Final Evaluation Report

Your Details	
Full Name	Clement Sullibie Saagulo Naabeh
Project Title	Promoting Urban Protection of the Vulnerable West African Dwarf crocodile through Grassroots Approach in Ghana
Application ID	35903-2
Date of this Report	6th November 2022

1. 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 ecology and threat surveys				We conducted a total of 10 repeated night and seven repeated day surveys covering a total of 40 km on the KNUST campus. Also, we surveyed the Ayoko community river for 7 nights and 7 days covering 21 km. The day surveys allowed us to conduct habitat quality assessments by detecting threats alongside recording crocodile activities and opportunistic sightings. At KNUST, we recorded 43 individuals comprising 20 hatchlings (46.51%), 15 adults (34.88%), and eight juveniles (18.60%). We recorded 52 individuals representing 23 adults (44.23%), 19 hatchlings (36.54%), and 10 juveniles (19.23%) on the Ayoko community river. We observed a 34.38% increase in the number of individuals at the KNUST campus in relation to the Rufford Phase1 estimates. This was also confirmed by an increase in the number of nests and the hatching success rates at this site. We recorded an average hatching success rate of 98%. The average clutch size (number of eggs per nest) was 7±3 which is a positive indication of progressive breeding of the species. Additionally, we increased our survey efforts, which could also account for the increase in the number of crocodiles encountered. Both the populations encountered at the two sites are critical and add to our foundation for future monitoring and protection of the species.
Capacity building and awareness creation				We have educated 1200 school children through education campaigns in six schools at the two project sites.

				We have also formed six conservation clubs (one club per school). Two volunteer groups have additionally been formed with 12 members in the two project locations and the members were trained in crocodile threat identification, monitoring, and crocodile rescue. Through the volunteers, continuous effective monitoring and reporting of threats are increasingly improving local strategies for managing the species. Also, in the absence of the project team, the students and community volunteers play a significant role in conservation awareness creation. We have also conducted public awareness creation during three different community education programmes with over 100 members participating per programme. Also, we utilised the local radio station with over 50,000 listeners where we occasionally educated and created awareness of crocodile conservation.
Development of action plans for the species				Through our stakeholder consultation workshops, we supported the communities to come out with customary laws that prohibit habitat encroachment and hunting of the species. The customary laws are further enhanced through the strict implementation of the Riparian Buffer Zone Policy of Ghana (RBZP) which constitutionally sets aside some buffers along water bodies in Ghana. Both the customary laws and the RBZP are effectively maintained by the community and the efficient voluntary services of the community conservation volunteers with technical support from our team.

2. Describe the three most important outcomes of your project.

a) Through the first and second phases of Rufford, our team has discovered and established the first urban population of the West African dwarf crocodile in Ghana which is being developed into full protection. We have confirmed that the population encounters recorded in the project sites are not

significantly different from those of the non-urban populations both in Ghana and other countries. This serves as a strong justification for the conservation of this species in our urban centres, a very great opportunity to bring nature to people living in urban areas. After modelling the environmental factors influencing the population and distribution patterns of the West African dwarf crocodile, we found out that tree cover is a significant positive determinant of the species, whereas settlement, dredging, and hunting are strong negative determinants of the species' population and distribution patterns. We have therefore through our second phase of Rufford initiated processes to in the future increase the tree cover of the species habitats through restoration which will come as an addition to our already threat management strategies such as the customary laws, RBZP of Ghana, and volunteer groups which are eliminating the factors of encroachment, dredging, and hunting.

b) As part of our ultimate target to develop a targeted urban management plan for this species, we have assisted the communities to develop customary laws that prohibit hunting and habitat encroachment alongside the full implementation of the Riparian Buffer Zone Policy of Ghana both of which are maintained and sustained by the community authorities and the community volunteer groups that we formed. In the third phase of this project, we will roll out restoration of all the degraded portions that fall within the established buffer zones of the habitat whilst sustaining all existing strategies together with continuous awareness creation.

c) Finally, we have created conservation awareness of 1200 students through school education, and the public through radio-based awareness, community-based PowerPoint presentations, and stakeholder workshops. We have also formed two community volunteer groups with a membership of six per group who are serving as the immediate contacts whilst the project team is away. The efforts of the volunteers so far have led to a reduction in species threats due to effective monitoring and reporting of local compliance with the established strategies. We have also formed six conservation clubs in schools as a way of educating younger ones who will grow to be stewards of nature.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

Although COVID-19 restrictions have been relaxed, some limitations were encountered during our awareness creation programmes as willingness to participate was reduced. This slowed the process. Nonetheless, we later had a good number (about 300) of people in August 2022 participating in the awareness campaign programmes.

