

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. 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. 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	Philippe BAYEN
Project title	Local population involvement in threatened species conservation and ecosystem restoration in Sahel zone of Burkina Faso
RSG reference	15090-1
Reporting period	June 2014-June 2015
Amount of grant	£5758
Your email address	phbayen@yahoo.fr
Date of this report	

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
Study the population status and structure of six local woody species			Yes	The interviews were carried out in two village (Dangadé and Yakouta). Many woody species were listed as threatened by local population. In each village the three main social economic important threatened woody species have been chosen for demographic characteristics studies (<i>Adansonia digitata</i> , <i>Ziziphus mauritiana</i> and <i>Khaya senegalensis</i> for Dangadé village; <i>Adansonia digitata</i> , <i>Anogeissus leiocarpa</i> and <i>Tamarindus indica</i> for Yakouta village).
Record local knowledge on woody species			Yes	The results of the interviews with local population shows many social and economic important woody species that were classified into (food, fodder, construction and medicine).
Identifying socio-economically important woody species that are rare, declining and/or in need of conservation		Yes		The results of interviews revealed that more than 90% of the woody species listed by the local population are rare, declining and/or in need of conservation. In the two villages the main social economic woody species that are perceived as rare, declining and/or in need of conservation are: <i>Adansonia digitata</i> , <i>Ziziphus mauritiana</i> , <i>Anogeissus leiocarpa</i> , <i>Tamarindus indica</i> , <i>Khaya senegalensis</i> , <i>Boscia senegalensis</i> , <i>Acacia albida</i> , <i>Disopyros mespiliformis</i> , <i>Mytraguna inermis</i> and <i>Pterocarpus lucens</i> .
Organising threatened species plantation campaigns using the best restoration techniques adapted to the Sahel zone conditions		Yes		This objective was achieved with the campaigns undertaken through this project. However, the results of this objective need to be evaluated during a long period and this could be done by another project or permanent educational activities and awareness campaigns.

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

	Problems encountered	Solutions used
1	The ethnobotanical interviews coincide with farming activities and the most of the people go to their fields.	We have re-joined some people in their fields for the ethnobotanical interviews.
2	We have planned to plant six trees species (three species in each village) but when we have received the grant in June it was not the period of seeds collection in the Sahel.	We have bought seeds at the “national center of forester seeds” (in French Centre National de Semences Forestières: CNSF). The seeds of the main social economic important species (<i>Adansonia digitata</i> , <i>Ziziphus mauritiana</i> , <i>Anogeisssus leiocarpa</i> , <i>Tamarindus indica</i> , <i>Khaya senegalensis</i> , <i>Boscia senegalensis</i>) were not available. Then we have bought seeds of <i>Adansonia digitata</i> , <i>Ziziphus mauritiana</i> and <i>Acacia Senegal</i> for seedlings production.
3	Some difficulties in ethnobotanical interviews because some people in the two villages were not fervent	Implication of local association’s leaders after having explained the aim of the research.
4	Seedlings plantation in these two villages was more difficult than we expected. Animals divagation constitute a serious problem for seedling survival	Each seedling was then protected and a field assistant was recruited and paid in each village to facilitate seedlings protection.

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

The three most important outcomes of our project were:

- a- Main woody species of social economic importance and their domains of utilisation (forage, food, wood, medicine, soil fertilisation, shade) are listed in the two villages that were considered in this study;
- b- A list of the main threatened woody species of the two villages was established. The following species were considered threatened: *Adansonia digitata*, *Ziziphus mauritiana*, *Anogeisssus leiocarpa*, *Tamarindus indica*, *Khaya senegalensis*, *Boscia senegalensis*, *Acacia albida*, *Disopyros mespiliformis*, *Myraguna inermis* and *Pterocarpus lucens*.
- c- The causes of species decline were recorded. In priority order the causes of species decline are: (i) bad pluviometry; (ii) wood cutting; (iii) climate change
- d- The restoration tests started in 2014 in all study sites. The tested techniques are: half-moon and subsoiling. Three trees species (*Adansonia digitata*, *Ziziphus mauritiana* and *Acacia senegal*) were planted last year (2014) in Dangadé and Yakouta villages combining half-moon and subsoiling techniques. A total of 480 seedlings (240 seedlings in Dangadé site and 240 in Yakouta site) of *Adansonia digitata*, *Ziziphus mauritiana* and *Acacia senegal* have been planted. All the seedlings have been protected against animals.

Tree species planted for degraded land restoration:

Study areas	Tree species	Half-moon	Subsoiling	Total number
Dangadé	<i>Adansonia digitata</i>	40	40	80
Dangadé	<i>Ziziphus mauritiana</i>	40	40	80
Dangadé	<i>Acacia senegal</i>	40	40	80
Yakouta	<i>Adansonia digitata</i>	40	40	80
Yakouta	<i>Ziziphus mauritiana</i>	40	40	80
Yakouta	<i>Acacia senegal</i>	40	40	80
TOTAL				480 seedlings

NB: To date, the seedlings have established and are growing well but some of them were died due to the drought.

