Project Update: March 2020

INTRODUCTION

For the past fourteen years, this project has been involved in advocating for attitudinal change and upgrade in the Nigerian society towards the natural environment, by strategically targeting children of elementary school age. This approach was borne out of the belief that education is central in changing, modifying and improving attitudes and changing narratives about nature. As a Chinese proverb state "…If you plan for a year, plant crops, if you plan for 10 years, plant trees, if you plan for 100 years, educate people", we believe that educating children rightly about the environment is where our future hope lies for a sustainable, thriving environment.

Our approach was therefore centred on schools and the various stakeholders we identified as key players in both the educational sector, and in the general life of the child, this included parents, teachers, caregivers, media, religious organizations, etc. Our previous reports highlighted both the success stories and the challenges we faced in our efforts to bring environmental awareness and care to children.

This project (CFNP 2019) was designed as part of our strategy to investigate an observation and test a hypothesis we developed as we interacted with schools, children, and communities. Our hypothesis was that children's knowledge and attitudes towards the natural world would mirror the worldviews (perceptions and beliefs) and attitudes of the significant adults in their lives. We are aware of the many efforts, both local and international that have been exerted towards redeeming the Nigerian natural environment, and the seemingly slow progress and numerous challenges that have been reported and experienced. Many times, there were no positive results, despite the hard work, commitment, and resources that went into these projects. This was why we chose to do research into the underlying causes and drivers of Nigerian children's nature knowledge and attitudes and discuss the way forward as it pertains to the future of the Nigerian wildlife and environment.

Our hope is that our results will contribute to our understanding of the peculiar challenges children face when learning about the natural environment, how this might be resolved, and where resources and energies might need to be channelled in order to bring about the desired change in knowledge and attitudes about the environment in the Nigerian child.

OBJECTIVES.

- This project focused on children, their nature knowledge, perceptions and attitudes towards nature.
- Where children learn from, who they learn from, how they gain such knowledge and what they learn (Transmission patterns of Nature knowledge).

So that we can understand the DRIVERS that influence the state of our children's nature knowledge and perceptions and find ways to improve on things.

Six different rural communities from Plateau State, Nigeria were selected for the study; two schools in each community (total, 156 respondents), in addition to 10

schools (total 56 respondents) within the city capital, Jos. The major criterion for selection of the village schools was the presence of a nature reserve or forest close to the community; the six geo-political areas of the state were represented. For the city schools, we selected 5 public schools and 5 private schools.

Secondly, we were interested in finding out whether or not city children knew more or less about the natural environment than village children, or verse versa. All participating villages and city schools were receptive to the researchers and willingly consented to being involved in the research.

SUMMARY OF THE FINDINGS.

In all of the schools visited, on average, twenty children between the ages of 7-15 years old cutting across all primary classes, 1-5, were randomly selected. In total, 210 pupils participated in the study. This was made up of ninety-seven boys (46 %), and a hundred and thirteen girls (53 %). We used a mixed-methods approach for data collection and employed three main activities with the participants at each site. These were: Animal Picture Recognition Tests to establish children's attitudes and perceptions to different types of wildlife, Plant Identification activity where children were taken around their environment and asked to identify /state known local plant names, uses and cultural beliefs associated with the plants, and finally, a questionnaire survey, where the general perceptions and attitudes of the children to the animals in their environment were tested.

