

### 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	Mushabe Norman				
Project title	Conserving the fisheries biodiversity of Lake Bunyonyi i face of increasing human activities				
RSG reference	18757-1				
Reporting period	March 2016 to April 2017				
Amount of grant	£5000				
Your email address	mushaben@gmail.com or isingiro.iyis@gmail.com				
Date of this report	24 <sup>TH</sup> April 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 diversity, abundance and distribution of fish species in Lake Bunyonyi as well as some of their biological aspects				We carried out independent sampling as well as sampled catch by the fishermen across different gear types and determined fish species' reproductive aspects and several morphometric traits (Total Length, Standard Length, and Total Weight). We undertook the assessments around three fishing villages with a total of 12 sampling sessions over the 14 months period. The information generated is under analysis and will serve as baseline for long term fisheries biodiversity and conservation work on Lake Bunyonyi in future.
Map fish breeding areas and the extent of the lake's catchment degradation; and				Three fish breeding sites were mapped and the project updated fishers as well as fisheries management authorities on the geographic distribution and relative abundance of various fish species. However more initiatives are needed to map out other fish breeding areas on the lake for more habitat protection and consequent fisheries biodiversity conservation. The community based organisation (FITS Uganda) founded under this project, in collaboration with the fishing community leaders on Lake Bunyonyi, assumed the responsibility of guiding the operation of the mapped out fish breeding areas for the long term protection and conservation of the fisheries biodiversity. Analysis of images to establish the extent of catchment degradation is still underway and results will significantly inform decision of how Lake Bunyonyi catchment has been



		shrinking over time due to increased
		human activities.
Evaluate physico- chemical and microbiological parameters of Lake Bunyonyi		A total of 12 sampling sessions over 14 months period were conducted to evaluate the physico-chemical and microbiological parameters of Lake Bunyonyi. This was done a cross both rainy and dry seasons. pH, Total Nitrogen, Total Phosphorus, Dissolved Oxygen, transparency secchi disc value, Temperature and faecal coliforms were all assessed and the data generated is a significant baseline information for long term limnology assessments on the lake. Analysis of data is underway.
Improve awareness and capacity of fisheries biodiversity research and conservation work		Eight community and two school outreaches were held which rose awareness and built capacity of fisheries biodiversity research and conservation work in the area. Two radio talk shows were also held on local radio stations (Voice of Kigezi and Hope Radio) from which a wide audience was reached out to and sensitised on effective environmental management practices as well as biodiversity conservation. Over three meetings were also held with a number of Kabale District Local Government Officials (local chairpersons, councillors, and district technical staff from which ways of improving human-aquatic ecosystem co-existence and custodianship of Lake Bunyonyi Ecosystem Area were explored. For project sustainability and continuous awareness raising of biodiversity conservation work in the areas, a community Based Organisation (FITS Uganda) was formed in collaboration with Kabale District Local Government Fisheries Department and is now actively engaged in fisheries biodiversity and nature conservation activities. The organisation is building upon activities



	implemented by the project as well as
	translating conversation activities in a
	language (Runyankole-Rukiga)
	understood by the majority in the
	area to keep the communities
	updated and aware that they have a
	significant role to play towards
	fisheries biodiversity conservation. We
	participated in building our
	community relations while expanding
	the project and the interactions
	enabled us to partly share some of
	project results with the communities
	and government stakeholders.

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

There were no pertinent unexpected difficulties during the implementation of the project.

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

**Research:** The project collected a considerable amount of information for all cases during the 14 months grant period. We were able to examine the physico-chemical and microbiological aspects of Lake Bunyonyi as well as identifying the relations of fish species with their environment. The project determined the activities practiced on Lake Bunyonyi catchment and how they are a threat to the lakes water quality and biodiversity. We identified various fish species (*Cyprinus carpio, Clarias gariepinus* and haplochromines) in Lake Bunyonyi, their distribution and abundance as well as their biology that is important for an adequate fisheries management. The spatial analyses that are still being undertaken are expected to come up with habitat suitability maps for areas that need to be more prioritised for fisheries biodiversity conservation efforts. The generated data will be fully fed into the existing local fisheries conservation plans and continue to guide the local council's frameworks to reflect the newly generated information by this project towards sustainable fisheries in the area.

Formation of a community based organisation (FITS Uganda): With the active engagement of local communities, especially the fishermen and Kabale District Officials, the project encouraged the formation of a community based organisation (FITS Uganda), duly registered with Kabale district administration, and among other activities spearheading conservation and sustainable management of natural resources. This is a significant milestone by the project in ensuring its sustainability and local ownership but most importantly keeping the biodiversity conservation activities being undertaken in the area. The organisation will continue training of local communities as well as collectively developing and updating action plans based on the already existing fisheries resources user patterns but most importantly,



concentrating on how local people can reduce destructive impacts on fisheries resources. The organisation is headed by the District Fisheries Officer for Kabale with its membership comprised of local communities' individuals as well as fisheries management and agriculture technical staff of Kabale District.

**Increased awareness about fisheries biodiversity conservation:** The project successfully held over 10 education and community training events in raising awareness about fisheries biodiversity conservation as well as engaging different stakeholders in the project activities. Two meetings were held with Kabale District Local Government Officials, six with the local communities and two school outreaches with over 1000 leaflets disseminated. Two radio talk shows were also held on local radio stations (Voice of Kigezi and Hope Radio) to reach out to a wide audience in the area and further sensitize the locals on effective environmental management practices as well as biodiversity conservation. The events continued to directly impact on and involve the local stakeholders in the project activities strengthened community-project co-existence, rose awareness and build capacity of fisheries biodiversity research and conservation work amongst the various stakeholders in the area.