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

The awareness campaign on seedling production in nursery and plantation was done with the representative persons of each village. During the plantation the previously trained persons were used as technicians in order to make in practice what they learnt during the awareness campaign. The representative persons of each village really understand the goal of the project and really contributed to it achievement. The representative persons of each village acquired knowledge on trees planted and the expected benefits of degraded land restoration.

5. Are there any plans to continue this work?

It is necessarily important to continue this work by extending the study to another social economic important species and also extending the study area. For the best restoration technique used selection there is need to have a long term monitoring of planted species growth parameters (survival rate, height and diameter growth). It is also important to monitor the planted trees through dendrometrical characteristics measurement. This will allow to determine the impact of restoration techniques used (half-moon and subsoiling) on seedlings growth parameters. An assessment of restoration techniques used (half-moon and subsoiling) on biodiversity and the quantity of fodder production are also important. It is extremely important to repeat interviews in many villages of the Sahel of Burkina Faso in order to have a complete list of threatened woody species.

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

We plan to share the results of our work with others through publications. One scientific publication is already planned: *“Perception, usage and structure of woody species in Sahelian zone of Burkina Faso”* in preparation and is intended to be submitted to *Ethnobotanical Research & Application*. We also plan to make poster and factsheets on seedlings production in nursery and the best restoration techniques for local communities’ leaders, NGO and foresters in the area covered by the project. During the awareness campaign on seedlings production in nursery results on main threatened species have been shared with local population. In addition, the findings will be used to develop policy documents that will contribute to inform decision-makers on threatened and declining species in the two villages (Dangadé and Yakouta) of Sahel.

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

The project was executed from June 2014 to June 2015. It is extremely important to repeat interviews in many villages of the Sahel of Burkina Faso in order to have a complete list of threatened woody species.

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
I-Equipment	2284			
Digital photo camera canon + Macro Lens (65 mm) + bag + tripod + automatic shutter release and supplementary batteries	400	385	+£15	Field equipment's material were less expensive than planned.
Digital photo camera sony	375	370	+£5	
Sunto clinometer + compass + secateurs + topsoil	225	225		
GPS garminEdge 605 (12ref.)...	72	72		
Arbonnier:(Arbonnier, M. 2002. Arbres,arbustes et lianes des zones sèches d'Afrique de l'Ouest. CIRAD - MNHN – UICN, Montpellier.	72	72		
Adventrop : Les adventices d'Afrique soudano-sahelienne.	310	300	+£10	
Office equipment and communication (Printer, USB, Rams, Internet, Telephone...)	330	330		Office equipment were less expensive than planned.
Specimens collecting + Herbarium materials and conservation material	500	475	+£25	
Laptop computer				The laptop computer paid was a bit less expensive than planned.
Data analysis and software				

II- Allocations for local team /Accommodation	500			
(Local guides and technicians) Accommodation in inn during field trip also generated the gap	500	525	-£25	During restoration techniques realisation for seedlings plantation, fields' assistants were recruited and paid daily. More field assistants were needed than expected. Accommodation in guest houses during field trip also generated the gap.
III- Transport and consumable	1225			
Motorbike reparations, external hard drive for data storage	250	290	-£40	The difference is due to under budget estimation.
Transport from the university to the study areas	150	135	+£15	
Fuel for field trips	475	475		
Awareness campaign in villages	350	370	-£20	
IV – Other activities	1650			
Bulldozer or tractor allowance for restoration techniques digging	300	280	+£20	
Seedling production for restoration activities	700	700		
Seedlings transport for plantation	150	175	-£25	
Report back workshop	400	350	+£50	
Correspondences	100	100		Tractor allowance was less expensive than we planned.
VII- Unforeseen	100			
Hospital costs and medicine for a guide after an accident	100		+£100	
Seeds purchase and seedlings protection against animals		130	-£130	This money was used to repair purchase seeds, material (polythene plastic pots, dung) for seedlings production and paid a technician for seedlings watering before plantation. We have also bought plastic grilling for seedlings protection.
TOTAL	£5758	£5758	£0	

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

The important next steps are:

- (i) Continue the monitoring of the planted trees;
- (ii) To study up to 10 social economic important species structure in order to determine if there are in accordance with local communities' perception;
- (iii) To use the experimental restoration sites as education sites for local people in the study areas and in the others villages;
- (iv) To make germination test on up to 10 social economic important species in order to determine the seeds viability of these species. This could help to determine the causes of the decline 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?

Not yet. The RSGF logo will be used in our oral presentation and posters during conferences in order to indicate the funding institution. The RSGF logo has been used during the awareness campaign. I also advertised RSG to my colleagues in my institution and motivated some of them who submitted proposal for funding to the foundation.

11. Any other comments?

I would like to express my sincerely gratitude to the RSGF for supporting our efforts in conservation of the main social economic important woody species of these two villages (Dangadé and Yakouta). We are looking forward to apply for a second Rufford Grant in order to continue this work on local population awareness on natural resources management and threatened species rehabilitation. All the purchased equipment will be used for the second phase if attributed. We are grateful to the local population who helped in the degraded lands restoration. We have learned a lot of thing from this project on the main social important woody species that are threatened.