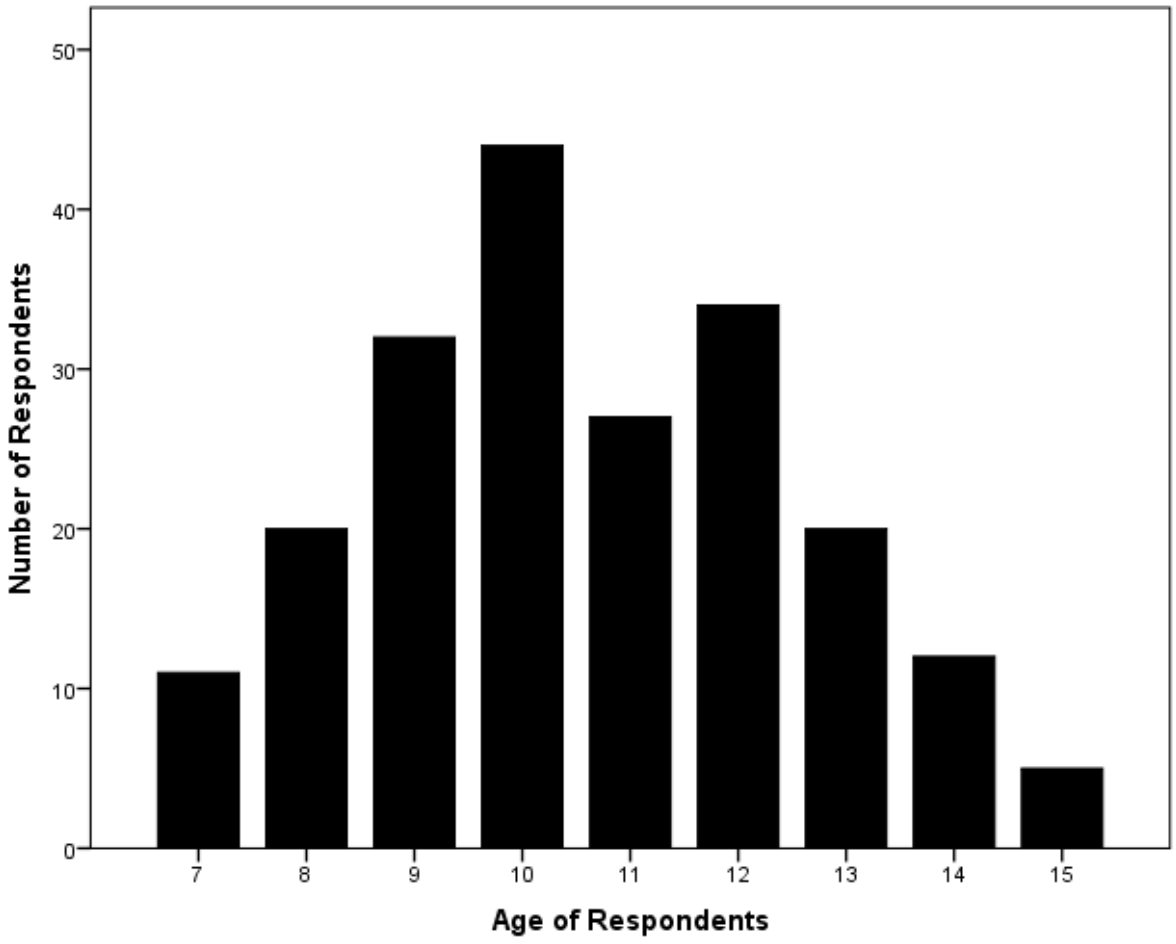

Figure 1: Graph Showing the Distribution of Respondents by Age.

There were various variables we included in the tests in order to gain insight into how children gained their nature knowledge, and how they perceived the environment. We considered factors such as the educational backgrounds of their parent (s), Parent's Occupation, who the child was staying with, the environment of the child (village/city), type of school child attends (public or private), activities the child engages in when outside of school, and the types of engagements and activities children get involved with along with their significant adults.

We also were interested in knowing what animals and plants children knew in their environment, and whether or not these were native or exotics, wild or domesticated. In addition, children were asked about how they gained this knowledge, what and how they perceived different animals they mentioned, if they had any favourite animals, why they considered such animals their favourites, which were disliked and why, and whether they had a pet(s) or not.

