

Original paper

Perception and Ethno-Cultural uses of Vultures in Ogbadibo and Opokwu Local Governments Areas, Benue State, Nigeria: A Threat to Vulture Population

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ABSTRACT: Between January and July 2022, semi-structured questionnaires were delivered through interviews with randomly selected respondents in Ogbadibo and Ogbokwu Local Government Areas of Benue State, Nigeria. The study's goal was to investigate people's perceptions of vultures, whether they were ugly or good animals, whether vultures should be saved or not, factors contributing to vulture population declines, and ethno-cultural usage of vultures and vulture parts. Out of 450 respondents from each Local Government Area, 382 (85%) and 364 (81%) respondents described vultures as ugly animals that cannot be used for anything good. 409 (91%) and 400 (89) respondents said they have observed rapid decline in vultures population over time. 409 (91%) and 319 (79%) had no idea on why vultures should be conserved and out of the five factors identified as the most prevailing reasons for decline in vultures population, habitat destruction had the highest respondents in both LGAs, with 261 (58%) and 279 (62%) respectively. Skull, feathers, hearth, bones, eggs, brain, eyes and wings are the vulture parts believed to be used for ethno-cultural purposes in the LGAs while healing, clairvoyance, ritual and magic were identified as the major ethno-cultural uses of vultures. The study recommends conservation education and public awareness on the importance of vultures to the environment and the need for collective efforts in saving the remnants of vultures.

Keywords: Vultures, perception, ethno-cultural uses, Ogbadibo, Opokwu

INTRODUCTION

Vultures serve useful purposes in human societies and communities by providing critical ecosystem services through scavenging on carcasses (Kankam and Abukari, 2020). These birds play a major role in curbing environmental contamination (Jalihal and Sharma, 2020). Vultures aid in disease prevention and control of mammalian scavenger including feral dogs by their ability to rapidly consume large amounts of carrion and human waste (Santangeli *et al.*, 2019). Including protected areas, there is a noticeable decline of various vulture species in African countries. The Hooded Vulture which used to be one of the most common species of vultures is now rarely encountered (William *et al.*, 2021).

One major reasons reported for the decline in vulture populations is its use by traditional medicinal practitioners for the preparation of therapeutic remedies (Boakye *et al.*, 2019). Owolabi *et al.* (2020) reported that vulture organs are being used for various ethno-cultural benefits ranging from enhancing dreams, ability to see the future, making financial fortune, curing of ailment and magic. Poisoning and habitat degradation, electrocution, loss of breeding sites, land degradation through development and improvement of abattoir hygiene, and waste disposal have also been reported as factors affecting vulture populations (Ogada *et al.*, 2016; Adang *et al.*, 2019; Maxwel *et al.*, 2019; Ayuba *et al.*, 2020).

General research on the social components of vulture conservation is scanty (Deikmah, 2019). Pam *et al.* (2021) reported that one of the important tools in achieving conservation success is that, local understanding and perception of wildlife need to be given attention. To design an efficient conservation strategy to save vulture and other birds associated with ecosystem services, there is need for information on the social and ecological aspects (Henriques *et al.*, 2018; Kankam and Abukari, 2020). Previous researchers have documented vulture presence in Kpokap and Idon in Kaduna State (Ayuba *et al.*, 2018) Emi Abumo Woro in Kogi State (Adang *et al.*, 2019) and Plateau State Nigeria (Manja *et al.*, 2021). However, little is known about local people's perception of vultures in Nigeria. People's attitude towards vultures is influenced by how they perceive vultures; however, there is limited empirical data and information on local perception of vultures. This research therefore, is on the perception and ethno-cultural uses of vultures in two selected LGAs in Benue State, Nigeria and aims at assessing the local people's knowledge and perception of vultures and to determine the ethno-cultural uses of vultures in Ogbadibo and Opokwu Local Government Areas in Benue State, Nigeria.

