

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	François Wenemi KAGAMBEGA
	Restoration of degraded land in northern Burkina Faso: best
Project title	practices to re-establish vegetation, biodiversity and related
	ecosystem functions and services
RSG reference	15686-1
Reporting period	May 2015 – May 2016
Amount of grant	£4991
Your email address	wenemifrancois@yahoo.fr
Date of this report	May 23 rd , 2016



1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

	Not	Partially	Fully	
Objective	achieved	achieved	achieved	Comments
Choose appropriate sites for experiment to restore vegetation and related ecosystem functions and services.			Not fully achieved. However, over 1000 seedlings planted in the two sites	Afforestation was done as planned. Five tree species were planted on the two chosen sites (Ouahigouya and Kaya) that were severely degraded in combination with three restoration techniques (half-moons, zaï system and deep-ploughing). The species include Faidherbia albida, Acacia senegal, Jatropha curcas, Combretum micranthum and Acacia nilotica.
Identify relevant stakeholders both locally and regionally to help in the development and implementation of local action plans			Yes	Our project received an invaluable cooperation and inclusion of the county commissioner through the head of environmental at Ouahigouya and Kaya. Six stakeholders both in Ouahigouya and Kaya and outstanding pioneers in ecological restoration were identified. We are also work with more local user groups and local business women and men in the study area.
Build the capacity of the stakeholders through forums, meetings and training on the need for the prioritised conservation		Yes		Two workshops and training were conducted to examine issues of landscape management, natural resource conservation and agroforestry practices in the study area. Subsequently, strategies aimed at encouraging behavioural



initiatives.		change towards better
		landscape management,
		natural resources
		conservation and best
		management practices.
Determine the	Yes	We involve the local
influence of		community especially schools
restored		in biodiversity survey. Baseline
landscape on		data on abundance of
the composition		biodiversity in an older
and abundance		restoration sites located at
of biodiversity		Gourga (Ouahigouya),
		belonging to Yacouba
		Sawadogo (an outstanding
		pioneer in ecological
		restoration).
		In the newly established
		restoration sites, biodiversity
		data was collected prior to
		the afforestation and
		reforestation. Data to
		determine the influence of
		the restored landscape on
		abiotic and biotic parameters
		is yet to be collected
		because of the slow nature of
		growth of the trees. These
		data will be collected at a
		later date when the trees are
		older and have fully
		established
landscape on the composition and abundance of biodiversity		data on abundance o biodiversity in an olde restoration sites located a Gourga (Ouahigouya) belonging to Yacoubo Sawadogo (an outstanding pioneer in ecological restoration). In the newly established restoration sites, biodiversity data was collected prior to the afforestation and reforestation. Data to determine the influence o the restored landscape or abiotic and biotic parameter is yet to be collected because of the slow nature o growth of the trees. These data will be collected at o later date when the trees are older and have fully established

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

	Unforeseen difficulties	Solutions
1	The long dry spells often	This problem was addressed through manual
	experienced in northern Burkina	irrigation using watering cans.
	Faso made it difficult for the tree	
	seedlings to establish quickly	
	even though the seedlings were	



	planted during the rainy season.	
2	Seedlings plantation in the two	Each seedling was then protected by fence
	studies sites was more difficult	and a field assistant was recruited and paid
	than we expected. Animals	in each village to facilitate seedlings
	divagation constitute a serious	protection.
	problem for seedling survival	
3	Many difficulties were noted in	Implication of local associations' leaders after
	local population involvement	having explained them the aim of the
	because some of them were not	research.
	fervent	
4	Most of the local community	Fortunately, their demands were
	members who took part in the	accommodated by the project.
	project demanded for fast-	
	growing tree species that are	
	not indigenous to the area.	

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

First outcome: <u>Afforestation/Reforestation done</u>

Seedlings of Five tree species, namely Faidherbia albida, Acacia senegal, Jatropha curcas, Combretum micranthum and Acacia nilotica, were planted in the newly restored sites of the project at Ouahigouya and Kaya. Seedlings were planted in combination with three restoration techniques (half-moons, zaï system and deepploughing) in pits measuring approximately 50cm x 50cm (diameter by depth). These pits were dug and filled with topsoil. Pit spacing was 3 m apart. The seedlings and the numbers planted are shown in the table below.