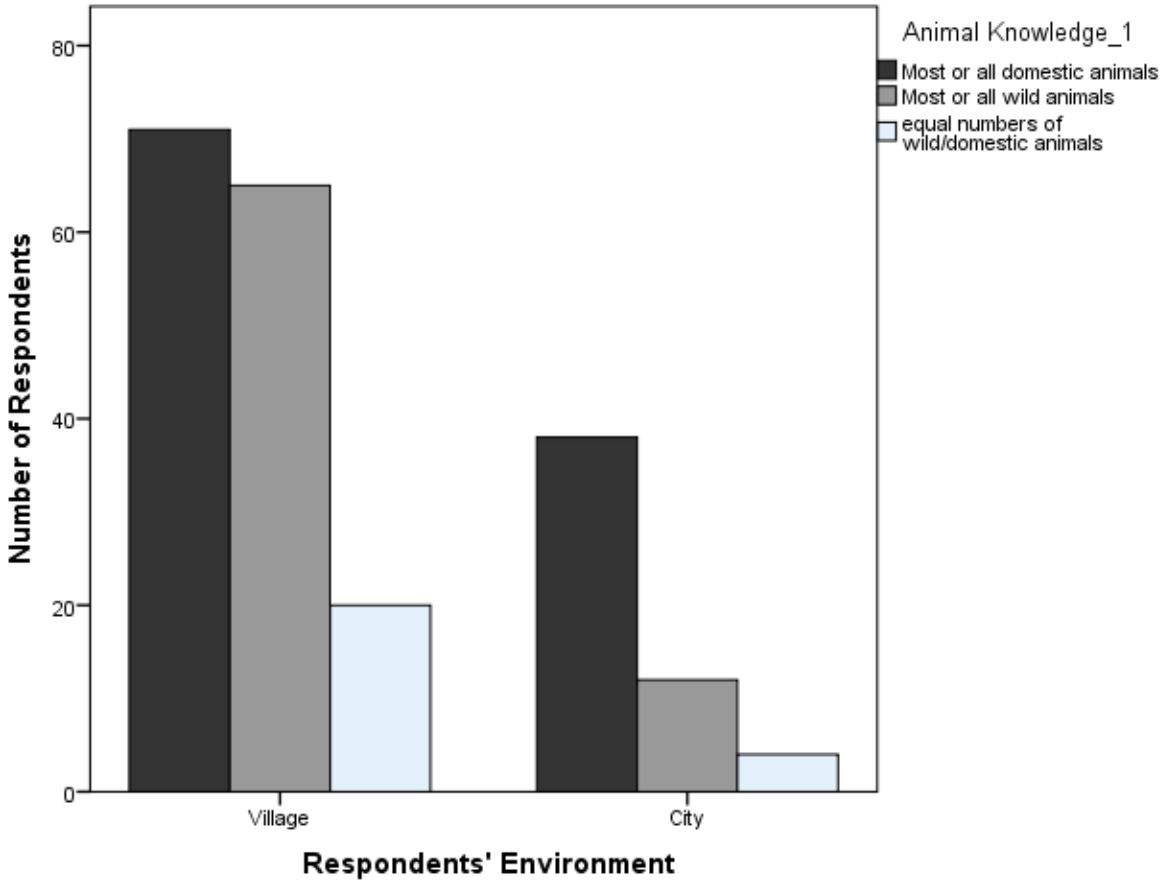

Figure 2: Graph showing Respondents' Animal Knowledge by environment type.

Overall, our results revealed that the children held little knowledge about their environment, and that there was no marked difference in the knowledge of city children and village children. Both categories mentioned either all domestic animals or more domestic animals than wild animals in their lists (109 respondents 52%).

Factors such as who children were gaining their motivations and nature knowledge from, the educational background of those adults, their occupations, religious

backgrounds, who children stay with, were all not significant drivers of children's nature knowledge.

What then were important drivers in shaping children's nature knowledge?

Our results revealed that children were learning more about nature from watching television programs and wildlife documentaries (21%), and from reading books (mostly from school 16%). City children reported learning mainly through television documentaries, while village children reported books as their major mode of learning.

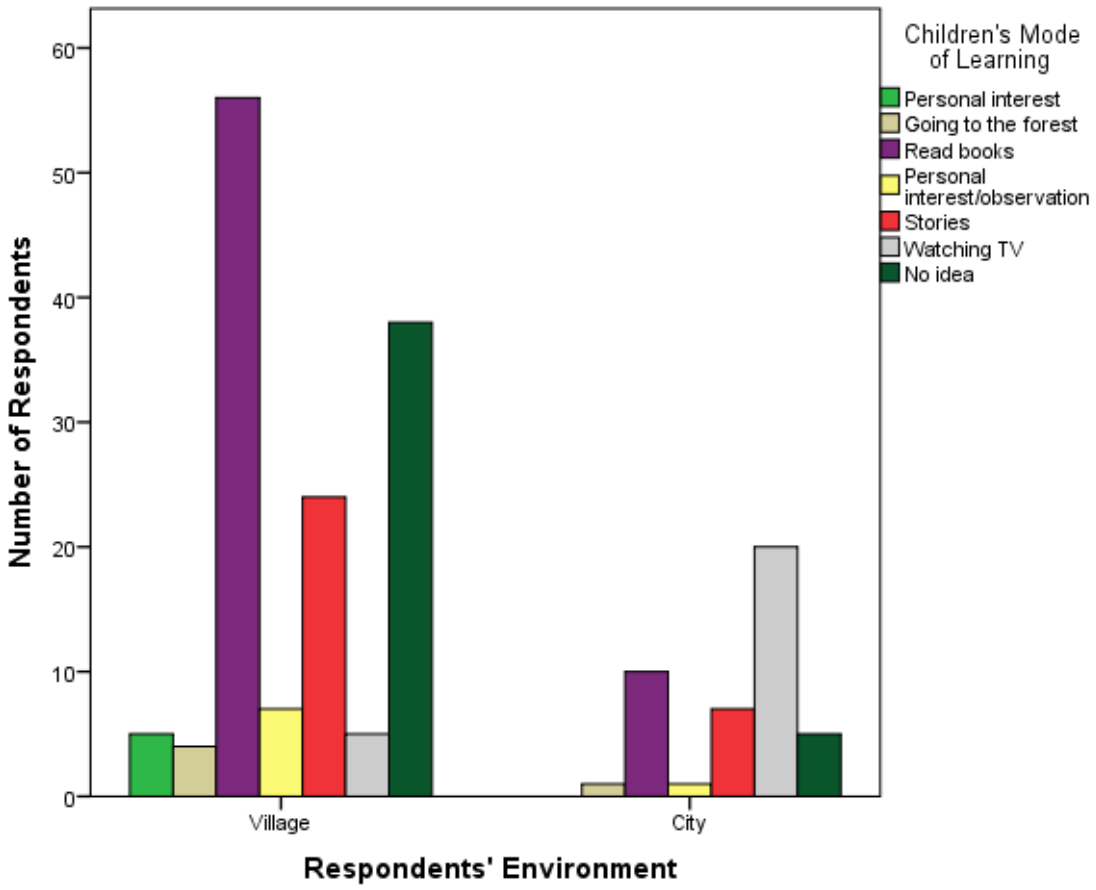

Figure 3: Children's Self-Reported Modes of Acquiring Nature Knowledge.

