

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	Sulemana Bawa
Project title	Population Status and Conservation of the Critically Endangered Nubian Flap-shell Turtle (<i>Cyclanorbis elegans</i>); Ghana
RSG reference	20274-1
Reporting period	Final report
Amount of grant	£4946
Your email address	sbawagbewaa@gmail.com
Date of this report	10 th March, 2018

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
population and distribution of <i>C. elegans</i> in Volta Lake and Mole National Park				<i>C. elegans</i> was not recorded from either of the sites
Micro ecological conditions to which surviving populations of <i>C. elegans</i> are associated				<i>C. elegans</i> was not recorded but habitat association for other species recorded were assessed
baseline information on the status and diversity of freshwater turtles for the Mole and Digya National Parks				In all, three species of freshwater turtles were recorded for the Digya and Mole National Parks. This included two species of trionyx (<i>Trionyx triunguis</i> and <i>Cyclanorbis senegalensis</i>) and one species of pelomedusidae (<i>Pelusios castaneus</i>)
Building capacity of wildlife rangers of Digya and Mole National Parks on the status and threats to freshwater turtles' conservation				Capacity building for staff of Digya National Park were done through formal engagement sessions. Those of Mole National Park took informal sessions in which staff assisting in trapping sessions were engaged
Sensitization of turtle trappers on threats to freshwater turtles				A focus group of turtle trappers and fishermen on the Sene arm of the Volta Lake were sensitized on threats to freshwater turtles

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

Most areas along the Volta basin were very difficult to access beyond expectation. This resulted in delays and heavy expenditure on transportation. The team therefore had to limit coverage of the study while increasing sampling intensity such that subsequent studies will target other sections of the basin.

A lot more time was required in constructing local turtle traps than initially anticipated. This was exacerbated by the scarcity of some components, for instance cane that is used for the hoops. The expert was therefore engaged full time over a period while cane was purchased from outside the area. These developments came at an extra cost to the project.

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

Though the target species, *Cyclanorbis elegans*, was not recorded, this project established baseline data on the freshwater turtles' diversity in Sene section of the Digya National Park and also scientifically re-established the presence of *Cyclanorbis senegalensis* in the Mole National Park. In all, three species of freshwater turtles were recorded from the Volta Lake basin and the Mole National Park. This included two species of trionyx (*Trionyx triunguis* and *Cyclanorbis senegalensis*) and one species of pelomedusidae (*Pelusios casteneus*). *C. senegalensis* recorded the highest diversity ($H=1.735$) though differences in means were not statistically significant among the different species ($F=2.375$ and $P>0.05$).

This project also assessed the habitat association for *T. triunguis*, *C. senegalensis* and *P. casteneus*. In the benthic zone, both species of trionyx were more strongly associated, than *P. casteneus*, with inorganic substrate, high densities of woody emergent but less dense herbaceous vegetation. In the terrestrial zone, all species showed preference for river banks dominated by herbaceous vegetation and with inorganic substrate type.

This project also assessed local residents' knowledge of the population status, distribution and awareness of threats to freshwater turtles along Sene arm of the Volta Lake. Contrary to ecological surveys, local residents perceived freshwater turtles to occur in high densities such that a 15trapnights at peak season could yield between six and 10 captures. Knowledge of the ecological role and awareness of threats to the conservation of freshwater turtles was rather scanty among residents as majority (74.6%) of respondents downplayed any ecological significance of turtles. Though some respondents viewed threats to freshwater turtles as negligible, others cited all-year-round harvesting and the harvest of all age groups as critical factors.

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

Hoop traps were constructed by local fishermen on Sene arm of the Volta Lake. This yielded economic gains for the community and served as fora for sensitisation. The administration of questionnaires also created opportunity for interaction and awareness creation among residents. This also brought to the fore, among local communities, the importance of turtles.

5. Are there any plans to continue this work?

Yes. Considering the large coverage of the Volta basin, there are plans to focus subsequent surveys on other parts of the Lake before a final judgement can be passed on the status of *C. elegans* in the Volta Lake. Similarly, low abundances of observed species from this study have brought to the fore the urgent need for in-depth study of the ecology of freshwater turtles, including *C. senegalensis* and *T. triunguis*, across the country.