Tree species planted in each restoration site at Ouahigouya and Kaya

SN	Tree species	Number planted
1	Faidherbia albida	90
2	Acacia senegal	90
3	Jatropha curcas	100
4	Combretum micranthum	100
5	Acacia nilotica	90

To date, the seedlings have established and are growing well. Seedling planting was accomplished in collaboration with local communities and stakeholders. The seedlings have established and are growing well but some of them were died due to the drought.

An additional 1000 seedlings of Zizuphus mauritiana and Mangifera indica have been acquired and will be planted during the coming rainy season.



Second outcome: <u>Natural resources conservation by the study area communities</u> <u>practised</u>

The awareness campaign on seedling production in nursery and plantation was done with the representative persons of each site. The 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. Natural resources conservation practices such as tree planting by implementing the three restoration practise (half-moons, zaï system and deepploughing) and dry land conservation, are now being practised in the project area due in part to activities that were initiated during the project.

Third outcome: <u>Baseline information on biodiversity of an older restoration site</u> <u>collected and analysed</u>

Since long-time analyses of restoration will not be possible within the planned project period, we have also included an older restoration sites in order to analyse patterns of success. Baseline data on biodiversity in the restoration site of Yacouba Sawadogo (over 40 years older site at Ouahigouya) including avifauna diversity and flora diversity was captured in the project. These data are very important in determining whether the afforestation/reforestation influenced abiotic and biotic diversity on the restored landscape, when additional data are collected at a later date.

 Below is a list of tree species identified during the monitoring events in the older restoration' site:

 Species name
 Family (APG III)

Species name	Family (APG III)
Faidherbia albida	Fabaceae
Acacia ataxacantha	Fabaceae
Acacia laeta	Fabaceae
Acacia senegal	Fabaceae
Adansonia digitata	Malvaceae
Anogeissus leiocarpus	Combretaceae
Acacia macrostachya	Fabaceae
Acacia nilotica	Fabaceae
Acacia pennata	Fabaceae
Acacia seyal	Fabaceae
Azadirachta indica	Meliaceae
Balanites aegyptiaca	Zygophyllaceae
Bombax costatum	Malvaceae
Combretum aculeatum	Combretaceae
Cadaba farinosa	Capparaceae
Capparis corymbosa	Capparaceae



Combretum ghazalense	Combretaceae
Combretum glutinosum	Combretaceae
Combretum micranthum	Combretaceae
Combretum nigricans	Combretaceae
Commiphora africana	Burseraceae
Cassia sieberana	Fabaceae
Dalbergia melanoxylon	Fabaceae
Dichrostachys cinera	Fabaceae
Diospyros mespiliformis	Ebenaceae
Feretia apodanthera	Rubiaceae
Gardenia sokotensis	Rubiaceae
Gardenia ternifolia	Rubiaceae
Grewia bicolor	Malvaceae
Grewia flavescens	Malvaceae
Grewia mollis	Malvaceae
Grewia tenax	Malvaceae
Guiera senegalensis	Combretaceae
Vitellaria paradoxa	Sapotaceae
Khaya senegalensis	Meliaceae
Lannea acida	Anacardiaceae
Lannea microcarpa	Anacardiaceae
Lonchocarpus laxiflorus	Fabaceae
Maerua angolensis	Capparaceae
Maerua crassifolia	Capparaceae
Mitragyna inermis	Rubiaceae
Parkia biglobosa	Fabaceae
Piliostigma reticulatum	Fabaceae
Piliostigma thonningii	Fabaceae
Pterocarpus lucens	Fabaceae
Sclerocarya birrea	Anacardiaceae
Saba senegalensis	Apocynaceae
Sterculia setigera	Malvaceae
Stereospermum kunthianum	Bignoniaceae
Flueggea virosa	Euphorbiaceae
Tacazzea apiculata	Apocynaceae
Tamarindus indica	Fabaceae
Vitex diversifolia	Verbenaceae
Zizphus mauritiana	Rhamnaceae

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

The local communities were involved in the following ways:



a) The awareness campaign on seedling production in nursery and plantation was done with the representative persons of each site and local stakeholders. 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 site 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.

b) Tree planting involved the local communities, who acquired knowledge and skills on tree planting, and the expected benefits of reforestation and afforestation.

c) Maintenance of the planted trees, including watering/irrigation, slashing, and creating fire hazards for protection, was the role of local communities. This was to ensure ownership of the project among the communities and encourage active participation of the communities.