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

Throughout the project, we have been able to involve local communities in both our research and community awareness based fisheries biodiversity initiatives. Two locally hired research assistants (Besigye Amos and Katushabe Glorias) were exposed to a number of aspects with respect to fish biology such as measuring the folk and standard length as well as total weight of the fishes. They also learnt how to collect gonads and stomachs as well as fixing the fishes in formalin. Local communities were actively involved and effectively represented in meetings and trainings organised by the project. Local communities were involved in practical education and training that strengthened their participation in sustainable agriculture through improved knowledge on best alternatives (rabbitry and production of fish using tarpaulins and cages) rather than those that can result into water quality deterioration. They were also introduced to best practices including contour ploughing, tree planting, controlled fertiliser application as well as controlled use of pesticides on the gardens in vicinity of Lake Bunyonyi.

#### 5. Are there any plans to continue this work?

The plans to continue this work are already in place through a community based organisation (FITS Uganda) under the foundation of our project which is already carrying out some fisheries and other nature conservation activities within the area. Furthermore, the project generated significant baseline information from which other future conservation project could build on for continuous ecological data collection as well as having more nature conservation outreach programmes for a sustainable fisheries biodiversity monitoring and conservation work in the area. We also plan to initiate new research projects such that we can fill the evolving information and knowledge gaps. In the next few months, our team will be looking for a programme



level funding following execution of additional research questions regarding community based co-management and ecosystem based fisheries management approaches through participatory approaches to further expand our field staff grid. We also plan to strengthen our community based organisation (FITS Uganda) and improve the relations with other local conservation organisations and stakeholders working in conservation for more fisheries biodiversity conservation initiatives within the area.

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

We are planning to publish our research findings in appropriate peer-reviewed journals to get the results to a largest scientific audience as possible. This will additionally provide assurance of the research findings acceptance within the scientific community, a discernible input to the field of fisheries biodiversity conservation knowledge dissemination. Our research findings will also be disseminated through making presentations both at national and international conferences. We also intend to design flyers, posters, brochures, and research briefs about the research findings that will be distributed at the meetings and other events.

We have been frequently sharing our results with the local community and government officials through small reports and meetings that we have held with them. We will go back to them and present to them a comprehensive report about the work we have been undertaking and more especially translating the generated information in a language they easily understand to increase local accessibility.

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

The Rufford Small Grant was used over a period of 14 months from March 2016 to April 2017 following the anticipated project timeframe.

## 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
Equipment (4 gill-nets, 2 cooler boxes, 70 sampling bottles, 4 life jackets, gloves, one DIAL-OGRAM beam balance and 5 fish minnow traps)	560	560	0	
Office supplies (Papers,	200	300	-100	The cost increased following the



pens, flip charts, notebooks and clip boards for the training and awareness creation meetings)				need to produce more visibility and training materials as well as other necessary logistics for the held training and outreach events in the initiative to make the project more publically visible
Purchase of satellite images and hiring of a GIS assistant	700	650	50	
Laboratory analyses (Water and microbiological samples)	500	300	200	The analysis of some samples was undertaken at a very subsidised cost by one of our colleagues at Makerere University which made the project save approximately \$ 200 on the overall cost initially budgeted for sample analysis.
Subsistence (Food and accommodation for the research team as well as refreshments for participants during meetings and trainings)	1200	1500	-300	We slightly increased on this budget line to accommodate more participant's during the meetings as well as training outreaches conducted over the course of the project
Transportation (Hire of field vehicle and fuel)	1000	1000	0	
Communication (Air time, radio announcements, local radio talk shows, designing and production of awareness creation fliers and banners)	640	690	-50	The more \$50 was used to reproduce more of the visibility materials for more project visibility
Filming/Photography (Camera)	200	0	200	The project secured a camera from a previous conservation project extending the budget to other items, especially on food and refreshments to attract more participants for the meetings and trainings organised in the course of the project
ΤΟΤΑΙ	5000	5000	0	We received £ 5000 from Rufford Foundation that were converted to Uganda shillings at a rate of Four thousand nine hundred ninety nine shillings (UGX 4999) for a pound sterling.



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

We want to continue with our conservation initiatives, working collaboratively with and amid stakeholders involved in nature and conservation towards generating more knowledge as well as operational and innovative ways to manage and conserve fisheries resources and sustaining community livelihoods. The team is planning to strengthen the capacity of the community based organisation founded under the project for continuous conservation activities in the area, especially by focusing on long term monitoring of the mostly targeted fish species and restoration of the degraded areas around Lake Bunyonyi. We are also planning to continue focusing on initiatives aiming at economically empowering the local communities to venture into alternative livelihood sources such that the pressure exerted on the lake can be reduced for a long term sustainability of fisheries resources in the area.

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

The Rufford Foundation logo was used on various education and outreach materials developed during the implementation of the project including the awareness creation fliers, banners and posters. During the course of the project, we were able to distribute over 1000 copies of fliers amongst the different stakeholders, including the local communities where the project was implemented, with few shared with national agencies, including NGOs working in the field of conservation. The logo was also brought to life during the oral presentations made to Kabale District Officials, as well as during the two school education outreach events.

## 11. Please provide a full list of all the members of your team and briefly what was their role in the project.

#### 12. Any other comments?

We are grateful to The Rufford Foundation for financial support towards this project. We equally acknowledge Makerere University, Kabale District Local Government, Kachwekano Agriculture Research Institute as well as the local communities around Lake Bunyonyi for the invaluable inputs and cooperation towards this project. We are optimistic that this experience will go beyond the limits of the project by providing valuable information for sustainable fisheries biodiversity conservation Kigezi sub region of Uganda.