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. 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	Tabitha Price
Project title	Waste Management and Recycling Within and Around Niokolo Koba National Park, Senegal
RSG reference	9523-1
Reporting period	6th May 2011- 31st June 2012
Amount of grant	£5995
Your email address	Tabitha.k.price@gmail.com
Date of this report	30.06.2012

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
Reduction of rubbish within the park		X		Recycling centres have been successful. Rubbish is generally thrown into these bins and 200-400 kg of waste is transported out of the park each month. There is however a problem of food being thrown into bins, and a few large rubbish dumps still existing within the park from before this project was set up.
Reduction of burning waste			X	Waste is now rarely burnt at the sites at which we have set up recycling centres. In Tambacounda we are using a Peace Corps designed incinerator to burn soft plastics more cleanly.
Reduced scavenging of food waste		X		Much less food is now discarded in a way that it can be scavenged by wild animals but it is sometimes thrown into the bins (instead of the biogas digester), which causes the bins to smell bad by the end of the month.
Biogas digester		X		The digester was installed successfully and for the first 6 months produced fertiliser that was used for a small garden and gas to cook on. After this it started to spring small leaks and in its remote location these took time to repair. Processing waste food to be fed into the digester takes time each day, and motivation was low despite an addition to salary.
Transport of waste from within the park to Tambacounda			X	Transportation of waste was successful with a park vehicle arriving at the end of each month to empty bins and transport waste to the recycling depot in town.
Household collection in Tambacounda			X	This has been very successful. Bins have been placed in 25 households in one sector of Tambacounda and organic and inorganic waste are collected regularly and transported to the depot.
Recycling depot at Tambacounda		X		This has worked well, providing an area for rubbish to be sorted and stocked for transportation/resale. The only problem is that the depot is built on land that has been lent to us and we would like to find a more permanent solution.
Sorting of materials in Tambacounda			X	It took a few months to find suitable people to work sorting out the rubbish arriving at the depot, but under the management of a local NGO this is now running smoothly; materials are sorted and stored appropriately each week.
Organic waste in Tambacounda			X	Based on the expensive set-up and work required for the biogas digester at Simenti, we decided to build a compost system to deal with organic waste in Tambacounda. This was built on the land of a neighbouring farmer and is

				working very well.
Transport/Sale of recycled materials		X		We have found local enterprises willing to buy all scrap metal which saves on transport costs. We are currently communicating with APROSEN about plastic recycling on site and searching a way to responsibly recycle batteries and glass.

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

Our main problems during the start of this project were related to finding a small team of people to work with us who were motivated to work on a small budget to reduce and recycle waste to the benefit of the environment and the local community and to (very literally) get their hands dirty to achieve these aims. Early in the project we found it was not possible to work with the local NGO who was to have organised waste management in Tambacounda, but we were lucky to find Samba Kaita, a local Senegalese man working with REGAVOM which is an NGO working specifically for the valorisation of rubbish. The help of Senegalese co-workers who gave their time, enthusiasm and local knowledge, was paramount to establishing this project within the local community.

The biogas digester did not work as well as we had hoped; it required ongoing maintenance and work to input waste food in order for gas to be produced for cooking. We have designed and built an easier to use animal-proof compost system which we plan to replicate and place within the park.

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

There are now six recycling centres built at three military posts and three tourist camps within Niokolo Koba National Park. All inorganic rubbish can be placed in these bins to be transported out of the park. These recycling centres also provide a starting point for similar resources to be built at other posts throughout the park.

A small-scale household waste collection scheme has been established in one estate of Tambacounda and a depot has been built nearby where inorganic waste can be taken to be sorted and stored for recycling. This part of the project has raised awareness in the local community of the problems of waste, and reduces the amount of rubbish going into landfill. Whilst working on a small-scale, this part of the project can also be increased to include more households and process more waste.

A biogas digester has been built and placed at Simenti post, and compost facilities have been built to process organic waste in Tambacounda and in the park. Whilst the biogas digester has not worked as efficiently as we had hoped, it demonstrated that this technology does work, it sparked the curiosity of many people that saw it, and provides a starting point to develop a better model. The compost system in Tambacounda has been very successful; the compost has a fast turnaround time of 45 days and is good quality. The construction of smaller scale animal-proof compost bins we hope will provide a more efficient method for processing waste food in the park.

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

Within the park several people benefitted from short and part-term employment for the construction of the recycling centres and the running of the biogas digester. Longer term there has been health and aesthetic benefits from the reduction of waste in the areas where people live, and diminished problems of aggression and food-theft from scavenging baboons and vervet monkeys. Working together on this project also built stronger relations between researchers at CRP Simenti and local people working within the park.

Outside of the park, this project has employed one person full-time and provided five others with paid work on a part-time basis but consistently for a year. The project has the potential to be built into a small business run by the local NGO, providing employment for local people over a longer time-scale in an area of very high unemployment.

The compost facility was built on a farmer's property adjacent to the recycling depot. In return for working to produce the compost and providing the necessary water from his well he is able to use the compost on his land and says he has seen a marked improvement in the growth of his vegetables. With the development of the project and the production of more compost we would like to support him to profit further by selling this compost to neighbouring farmers and to promote the use of natural compost over chemical fertilisers.