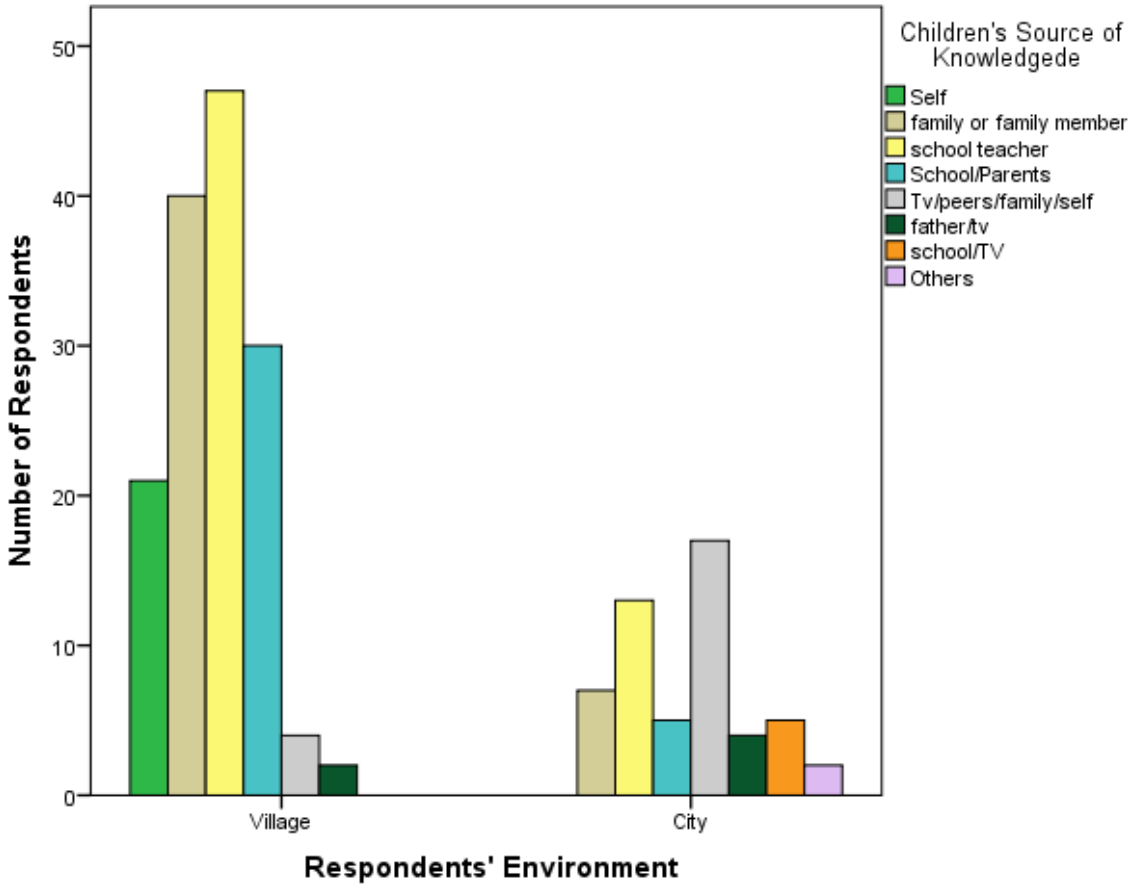

Figure 4: Graph showing Children's Self-Reported Sources of Nature Knowledge

When children were asked to share what animals, they perceived were good or not good, reptiles (especially snakes) and other animals perceived to be potentially harmful were considered 'not good' by 57% (n=120) of respondents. While all animals that were perceived to be useful in some way, (mainly those eaten), were considered important by 84.9% (n=174) of respondents. It therefore suggests that utilization, especially for sustenance, and safety from harm were important drivers of children's attitudes towards nature, and this was similar for both city and village children. It is worth noting that any animal perceived to be harmful, or without a known utilization value by children was avoided or 'disliked', meaning that children became uninterested in gaining knowledge about such animal(s).

Dogs were the most mentioned animals' children liked and reported as pets. Their reasons for valuing dogs were mainly because dogs serve as guards and offer some level of security to their owners. This further aligns with the finding that safety and security are key drivers in determining perceptions and attitudes of the children.

