

Final Project Evaluation Report

Your Details	
Full Name	Williams Michael Manja
Project Title	Reaching the Unreached: Rural Biodiversity Conservation Education in Southern Bauchi state, North – East, Nigeria
Application ID	25904 -1
Grant Amount	£5000
Email Address	michaelmangs@gmail.com
Date of this Report	22/8/2019

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
<p>Creating changed minds through education and enhancing conservation actions in the school children who will grow to be good conservation ambassadors</p>				<p>The students were taught in the established Friends of Nature clubs in their schools. They were gradually involved in conservation activities which included appreciable field work where they learned the basics of field ornithology and wildlife observations, tree planting, and how to protect plants and animal species. By the end of the programme, the students were able to exhibit tree planting skills, have changed behaviours towards wildlife and can identify different species of local birds and animals. Most of them showed willingness in becoming conservation biologists through series of questions and answers.</p>
<p>Creating awareness and inculcating nature-friendly mind-sets in students and pupils through conservation education/activities.</p>				<p>By establishing the Friends of Nature conservation clubs across all target schools, the students were involved in many conservation activities which include but not limited to field ornithology, wildlife observation, species protection, tree planting and water purification.</p>
<p>Using village stakeholders in enhancing and implementing sustainable use of communities' environmental resources (plants and animals) through actions against intensive hunting, local afforestation and sustainable logging programmes, which will reduce the</p>				<p>Women and hunters' association were targeted through stakeholders like the village heads and community councillors. They were all given series of orientations on needs to protect wildlife and reduce or stop hunting of threatened, rare and species with small populations. Because of capital, some of the hunters could not adopt the alternative livelihood (e.g. establishing animal farms), as we expected, but they were convinced beyond doubt that hunting is not the best for them and for the environment. The women cooperated by reducing</p>

<p>indiscriminate felling of trees in the villages and encourage agroforestry (incorporation of eco-friendly trees with crops) amongst rural farmers.</p>			<p>logging for firewood and were involved in tree planting. Few hunters sought for alternative livelihood and actually started rearing animals and reduced hunting. We introduced Communities through their village heads to tree planting through sharing of raised plants' seeds and seedlings. Many thousands of moringa and nymph seeds were shared, over three thousand raised seedlings from nursery beds were also shared to schools and villages.</p>
<p>Introduction of energy-efficient cooking stoves to further reduce the indiscriminate felling of trees for fuelwood.</p>			<p>An energy-efficient stove which uses sawdust and a twig or two was introduced to the communities for cooking. This was to reduce the amount of firewood log for domestic cooking. A local blacksmith was used to make many of the stoves at very affordable prices. An expert was used to teach women how to use it. Some of the stoves were shared to the women in the initial meeting after the cooking demonstration and some of the youths of the communities were taught how to make the stoves using simpler available materials in their communities. This was a big success as many people were seen using the stove in their petty-trades and daily cooking and every household prioritised getting one for their use.</p>

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

The management for one of the schools we had earmarked to establish the 'Friends of Nature' did not grant us permission and access to do so. Even after giving some orientation to the management on the essence of our project, they thought that our ideas on biodiversity conservation were a duplication to the biology already being taught in the school. There is one of the schools (a private school) which we planned to establish the Friends of Nature club there, but the school administrator out of his ignorance for biodiversity conservation, thought that it's just a duplication of the subject biology even after the workshop for principals in the area office and could not permit us to have access to the school for the programme.

How we tackled the problem

We got another private school in the community that was so willing to have the club established in the school and the programme was welcomed with opened hands. The Principal became one of the conservation stakeholders in the community as he and his school teachers and students were ever available for any conservation activity within their school or in the community where the school was located. The other principal who first rejected the programme heard about the mind changing positive impacts the club was having on other students, invited us with apology for his ignorance and we established the club there too but lately and the students also participated in the save a species' contest and they were happy to be part, and they expressed their profound gratitude to Rufford Foundation.

Change in team members: After planning the project, close to the start of the work, two of the reliable team members became unavailable for the work. One of them (Mr Abdulwahab Umarfarooq Adavudi) got a PhD position and had to travel to the United States to begin his research. The other team member; Mr Josiah Ibrahim got employed which meant that his availability for the project became impossible.

