted and extends between 9°2' and 11° North latitudes in sudanian and guineosudanian zones (Figure 2). It includes 6 towns (N'Dali, Pèrèrè, Tanguiéta, Djougou, Natitingou, and Toukountouna). Larger centre of occurrence is present in locality of



Figure 1: Distribution map of *I. beninensis* in Benin. Photo 1: *I. beninensis* in cotton farm land

Moussitingou (Toukountouna town) on the Atacora chain with a density of 112 stems. Density values in other localities were very small. *I. beninensis* is found in natural habitats (wooded savannah and clear forest) and anthropogenic habitats (farmlands and fallows) (Photo 1).

- **Socioeconomic importance and subsequent impacts of use:** A total of 12 uses were reported by the population of the study area including medicine (83%) and fodder (17%). The most recurrently reported were the treatment of varicella (19%) and of malaria (18%), the fodder (17%) and the treatment of fever (15%). Results from chi² test showed high significant dependence between uses and ethnic groups (X-squared = 194.47, df = 55, p-value < 2.2e-16). With regard to the plant parts used for uses, local people mostly harvested leaves (88%) followed by roots (12%). Totality (100%) of respondents stated that the population of *I. beninensis* has declined in recent times both in abundance and in distribution. The factors purportedly responsible for this decline were anthropogenic (agriculture, felling for the preparation of traditional drugs, grazing and urbanisation) and natural (climate change). Agricultural factors contributing towards the decline included the destruction of natural habitats for conversion into cultivated land and by burning, ringbarking and removing *I. beninensis* seedlings and saplings during farming activities. All of the informants interviewed reported species is not conserved in its distributional area.

- **Community based programme for a sustainable conservation:** sensitisation of 300 farmers (including users) and 12 selected schools in the six towns in distribution area (Djougou, Natitingou, Tanguiéta, Toukountouna, N'Dali and Pèrèrè). They did not know *Ipomoea beninensis* as endemic plant species. I created in each locality two pupil groups (a total of 24) were established for relaying education information about conservation of the species. I specially organised scientific workshop for the students of Abomey-Calavi University. Theme of the day was conservation actions about *Ipomoea beninensis* Akoègninou, Lisowski & Sinsin (Convolvulaceae), an endemic plant in Benin. We defined with the populations in the field following actions: 1) introduction of the species in gardens, 2) control of vegetation fire, 3) safeguard of the individuals in farmlands, etc.

- **Other outcomes:** First dataset on users, ethnobotanical survey, and phytosociological inventory about *Ipomoea beninensis* in Benin. This has been submitted to Library of National Herbarium of Benin by completing database building on useful plant species in Benin; A draft (in reading by referees) of which the title is 'Local knowledge and ecological niche modelling under current and future climate about *Ipomoea beninensis* Akoègninou, Lisowski & Sinsin (Convolvulaceae), an endemic plant species in Benin: implications for its conservation '' was edited; During investigations, collaborations were established with two private garden owners for introducing of the species.

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

The people of six towns were very grateful for the opportunity to participate in this project. During focus group uses of the species gathered were shared to public awaiting the confirmation of their efficacy. Totality of local communities involved in this project was ignorant of the endemicity of *I. beninensis*. Henceforth, they consider it as native plant to be protected. Due to its endemicity, many localities call to join my team in order to knowing about of the species and to contribute to its conservation.

5. Are there any plans to continue this work?

Yes, there are plans to continue this project. We dispose monitoring tools in the sites that occur the species. Firstly, one inspection committee (two farmers) per locality was implemented for the monitoring of the populations. Secondly, most of not selected peoples (school head teachers and local communities) were informed and they called me in order that I integrate their school and their localities in the implementation of next stage of the project. In addition, many other aspects as viability of populations, spatio-temporal dynamics in vegetation cover, fire effect on regeneration, biological and morphological traits of the species, education about good harvesting practices, etc. deserve to be studied for contributing to the long term conservation of the species.

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

I already presented preliminary results to the students of Abomey-Calavi University. I would also hold a meeting with the local leaders, not-selected school head teachers, and other NGO. Soon, results will be submitted as scientific publication.

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

Provided calenderer during subvention request has been respected with small lateness (1 month) because of agreement and late of found procurement. Fieldwork begun in November 2016 and finished in October 2017.

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. 1 £ sterling = 4.44 Nuevo Sol

Item	Budgeted Amount	Actual Amount	Difference	Comments
Two-ways travel to the field	500	500	0	
Motor-bike rental	700	700	0	

Fuel for motor-bike	650	650	0	
Assistant for field inventory	680	680	0	
Guide/Interpreter (Ethnobotanical survey)	375	375	0	
Ecological inventory and surveys sheets production and photocopying	198	198	0	
Papers, pens, CD, external hard disk of 500 GB, memory stick	152	152	0	
Farmers sensitization (return travel for farmers)	600	600	0	
Teachers and school kids sensitization	660	660	0	
Outputs dissemination to local organizations in conservation (workshop and pamphlet edition)	450	450	0	
Totals	4965	4965	0	

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

Soon, we would like to:

- Study viability of populations of the species.
- Analyse spatio-temporal dynamics in vegetation cover in its distribution area.
- Assess fire effect on its regeneration.
- Study its biological and morphological traits.
- Multiply in vitro the species through the micro-propagation technique in order to restore extinct sites.
- Initiate education about good harvesting practices.
- Continue sensitization about its endemicity, sustainable use, conservation in all localities of the distribution area.

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

- The RF Logo was used in many instances: PowerPoint presentation, pamphlets, posters etc.
- Yes, the RF received publicity directed to students, teachers, foresters, NGOs, etc.

11. Any other comments?

I would like to extend my gratitude to the Rufford Small Grants Programme which has helped me collect first data about *Ipomoea beninensis*, an endemic plant neglected by the science since its description in 2003. The foundation has also helped me reinforce my interest in plant conservation, above all those rare, endemic, and threatened.



Left: Occurrences recorded. Right: Vegetation study.



Left: Ethnobotanical interview. Right: School education about *Ipomoea beninensis*.



Left: Oral presentation about conservation. Right: Participants showing banner.