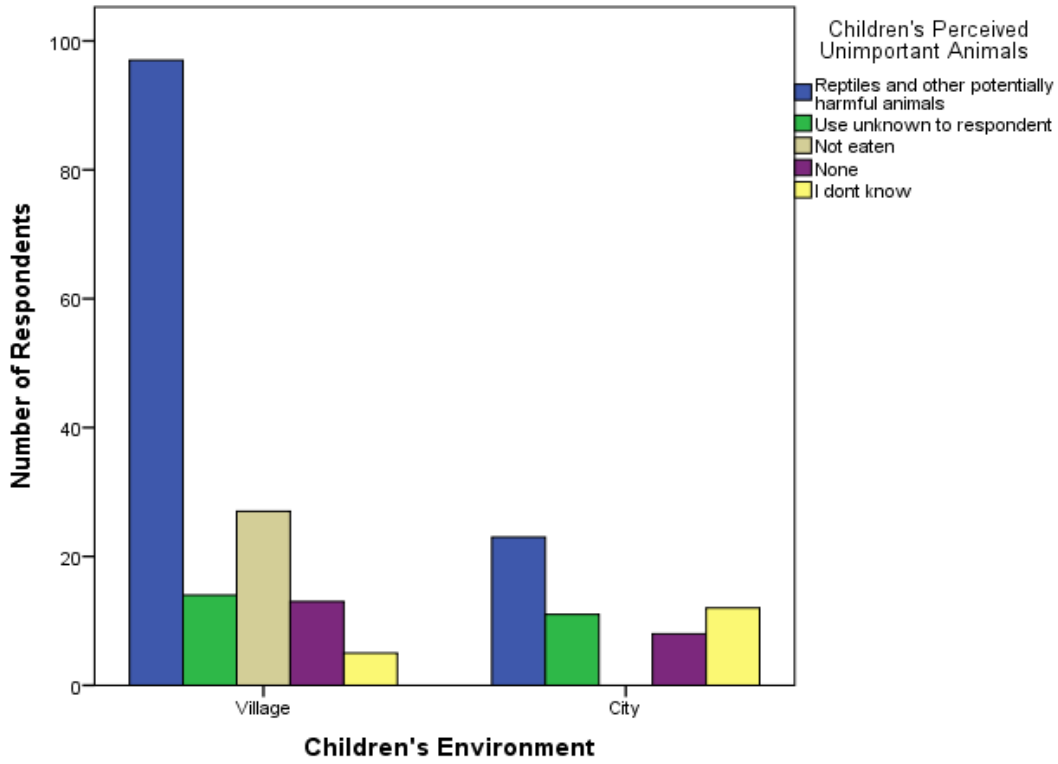

Figure 5: Children's Self-Reported Perceived Unimportant Animals.

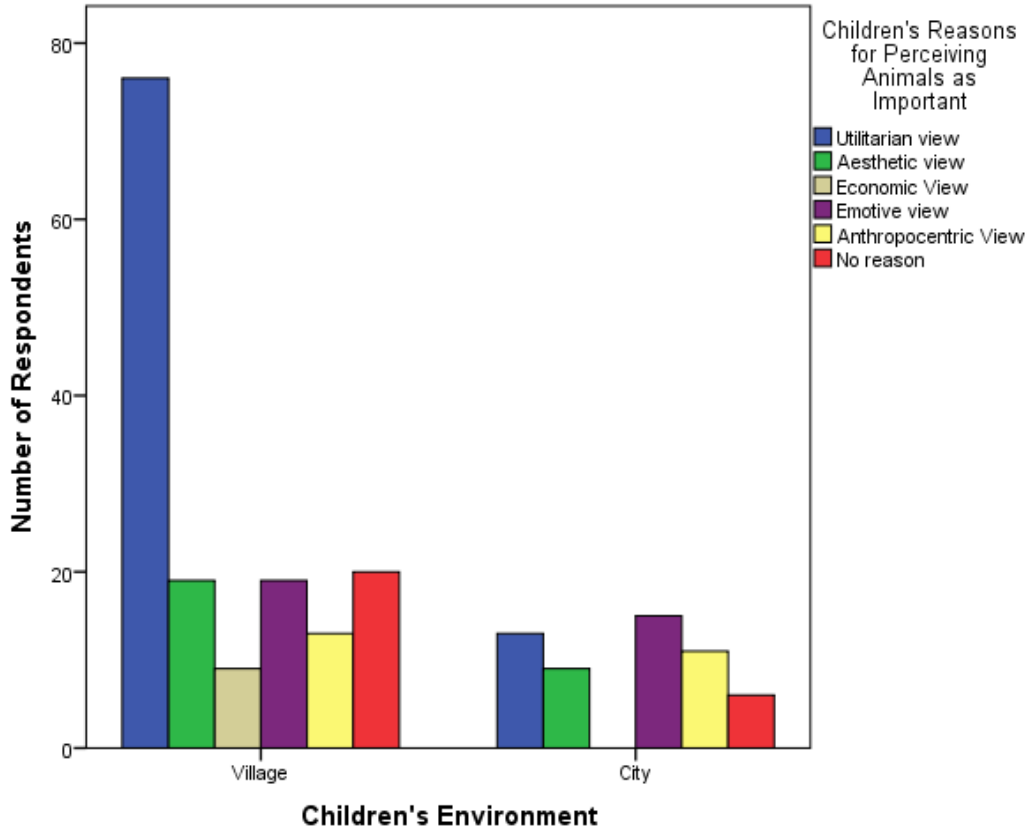

Figure 6: Children's Reported Reasons for Animals Perceived as Important.