How we tackled the problem

I quickly got some of my colleagues (Mr Samson Da'an and Mr Mundi Francis) both conservation biologists and Mr Mundi is a forest scientist who works in Federal College of Forestry. They were both available and very ready to work with me and the other crew members as they were also looking for an opportunity like that to volunteer in community service. I must confess that I found their dedication and initiatives highly commendable.

Training of Friends of Nature facilitators: We initially planned to train all the facilitators for the target schools all at once at a venue, but things did not work the way we planned and we had to train them in three different sessions due to excessive rainfall and flooding of the rivers around some of the communities which made them unreachable at the time we wanted. The rivers flooded during the first rainfall and we could not access the schools around those zones for the facilitators' training at the stipulated time.

How we tackled the problem

We went on and trained the other facilitators from schools that were first reached, and waited until after a week when the water level from one of the unreachable communities and others subsided and we were able to reach the primary and secondary schools' facilitators for same training. After a few days, the last community was reached also and we trained them. Patience and focus made us train them in three different groups for the same goal- conservation education's success.

Some of the schools and parents could not allow us to take their wards for educational visits to Yankari national park for insecurity emanating from Boko-Haram terrorists and recently the spread of kidnappings.

How we tackled the problem

We took the students in the close company of their teachers and science facilitators to alternative places that were secured and served almost same educational purpose; some close to the schools and others a bit far from the schools.

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

1. **Acquisition of afforestation skills:** The students understood clearly the problems affecting the environment and how to tackle the problems. They acquired the skills of afforestation through the experiences of tree planting from nursery beds to transplanting on permanent sites. Through the Friends of Nature clubs, they raised plants from seeds to seedlings on the nursery beds, they raised many than can be used by their schools alone. Through the concerted effort of the programme's team members and the club's facilitators, the students were able to participate in transplanting of the seedlings by first identifying soil conducive for different plants based on the characteristic features and requirements of the different plant species.
2. **Participation in basics of biodiversity conservation:** Apart from the acquired the skills of wildlife observation and studies through a series of field outing which exposed them to the bases of ornithology and wildlife conservation and management. There is observable behavioural change among the target students towards biodiversity conservation. They showed interest in wildlife conservation and were able to protect plants and animals which were persecuted in the locality through the operational contest of "Save a species" among the schools. In the contests, many birds such as pied crows, common kestrels, barn owls, northern red bishop, and African grey woodpecker were saved and protected within the schools and the surrounding communities. Some common plants that were the most sought and logged were also protected through extension of orientation to their parents and other community members.
3. **Conservation conversation skills:** Through the lessons and group engaged discussions, they learn the skills of convincing conversations that is backed by facts which surpasses the traditional belief system in the communities, hence they were able to be the conservation ambassadors that gave orientations to their parents and other community members on needs to protect animal species considered as witches or used by witches in by the belief systems of the communities. The students in the company of their club's facilitators brought massive thought provoking facts which convinced many parents to consider deforestation and unnecessary killing of animals as dangerous to the environment and posterity. The students in their good number became the foot ambassadors that help in achieving numerous conservation goals in the communities.

4. Briefly describe the involvement of local communities and how they have benefited from the project.

Involvement of the local communities: Massive conservation action successes were recorded among different communities as a result of their active and participatory involvement in the project. The project from the cradle had plans for the communities directly and indirectly. We recorded tremendous conservation successes among women, hunters and farmers through the communities' stakeholders which included village heads, youths, women leaders and associations' heads and local councillors. They were involved in water purification using moringa seeds, cooking using the energy efficient stoves, and practical alternative to livelihood as opposed to indiscriminate hunting and logging of trees for firewood.

How the communities benefited from the project: The programme achieved the first time introduction of energy efficient stoves for cooking among the community members; a kind of stove that cooks fast, use just a few stacks of firewood and sawdust, this helps to reduce the high level of trees' logging for domestic cooking, and reduce time usually used for logging to get source of cooking energy. It also reduces suffering among the communities' members. They benefitted from the first distribution of the energy efficient stoves and subsequent access to the highly subsidised stoves from the blacksmith. The youths and some women benefitted by acquiring the skills of making the stoves using the local materials available in the villages. Through the 'friends of nature', we had a positive impact on the attitude of hunters in which alternative ways of livelihood different from hunting was sought. They were introduced to animal husbandry and most of them began to rear animals and reduced frequency of their weekly or daily hunting. Water purification methods using moringa seeds was practically learned and put to use for a purer and disease-free drinking water in the communities. We involved some stakeholders such as local government chairmen and councillors who helped some of the hunters in beginning the rearing of animals as step towards the alternative livelihood.