5. Are there any plans to continue this work?

There are plans to continue this work:

- First, it is necessarily important to extend the study to another social economic important. The area under afforestation in northern Burkina Faso will be expanded and widened to include additional provinces from the project area.

- Second, a long term monitoring of planted species growth parameters (survival rate, height and diameter growth) in needed to assess the impact of the used restoration practises. An assessment of the impacts of the restored ecosystem on the biodiversity of degraded land in the study area will be made. This will be done as the trees establish to a suitable size.

- Third, there are plans to conduct interviews with local people in the restoration areas to obtain information on restoration success factors, impact on human livelihoods and ecosystems/conservation aspects.

- Fourth, awareness campaign of local communities will be a continual process which will continue over time.

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

Reports and data from the project will be shared with representatives of all the partners that were involved in the project.



In addition, the findings will be made available with the scientific publication and concrete recommendations will be formulated for government agencies. This will contribute to inform decision-making processes when conducting a similar project in other areas.

Radio talk shows will also be used as these have a wide coverage among the communities in the area.

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

The expected project duration was 12 months (from May 2015 to May 2016). However, the RSG will be used for 18 months. This is slightly longer than the anticipated project length. Three reasons are responsible for this.

- First, before project implementation could begin, consultations were necessary with the local district leaders and representatives of the local communities. This was necessary to arrive at agreements on how the project could be implemented with minimum interference from the locals. This led to delays in starting the project.

- Second, tree seedlings were planted only during the rainy season to enable the seedlings establish roots. This also delayed the project.

- Third, It is extremely important to conduct interviews with local people in the restoration areas to obtain information on restoration success factors, impact on human livelihoods and ecosystems/conservation aspects after the second rainy season. The further caused delays to project implementation.

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- Allocations for local team	1326	1240	86	Field work activities, e.g. field
/Accommodation				maintenance, site
- For education campaign	865	850	15	monitoring, etc. still ongoing
and workshop				since the trees are still
- For site monitoring,	461	390	71	young. Hence, the



restoration works and				difference.
interviews with local people				
II- Transport and Fuel	818	850	-32	The difference is due to
- Fuel for the different	692	701	-9	under budget estimation
activities (30 working days)				
- Repair charges for car and				
lubricating oil	127	150	-23	
III- Restoration works (incl.	2421	2401	20	Tractor allowance was less
Transport, material)				expensive than we planned.
- Charges for manual	288	288	0	Hence, the difference
workers (digging holes, half-				
moons, etc.)	173	153	20	
- Charge for tractor driver				
- Fences: cost for 2 steel	1960	1960	0	
fences and material for				
their fixation				
IV- Educational activities	427	395	31	Renting of projection
(materials) and workshops				material and chairs were less
- Flyers and posters	58	58	0	expensive than we planned.
- Radio transmissions	69	69	0	
- Videos (renting hall and	46	41	5	
projection material)				
- Catering (for 60	207	207	0	
participants)	46	20	26	
- Renting chairs				
TOTAL	4991	4886	105	This balance is proposed for
				on-going site monitoring,
				additional afforestation of
				seedlings and publications

The local exchange used for currency conversation is **1 £ sterling = 867.504 XOF Franc CFA**

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

The next important step is an assessment of the impacts of restored habitats especially reforestation and afforestation of the degraded site on the biodiversity of the landscape. Furthermore, the area for restoration along the northern of Burkina Faso needs to be expanded so that the benefits of a restored landscape are experienced at a larger scale.



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 to submit proposal for funding to the foundation. However, the RSGF received full publicity on official documents produced for purposes of visibility during the course of the project.

11. Any other comments?

I would like to express my sincerely gratitude to the RSGF for financed our project. Their support is gratefully acknowledged. We are indebted to our field's assistants who helped with data collection, stakeholders and local population who helped in the degraded lands restoration.

We are looking forward to apply for a second Rufford Grant in order to continue this work by using community-based approach to establish vegetation and biodiversity in the degraded land of Burkina Faso.