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

Plans are far advanced to publish results from this study in a peer reviewed journal. Results from this study will also be presented to an academic audience as it will form part of an MPhil thesis for the lead investigator.

Contacts are also made with other research works on *C. elegans* in the West African sub-region to enhance collaboration for the institution of conservation strategies. Giving the opportunity, the lead investigator also has plans of making a presentation of this results in the Cambridge Students Conservation Forum.

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

Funds were used over an 18 month period against initial plan of 15 months.

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
Car rental @ 40 and boat rental @ 30 for 2 investigators for reconnaissance of Volta River	40	70	-30	There arose need for car and boat rentals as public transport was unavailable
Daily Subsistence Allowance for 2 investigators during reconnaissance of Volta River @£8/person/day x 2days	32	32		
Transport (Round trip) for 2 investigators during social surveys@ lump sum	40	70	-30	There arose need for car rental as public transport was unavailable at certain points
Subsistence for 2 investigators during social survey @£8/person/day × 15days (In Digya and Mole sites)	240	240		
Printing of 250 questionnaires@ £0.3/copy and 5 photo guides @ £1	80	80		

/copy for social survey				
Vehicle rental for ecological field survey @£60/round trip x 9round trips (6trips for Digya and 3trips for Mole)	600	540	60	Digya site visited six times and Mole site visited three times against earlier plan for five visits to each site
Fuel for vehicle during ecological field survey of 8litres/trip @£4/litre x 9return trips (6trips for Digya and 3trips for Mole)	320	288	32	Digya site visited six times and Mole site visited three times against earlier plan for five visits to each site
Boat rental for field survey on Volta River @£30/day x 42days (7days/month x 6months)	750	1260	-510	Increased number of sampling days and months
Materials (net, cane) and workmanship for construction of turtle traps@ lump sum	300	380	-80	Cane was scarce around the project site and needed to be purchased from elsewhere
Living cost for 3 team members during ecological field survey @£8/person/dayx63 days (42days for Digya and 21days for Mole)	1200	1512	-312	Digya site_ 8/day * 8days/month * 3persons * 6months Mole site_ 8/day * 8days/month * 3persons * 3months
Daily Subsistence Allowance for 2 local assistants during ecological field surveys @ £5/ person / day x 63days (6trips for Digya and 3trips for Mole)	500	630	-130	Digya site_ 5/day * 8days/month * 3persons * 6months Mole site_ 5/day * 8days/month * 3persons * 3months
Car rental @40 and boat rental @30 for capacity building	80	70	10	Formal Capacity building was conducted only for Digya site
Living cost for 2 team members during capacity building @ £8 /person /day x3 days	64	48	16	Formal Capacity building was conducted only for Digya site
Refreshment for capacity building participants @ £4/ person/ day x 20 persons x 3days	480	240	240	Formal Capacity building was conducted for 20 participants in Digya site only
Allowance for resource person during capacity building @£50/day x 3days	120	150	-30	A more senior officer from Ghana Wildlife Division was used.

Contingencies @£100	100		100	
Total	4946	5610	-664	Rate £1:GHS5.67

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

Long term monitoring is required to determine the exact status of *C. elegans* as this and other similar studies indicate increasing rarity of the species and possible extinction in most parts of its ranges.

Great attention need be giving to seemingly common species as they are silently dwindling in most of their ranges. I intend to study into detail the ecology of *Cyclanorbis senegalensis* and *Triunyx triunguis* in three different ecological zones in Ghana to inform the institution of conservation measures.

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 Rufford Foundation logo was inserted in all questionnaires and capacity building presentation slides. Acknowledgement to this will also be made in publications produced from this work.

11. Any other comments?

Revelations from this project paint a worrying picture of freshwater turtles in the country considering little research and conservation attention to the taxa in previous years. Consequently, the critical need for urgent efforts at gathering data to raise concern and inform policy direction can never be overestimated.