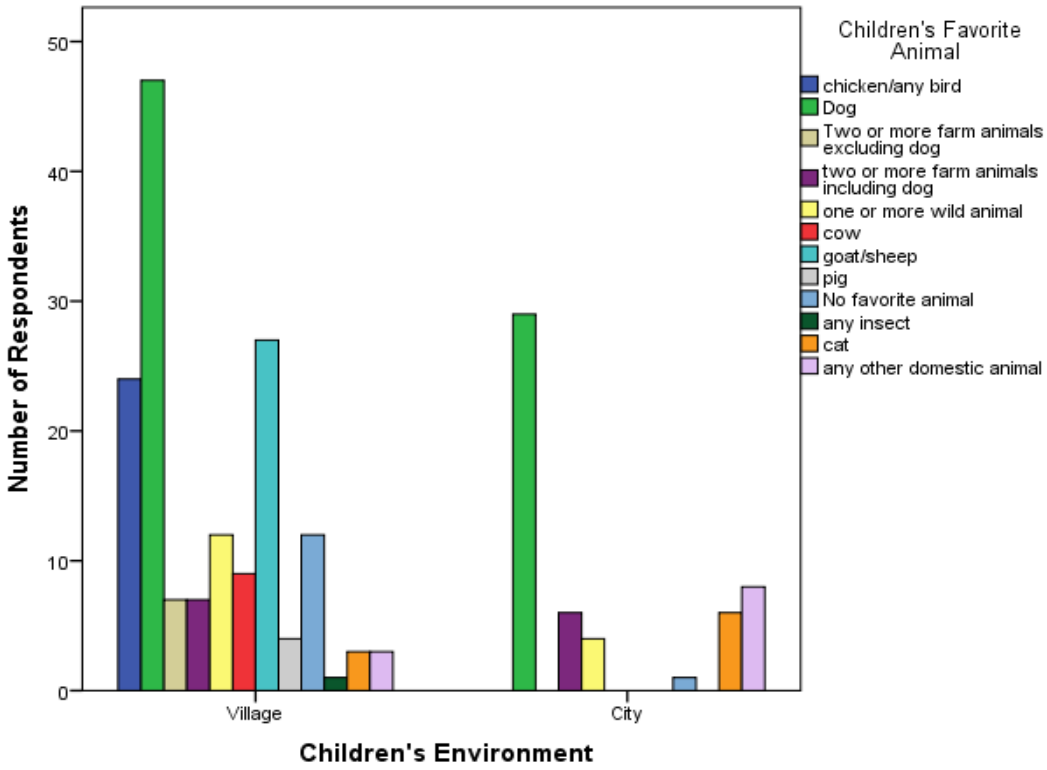

Figure 6: Children's Favourite Animal (s)/Pets.