5. Are there any plans to continue this work?

Yes, there are plans to continue the work. The needs to consolidate on the achievements made and the needs for expansion of the scope of the project as a result of great observable conservation achievement among the communities that participated and also the requests from other schools and communities who were not captured by the just concluded project but heard of the successes made and are willing to be part to give us the strength to begin the plans to continue the project.

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

The result of the project is already shared with the local radio stations through a consciously planned conservation programme that elucidated the roles of friends of nature in conservation education and appreciated the support of Rufford foundation. Pictures and write-ups on the activities conducted during the project was shared and still being shared on our blogs: <https://vulturesafety.wordpress.com> and www.thenighttrumpeter.blogspot.com.ng

There are also plans to share the results in local magazines and newspaper (a popular one like the Nigerian standard newspaper).

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

The grant was used from the beginning of October 2018 to end of July 2019 (period of 10 months). The project was planned for 10 months fitting the number of terms in the school's academic calendar. The anticipated timescale and the actual time have no difference as we worked with the time as planned.

8. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

NB: The breakdown is all in pound sterling (£) and the exchange rate to Naira was 1£ = N420

Item	Budgeted Amount	Actual Amount	Difference	Comments
Salary for 3 field assistants	277	276	-1	We paid them (£92 = N38640 each) based on work done with us for the period of the project.
Refreshments for managers, facilitators and students.	110	110		Maximally utilised
Accommodation rent fee for the period of stay at project sites	460	400	-60	The accommodations were actually cheaper than budgeted based on the type of accommodation available near the rural areas.
screen ward-Tripod projector screen 96×96 inches Projector screen for display of images, videos and PowerPoints	93	83	-10	The 96*96 projector screen budgeted for was ordered and we found that it was not in good working condition hence we purchased the 72*72 screen projector with tripod stand which serve the same purpose but at slightly lower amount.
Miscellaneous especially for the maintenance of electric	355	300	-55	We did not actually spend all the budgeted money on maintenance because we got people that help

appliances etc.				us with the servicing and maintenance of the electronics and machines at cheaper rate.
Wildlife documentaries (BBC box set DVD)	203	203		Good DVDs were purchased and served good purposes.
Transport fares that will involve students, managers and facilitators during the project.	300	350	+50	We were unable to use all the money budgeted for transport due to change in visitation destinations which arose from insecurity precautions
Purchase of customised T-shirts for managers and facilitators and students of conservation education/ gifts for best performing students.	280	320	+40	We increased the number of the customised T-shirts so that few participants from the schools' host communities were able to get too
Purchase of seedlings for afforestation program and construction of nursery beds in target schools and community and construction of energy efficient stoves.	400	450	+50	More seeds were purchased and the energy-efficient stoves were constructed at cheaper rates but we made appreciable number for more women to get during the demonstration program
Hp 250 G6 7th Gen Intel Celeron 5000GB HDD-4G, RAM+HP BAG, Mouse Window 10-VGA Laptop for PowerPoint preparation typing of documents and display of wildlife documentaries etc.	234	270	+44	A good computer with good specifications was purchased and it served good purposes
10 pieces of 10×50 Opera binoculars.	931	800	-131	13 binoculars were purchased in all; Four 10*50 binoculars, seven 22*32 binoculars, two Bushnell surveillance binoculars all gotten at a price cheaper than earlier budgeted.
Nikon D3100 photographic camera for taking photographs.	534	531	-3	Higher version, Nikon D5100 was bargained well and purchased at lower amount than even the lower version budgeted for.

Dume public addressing system, DV-11 Public address system for sound amplification during presentations.	114	115	+1	Slight change in the price in line with the specification
Hp Des Jet Ink Advantange , 37885, All in one printer, T8W46C-360 Mhz Printer for printing, scanning and photocopying of documents.	89	89		We ordered the exact one seen in the market and we were lucky to get it as budgeted
Elepag 1.4 KVA, Gen-ECO 1990 Generator set to stand in for the erratic power supply in the project sites for powering electric appliances.	120	120		We ordered the exact one seen in the market and we were lucky to get it as budgeted
Acer-3600 ANSI Lumens and stand Projector for projection of conservation resentations and wild life documentaries.	500	450	-50	We got the projector at a cheaper amount then we budgeted due to change in prices of electronics in the market at the time of purchase.
Fuel for the generator for presentations in the rural areas throughout the programme		133	133	We had to use fuel in every presentation that generator was used to power our appliances.
Total	5000	5000		A lot of thanks to Rufford foundation

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

The important next step is to put the materials we purchased in continuous use by expanding the scope of the project to eastern/plateau which shared boundary with southern Bauchi and to also consolidate on the effort made by intensifying more meetings with the students in their club days, hunters to ensure more successes in their quest for alternative livelihood and reduced hunting. Raising more seedlings to reach other communities is important to the environment and healthy lives of the people.