Samba Kaita has spent a lot of time discussing the benefits and practicalities of responsible waste management with local households. These people benefit from a cleaner living environment and being involved in a community project. The depot has been built in one of the poorest regions of Tambacounda, discussions with the chef de quartier (region chef) showed that he and other headmen are happy to have the project developing in their sector and they have showed ongoing interest and involvement in our activities.

5. Are there any plans to continue this work?

The project as it is now will continue until the end of September 2012 through private donations of family, friends and colleagues and profits from the re-sale of waste materials. The Cognitive Ethology Lab responsible for CRP Simenti fieldsite has offered to pay a share of transport costs for waste to continue to be taken from recycling centres to the depot, and we are currently discussing with The National Parks service how the remaining transport costs can be covered so that this part of the project continues to run self-sufficiently.

The biogas digester will be moved to Tambacounda where it can be seen by more people and be fixed more easily, and this will be replaced by compost systems within the park. In the future we would like to develop a simpler, cheaper and more robust biogas digester to be used at a household level. The Park management have played a very supportive role in the setting up of this project and are keen to develop it further, we will continue to work together to see how recycling centres can be built at other posts throughout the park, and how we can get rid of pre-existing large rubbish dumps.

We would like to look for more funding to increase the number of households involved in the project so that, by charging a small monthly sum per household for rubbish collection, this part of the

project can become entirely self sufficient. We are also keen to work on the educational aspect of the project and have made tentative plans with The Great Ape Film Project and Electric Cycles to develop a cycle cinema system that would allow us to show conservation and educational films at local schools and villages without electricity.

We are communicating with other groups in Senegal that work within the sector of waste management in order to share ideas and expertise. The long-term goal is to be able to recycle more waste materials locally, reducing transport costs, increasing local employment and producing useful items than can be re-sold.

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

We will continue to work with The National Parks Service to give information/offer advice if they continue with their programme to replicate our recycling centres at other posts within the Niokolo Koba National Park. We are in contact with other groups around Senegal involved in waste management with the aim of creating a waste management network of small NGO's that can work together and share ideas to achieve common goals. We have posted a description of our biogas digester and explanations of successes and problems on the facebook page of Solar CITIES Biogas Innoventors and Practitioners. A more long-term goal is to create some short films about this project and more general environmental issues to show as part of a cycle cinema tour in Senegal.

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

The RSG grant has been used over a period of 13 months, this is slightly longer than the anticipated 12 month length of the project in the grant proposal. We were able to start the project faster than we thought, so that rubbish collection and sorting within the park and in Tambacounda have been working for longer than expected. The project will continue in the same way for at least another 3 months, with some aspects of the projects continuing indefinitely, and other aspects continuing dependant on further funding.

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
Recycling centres within the park. Materials & labour	1745.00	1544.75	+200.25	Less materials than expected were needed
Transport of waste from the park to Tambacounda	820.00	702.32	+117.68	The Park Service gave us the use of a car making this much cheaper. This cost is for 12months rather than the programmed 9.
Transport of waste from Tambacounda for re-sale	390.00	0	+390.00	We have found local enterprises to buy metals, soft plastics are incinerated on site & we are discussing with APROSEN for free transport of hard plastics. Batteries & glass are being stocked until a better recycling option is found
Materials for household	260.00	289.71	-29.71	The price of bins increased and exchange

recycling in Tambacounda				rate dropped making these slightly more expensive.
Tambacounda depot. Materials, labour and worker apparel	845.00	969.89	-124.89	Difficult to estimate the cost of materials exactly. The price of water and transporting materials to the depot were more than expected.
Salary for employees in Tambacounda	1540.00	1958.40	-418.4	Project started earlier than planned. This is salaries for 11 rather than 9months salary as budgeted for
Biogas. Materials installation and ongoing management	395.00	606.63	-211.63	The specialist parts (taps, joints etc) cost more than expected and there was a problem of continued maintenance.
Total	5995.00	**6071.70**	-76.7	

The exchange rate when I wrote the grant proposal was £1 =766.538 CFA and this was the rate I used for calculating the budget. However when our grant application was accepted the exchange rate had dropped to approximately £1 =740.000 CFA making things more expensive than expected.
When the £5995 was paid into our Senegalese account this came to 4,438,690 CFA. As such I have worked with the exchange rate of £1 =740.399 CFA

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

- To expand the number of households involved in the project in Tambacounda and to discuss with the local council future methods of waste management on a local scale.
- To extend the system of collecting and transporting waste out of Niokolo Koba National Park and to install small scale animal proof compost systems.
- To increase compost production in Tambacounda
- To bring small scale plastic recycling to Tambacounda
- Better education programmes to raise awareness of the problems of waste and to discuss with local communities how best to deal with waste problems.
- To find a responsible and cost efficient way of recycling glass and used batteries
- To develop a cheaper and more robust household biogas digester.

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?

The RSGF logo is printed on all posters giving information about the recycling centres, the recycling project and the biogas digester. All further work will also acknowledge the contribution of RSGF in the initiation of this project. The recycling project is also mentioned in a book written by the head of the Cognitive Ethology Lab (Affen gesellschaft by Julia Fischer) where the project is described and RSGF acknowledged for funding the work.

11. Any other comments?

We would like to thank The Rufford Small Grants Foundation for their help in starting this project, we hope it will continue to run and benefit the environment and local community of Niokolo Koba National Park and Tambacounda.

We would also like to acknowledge that getting this project off the ground was the result of a large number of people offering their help, support and enthusiasm; it was truly a team effort.