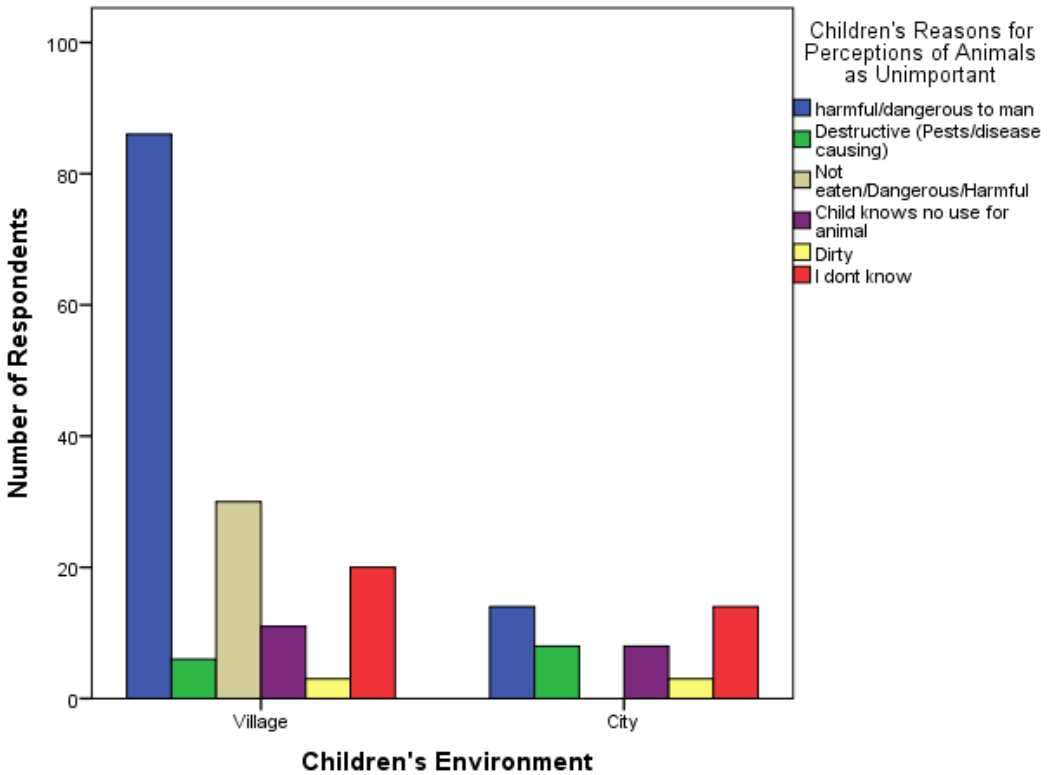

Figure 7: Children's Reasons for Perceiving Certain Animals as Unimportant.

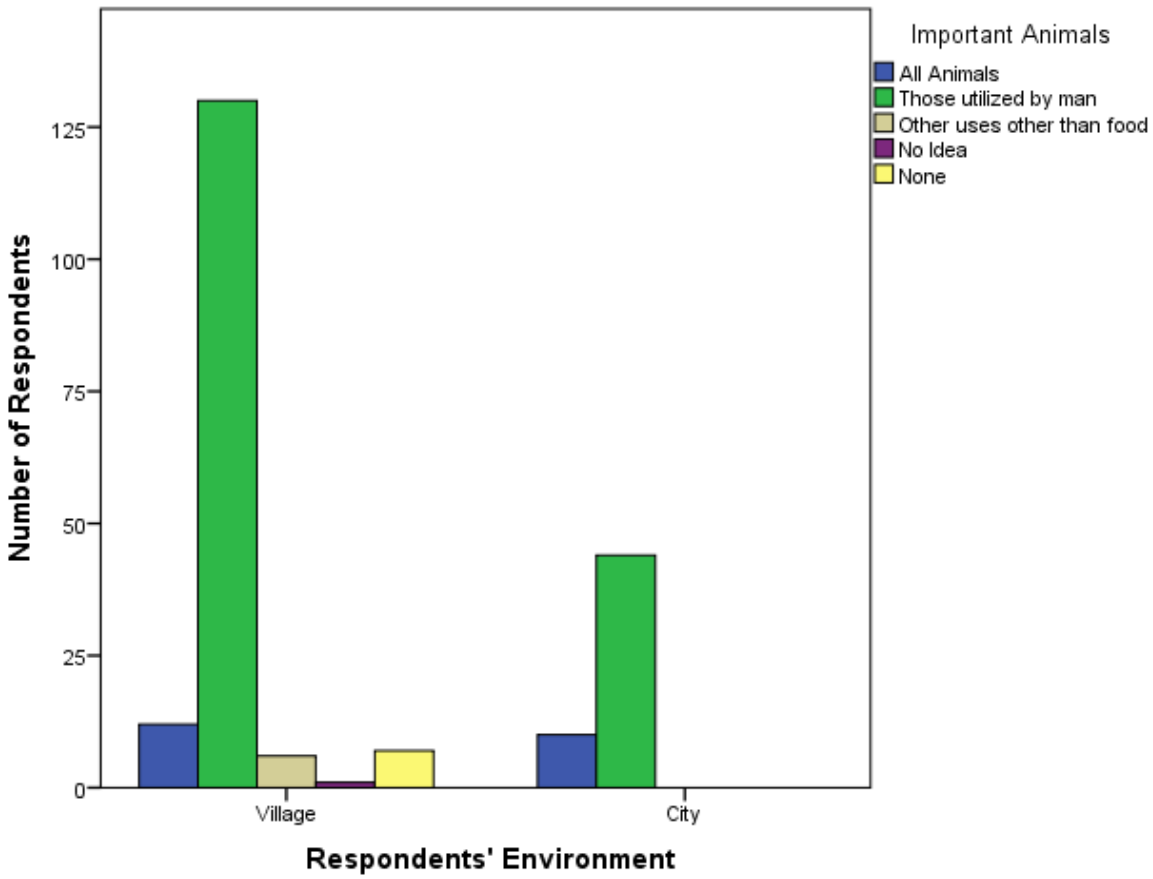

Figure 8: Children's Self-Reported Perceptions of the Value of Various Animals.

We were also interested in finding out what children believed about the origin of wildlife. This was useful in understanding the probable cosmological worldviews (foundational beliefs) driving perceptions and attitudes.