10. 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 logo on the customised t-shirts and energy efficient stoves which were also distributed to participants during meetings/orientations sessions. Rufford received publicity during the course of our work. Apart from the Rufford's logo on our customised t-shirts which became the uniform in every meeting and presentation, we also had a radio programme towards the end of the programme in which the good support of the foundation to the success of our conservation initiatives was publicised. We have shared the results of the project on our blog sites in which we mentioned the laudable support of the foundation to the success of the project.

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

Williams Michael Manja – Team leader. I coordinate all the activities of the project and ensure that all goes in line with the objectives and as planned. I also made presentations, orientations and supervisory visits to the schools to check the clubs' activities' progress or hitches to ensure that all went well.

Mr Samson Da'an – A team member (a conservation biologist) who help in presentations and field outings with some of the Friends of the Nature's club members at different times. He contributed immensely to achieving the stated objectives of the project.

Mr Mundi Francis (also a Conservation Biologist and an expert in forestry management who works in federal college of forestry Jos), was a team member who played significant role in the afforestation phase of the project. He guided the students in the needed steps and precautions required in raising the seedlings from the nursery beds and even in the transplanting. He made presentations on afforestation and conservation of wildlife among different club members and communities.

Mr Hamza Rabi – A field assistant; A secondary teacher who teaches Biology in southern Bauchi who served as a field assistant. He guided the teams to different target areas, he help in close monitoring of some of the club's activities close to him. He also taught some club members from the primary schools.

Mrs Rhoda Gideon: A field assistant; she guided the women in different communities through achieving the lasting use of the energy efficient stoves. She is a Primary

school teacher who is an expert in Agricultural science. She also taught the basics of afforestation to Primary school Friends of the nature's club members.

Mr Yusuf Lawal- a field assistant; he guided us through areas of Tafawa Balewa, and he was industrious in linking us with some of the stake-holders within the areas. He supported the programme by coming with us each time we visit the schools or community people around his locality.

12. Any other comments?

Yes!

Project Impact Assessment

Right from the inception of the programme, we were determined to understand the extent of the project's impact on the communities hence before the commencement of the project we used questionnaires to ascertain rate (number of times they go for tree logging and number of times hunters go out for hunting in a week) of logging and hunting among the people which we analysed and documented. At the end of the project, the same individuals were surveyed with aim of understanding if there was a change in their attitudes towards logging and hunting. For the students, we aimed at understanding the extent at which they gained conservation knowledge from the project hence we carried a survey on hundred participants in which we gave them a test (pre-project test) before the project to ascertain their level of understanding conservation knowledge before we met them. At the end of the programme in July, we also gave them another test (post-project test) which helps us to analyse the change in behaviour or knowledge as a result of the project's impact on them. We also took note of the number of tree seedlings raised from nursery beds and successfully distributed to schools and communities.

Results of the Impact Assessment

We found that the rate of logging of trees among women and men reduced drastically by more than 60% as the alternative energy efficient stove, and the knowledge of the effect of deforestation on their environment helped to increase their environmental consciousness and curtailed the number of times they go out to cut down trees. In the same manner, the rate of wildlife hunting among the hunters reduced. They reduced the number of hunting outings per week. The results are in fig. 1 bellow.