MATERIALS AND METHODS

Study area

The study was conducted within two selected Local Government Areas; Ogbadibo and Opokwu Local Government Areas, Benue State, Nigeria. Ogbadibo and Opokwu lies between longitude 7° 50' and 8° 20' East of the Greenwich Meridian and latitude 6° 50' and 7° 40' North of the Equator. The LGAs are located within the Guinea Savanna belt which is the broadest vegetation zone in Nigeria and is characterized by heterogeneous species of scattered trees and grasses (Figure 1). These trees included *Khaya senegalensis* (Mahogany) which is found in the South-Western part, mostly along stream courses while *Daniella oliveri* ("chiha"), *Linnea* sp. and *Isobertina doka* ("akovol") are found mostly in the north-east and north western parts of the State respectively. Other tree species such as *Parkia biglobosa* (Locust bean tree), *Prosopis africana* (Iron tree), *Vitellaria paradoxa* (Shea butter tree) and *Burkea africana* (oil bean tree) are also common. However persistent clearance of the vegetation for arable agriculture, lumbering and the practice of bush fallowing system create regrowth and characteristic parklands that attract animal grazing and cattle herdsmen (Hula, 2010).

Sampling method

Data on the perceptions, local knowledge and ethno-

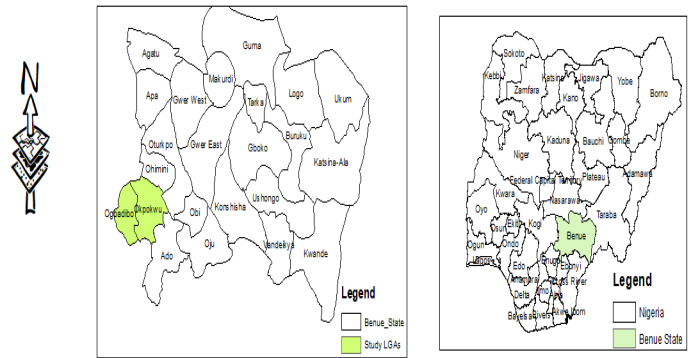


Figure1: Map of the studied LGAs

cultural uses of vultures in Ogbadibo and Opokwu LGAs, Benue State, Nigeria were collected from hunters, farmers, employees and business owners, using semi structured questionnaires administered between January and July, 2022. A Purposive sampling method by Babbie (2001) was adopted. Data on local perceptions of vulture conservation were collected from 900 respondents, 450 household respondents randomly chosen from 15 communal areas per LGA, 30 respondents per communities. These communities were used as replicate for the LGAs. The structuring of the questionnaire followed that of Reson (2012), and questions were asked under the following topics: (i) perception and knowledge of decline in vulture populations and their ecological importance and (ii) the ethno-cultural uses of vulture parts. The questions were carefully constructed to be very direct and straightforward, in an attempt to avoid bias in answering (Mdhlano *et al.*, 2018). The study mainly targeted household heads to respond to the questionnaires. However, in their absence, a resident adult (≥ 18 years) in a household had the opportunity to participate in the interview (Gandiwa *et al.*, 2013).

RESULTS

Socio-Economic and demographic profile of respondents

To determine the Socio-Economic and Demographic Profile of Ogbadibo and Opokwu LGAs, 900 respondents were interviewed. Out of 900 respondents, 450 were from Ogbadibo LGA while the remaining 450 were from Opokwu LGA. Out of the 450 respondents from Opokwu LGA, 333 (74%) were male while 117 (26%) were females. The respondents from Ogbadibo LGA had 324 (72%) males and 126 (28%) females. The respondents in each LGA were within the age range of (18 to > 50 years). The highest percentage of respondents at

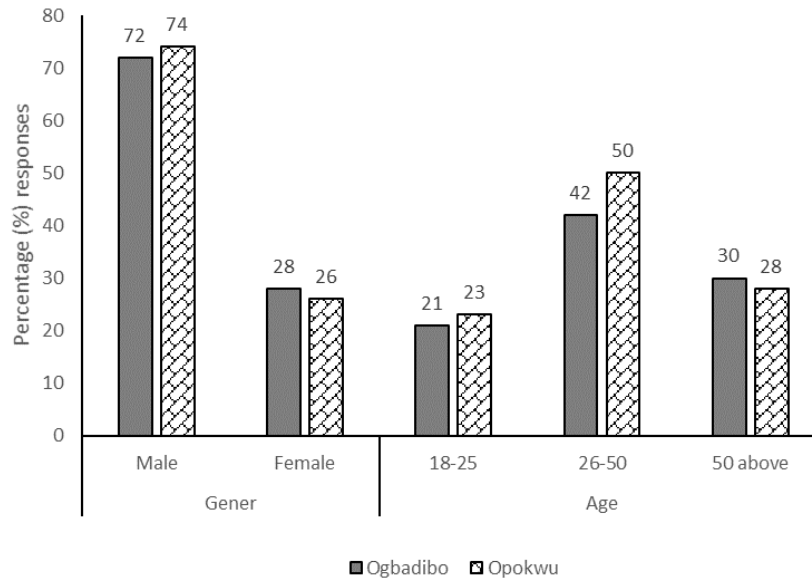


Figure 2: Gender and age of respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria.