Forty-seven percent of respondents (n=98) believed that wildlife came from the forest/'bush', followed by the 30 %(n=62) who believed that God made them all. The remaining either had never thought of that, did not know (10%, n=21) or thought wildlife originated from rocks, zoos, parks etc (n=26, 12%). These figures suggest how little discussions around nature and wildlife including their origin might be going on between adults and the children in their care.

IMPLICATIONS FOR THE CONSERVATION OF NATURE/WILDLIFE.

In order to ensure a sustainable natural environment, people's perceptions which are usually reflected in their attitudes towards nature needs to be understood (Schultz, 2002; Ehrlich,2002) The results from this study showed three main driving forces affecting/influencing children's nature knowledge, attitudes and perceptions. These were:

- The need for sustenance
- Need for protection and safety
- Lack of understanding or knowledge about an organism.

These factors are valid concerns for the survival of a species, and so cannot be overlooked; however, these concerns and drivers could be taken advantage of, by the conservation practitioners, scientists and enthusiast in ensuring a more positive belief, perception and behaviour towards nature/wildlife. Historically, many cultures and societies also evolved in similar fashion, choosing what to 'love and hate', what to avoid, and what was considered not useful, based on either superficial long term observations or superstitions (when ignorance about something was involved; See Ehrlich, 2002). But as science and scientists worked hard to understand different organisms and their roles in the complex web of life, going past gaining an understanding of the usefulness or role of an organism in the scheme of life, to appreciating the intrinsic value of each organism, this might have begun to change and challenge the beliefs, perceptions and attitudes of people towards wildlife and nature. This can be observed in the way for instance, most western children navigate towards fascination and interest in different taxa of wildlife (Evans et al, 2007). This attitude, in our opinion, reflects the joint efforts and contributions of the communities, scientists, creative artists, media etc. These approaches might have helped in informing and educating their societies about the value of wildlife and nature.

The beliefs, perceptions and attitudes of children reported in this study seem to be a direct reflection of the pattern earlier reported for adults in a previous study in the same geographical area of Nigeria (Pam et al, 2018a, 2018b). additional supporting evidence can be seen from the works of Dunlap, Gallup, & Gallup (1992), who reported on the attitudes of adult Nigerian respondents about the environment as follows: "…Only India (43%), Turkey (43%), and Nigeria (30%) favoured economic growth over environmental protection". In order to disrupt this pattern, and achieve a more positive and engaging attitude toward nature, we suggest initiating a similar but adapted deliberate approach in Nigeria to that observed elsewhere, taking advantage especially of the power and influence of television, technology and the arts on the minds of the children. Most of the animal's children could mention were exotics or domestic animals, and a good number of children reported learning mainly from watching animal documentaries, which usually were not of local species.

This is an opportunity for biodiversity conservation practitioners in Nigeria, we need to develop educational media contents that help inform/ promote the various indigenous animals and plants found locally. We could also partner with Creative Artists to develop items, contents and materials showcasing different animals and plants that many adults and children are ignorant of, using such avenues to help advocate for a change in belief s, perceptions and attitudes for the next generation.

Species that have been culturally 'blacklisted' such as those with negative associations such as the Owl, vultures, bats, and even reptiles, and many insect species which are believed to only be pests need to highlight. Children need knowledgeable mentors who will actively and deliberately feed their natural curiosity and attraction to wildlife and nature. Our Schools need to embrace environmental/conservation education in their curricular.

In teaching children about nature, teachers and trainers might need to constantly be aware of these three limiting factors working in the subconscious of children, and

strategically/deliberately work toward influencing children's acceptance and openness to learning about different groups of animals and plants. They will need to work out ways in which they can help children to begin to think differently about organisms beyond these three major factors. Child psychologists, anthropologists, educators etc need to work together, each bringing perspectives that will help in effectively teaching children about their environment, after all, conservation is everybody's business!

Furthermore, adults themselves would need to deliberately go for informed knowledge of their environment/wildlife, be open and objective in learning new things, be willing to let go of untested/unverified beliefs and practices and embrace scientifically proven facts about different animals and plants. In other words, only when the adult attitude and perceptions improve or change, will we be effective trainers of our children in this aspect.

We are confident that our results will help in informing, and guiding practitioners at various levels, who work with children, and adults to be more strategic and deliberate in the way and manner they develop, and deliver contents as we strongly believe that these drivers/factors, reported here have been major players in delaying or hindering the desired outcomes of the many conservation initiatives and projects that have constantly toiled to improve the biodiversity situation in Nigeria. Policy makers could also benefit from the findings here, as they formulate policies that help protect our biodiversity.

Lastly, since values and beliefs drive peoples' attitudes (Manfredo et al, 2016), it is important to understand the how the key societal values influence conservation attitudes among adults and specifically, children. This understanding will serve to guide as children are engaged in conservation activities and thoughts.

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Dr Grace Pam delivering the Lecture.