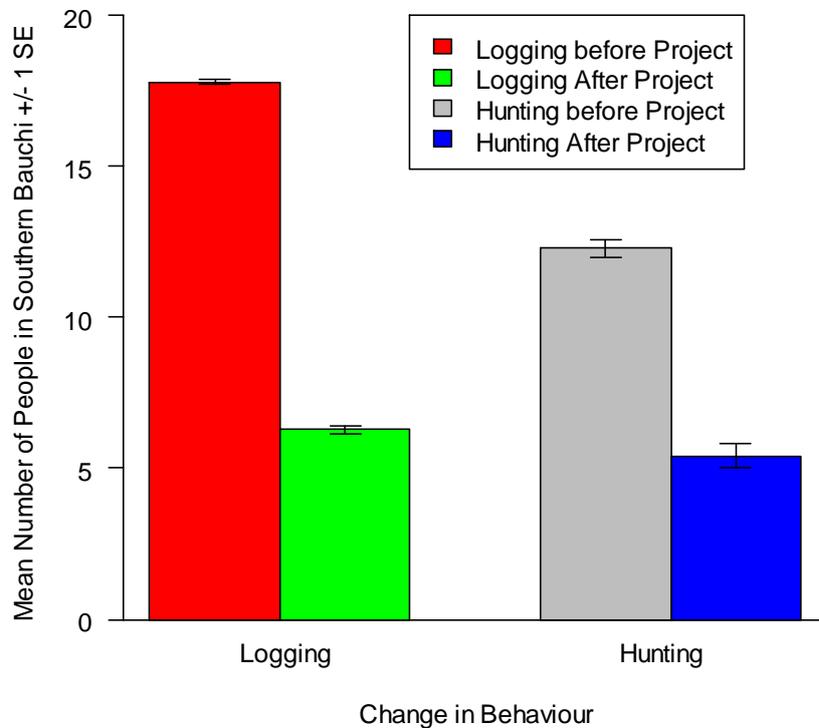


Fig 1: Impact of the Rufford Assisted Project on the Rate of logging and hunting in the communities

Change in Behaviour and performance among students

The comparison of pre-project test and the post-project test indicated that, apart from the practical conservation exhibition by the students (Please see the pictures attached to the final project update sent to Rufford Foundation through Jane on 14th August, 2019), there are observable changes in behaviour and knowledge of students in conservation of nature, as their performance increased in conservation than they were before the project. This is as shown in Fig. 2 below.

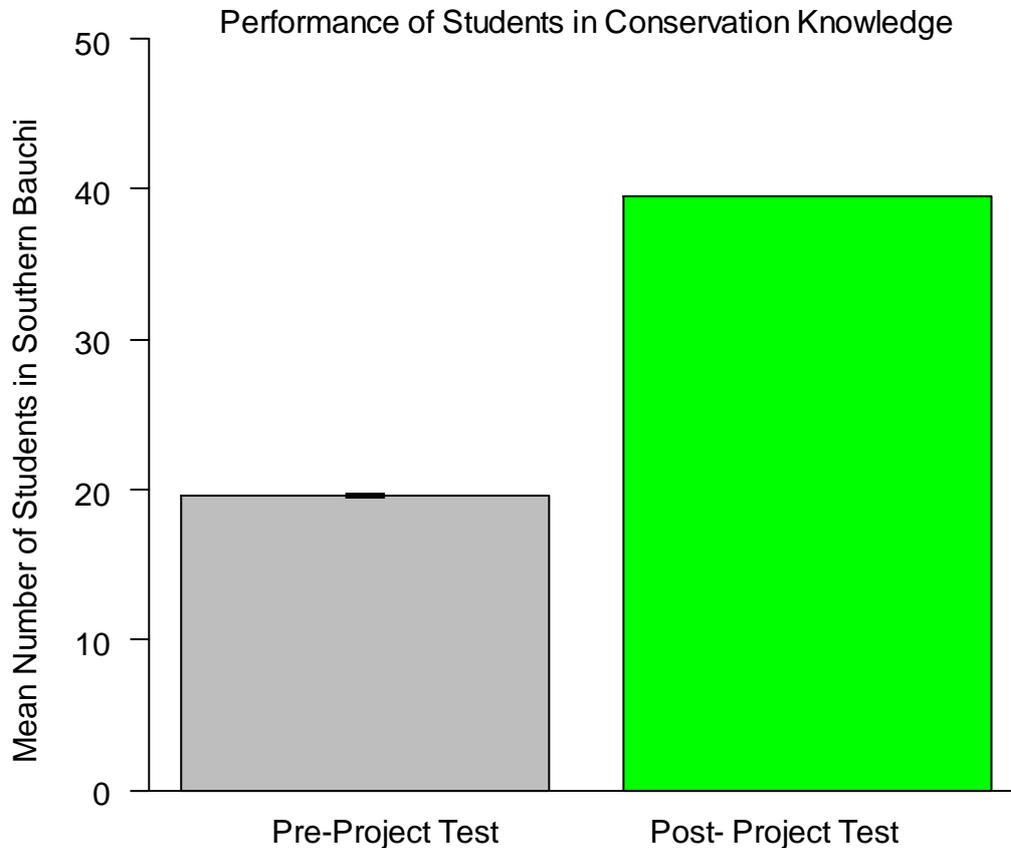


Fig. 2: Bar-chart showing increase in conservation knowledge among students that took part in the rural conservation initiative in Southern Bauchi as a result of the impact of the project on them.