Also, whenever we had to conduct a survey at the Ayoko site (traditionally protected site), a set of very long and rigorous traditional rights were performed. Aside from the complexity of the process, it also took a very long time to get the traditional authorities most of who live out of the community to meet at the community to conduct the necessary rights each time we had to conduct a survey

at the habitat. This significantly retarded our work, although we managed through patience and understanding of local processes.

4. Describe the involvement of local communities and how they have benefitted from the project.

From a collaborative perspective, we adopted the stakeholder consultation approach where we prioritised the role of the locals in sustainably managing the species. We deeply involved the community authorities in all meetings and in the development of the current customary laws and the implementation of the riparian buffer zone to protect the species. With our capacity building approach, the communities will in the long term be fully capable of managing their own resources with little demand for technical and logistics support. Farmers who fringe the habitats of the species were also involved in all consultations and needs-based assessments were made of where the farmers stand to benefit from all the future habitat restoration activities in the future phases of the project. Two community volunteer groups were formed, and the volunteer capacity was built in crocodile surveys, capture and release and awareness creation. These members were given allowances whenever they were engaged in project activities, and this supported their finances. Also, during project activities, we abided by our local economic development policy where all project items available in the local communities were purchased from the respective communities. Two BSc students were also involved in all crocodile ecological research and social survey activities. They were offered training and skills in sampling techniques, interviews, and data analyses and interpretation.

5. Are there any plans to continue this work?

The project's long-term goal is to fully protect the species in the project sites by eradicating threats and improving habitat quality through the full support of the local communities. Through phases 1 & 2 of the Rufford Small Grant, we established customary laws at the local level to manage the species. We also established a riparian buffer in accordance with the riparian buffer zone policy of Ghana. To sustain these relevant aspects of collaborative management, we will continue this project by restoring all the degraded portions of the habitat through tree planting. We will also continue engaging the local people towards a stage where their capacity will be significant to self-manage the species and its habitat. Also, the long-term public support for conserving this species relies on how positively they change their behaviour and attitudes towards the species and such behavioural change stands upon constant and continuous public awareness creation and education; hence we will continue all our awareness creation programmes in the next phase of the project. Students and pupils serve as indispensable ambassadors of nature conservation: hence, we will continue engaging schools, particularly our conservation clubs in schools.

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

We will develop news articles and publish them in local high impact news agencies in Ghana to benefit the general public and the larger scientific community. We will

also serve The Rufford Foundation with a final project evaluation report which will be published on the Rufford website to benefit other conservationists who intend to conduct similar projects. We will share this final report with all the stakeholders and their affiliates who were involved in all our stakeholder consultations. We will continue to use other social media handles to share our findings with the rest of the world.

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

a) Maintain and sustain the customary laws and the riparian buffer zone that we established.

b) Improve the habitat quality by restoring all the degraded portions of the habitat through tree planting.

c) Continue local capacity building and awareness creation.

d) Continue habitat threat and population monitoring.

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

Yes, we used the Rufford logo to print our project t-shirts, exercise books, and banners. We also acknowledged Rufford as our donor in all our public engagements and project-related writeups.

9. Provide a full list of all the members of your team and their role in the project.

Name	Role
Clement Sullibie Saagulo Naabeh	Principal Investigator (PI)
Daniel Yakubu Haruna	Led the socioeconomic, sociocultural, and socioecological surveys as well as the design and implementation of the conservation education programs, and stakeholder workshops.
Nana Efua	Field assistant: she helped in field data collection, data organization, and analyses.
John Fuhensi	Driver from the Threatened Species Conservation Alliance (THRESCOAL) who drove our team during all project activities that required vehicular navigation.

10. Any other comments?

We are very grateful to The Rufford Foundation for providing financial support for this work. Without the collective efforts of our team, this project will have come nowhere near completion, and I say thank you to Daniel Yakubu Haruna, John Fuhensi, and Nana Efua who variedly played crucial roles during all the project activities. We

extend our gratitude to all the stakeholders (Ghana Wildlife Division, Kumasi Metropolitan Assembly, Threatened Species Conservation Alliance, Department of Wildlife and Range Management of the Kwame Nkrumah University of Science and Technology, and all the traditional authorities), farmers, households, hunters, media, and all the people who were involved in this project for their massive support and ideas. God bless you all and let us continue to work together with one conservation voice and goal.