Afforestation Initiative

There was great success in the afforestation programme as 6000 moringa tree seedlings, 154 pear, 208 mangoes, 8000 nymph tree seedlings, 700 coffee plants and 154 guava plants were successfully raised and counted during sharing or distribution to schools and communities. This is as indicated in Fig. 3 bellow.

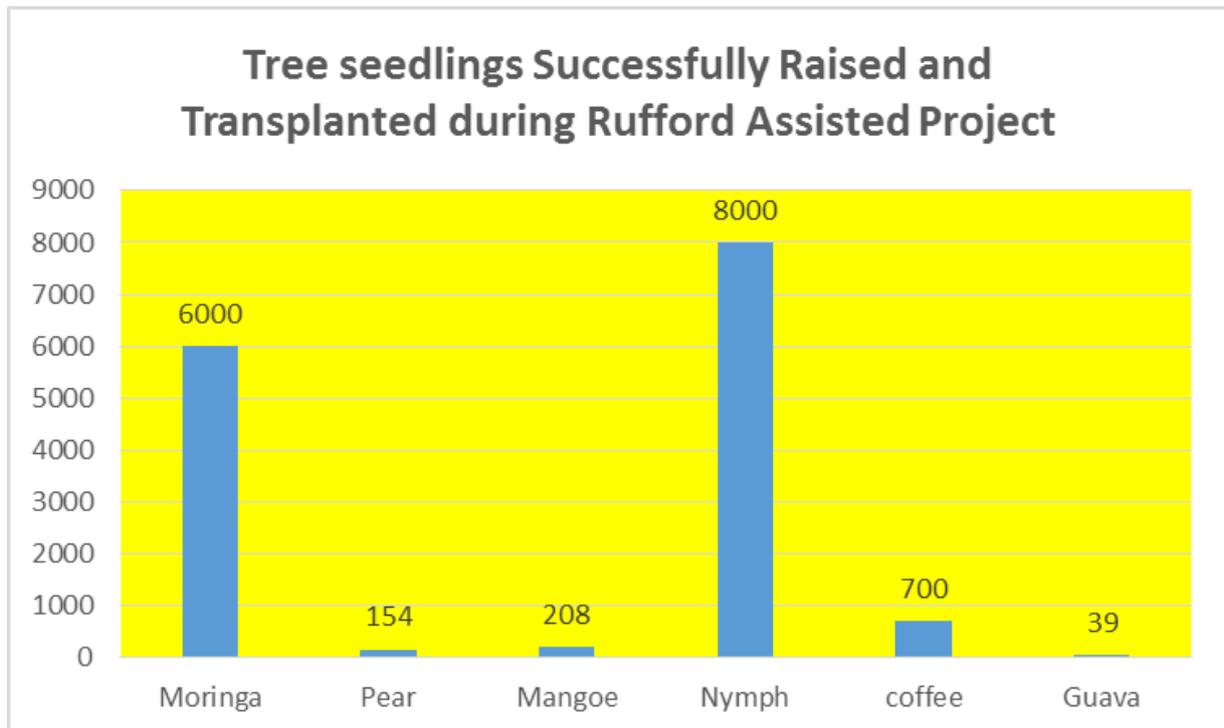


Fig. 3: Bar-chart showing number of different tree seedlings successfully raised on nursery beds and distributed to schools and communities during the Rufford assisted Project in Southern Bauchi, Nigeria.

Conclusion

Finally, we want to thank Rufford Foundation for making this project a reality and a big success. We are grateful to you all. On our part, we want to assure you that we would keep on with the good work and continue to put the materials purchased for the project to use for the good of our environment and the people. We are looking forward to getting more funding support from Rufford foundation to continue with this great work especially at schools and communities who are already expressing interest. Thank you so much!