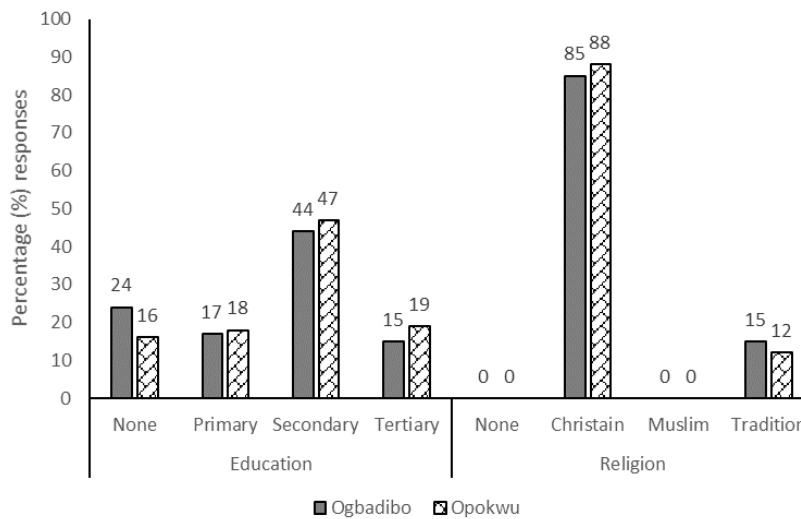


Figure 3: Level of education and religious belief of respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria.

Ogbadibo and Opokwu LGAs was the age range of 25-50 years, 189 (42%) and 225 (50%) respectively (Figure 2). The variation in age range of respondents between the two LGAs did not differ significantly ($p>0.05$). Distribution of the respondents based on educational qualification showed 81 (18%) had formal education in Opokwu LGA while 221 (47%) had secondary education and 85 (19%) had tertiary education. At Ogbadibo LGA, 76 (17%) had

formal education while 198 (44%) had secondary education and 67 (15%) had tertiary education. Comparison of variation in educational qualification of respondents between the two LGAs (Figure 3), showed no significant difference ($p>0.05$)

Grouping of respondents based on religion to determine how religious beliefs influence vulture conservation showed that highest percentage

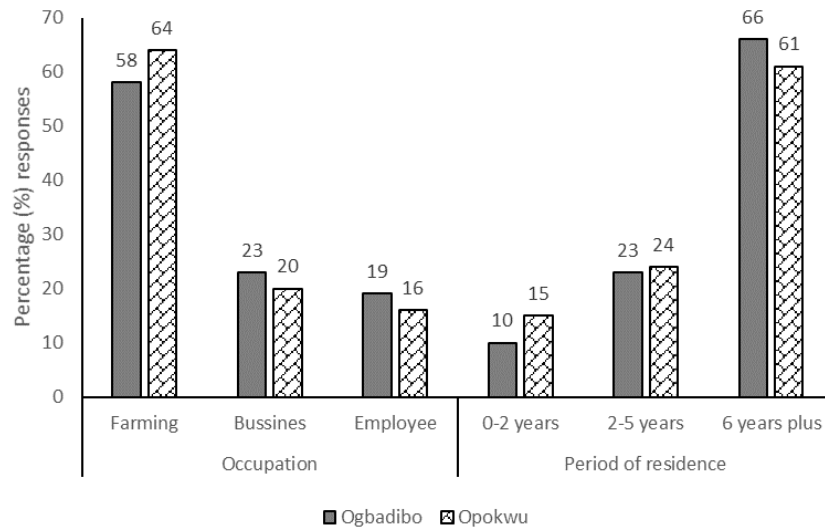


Figure 4: Occupation and period of residence of respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria.

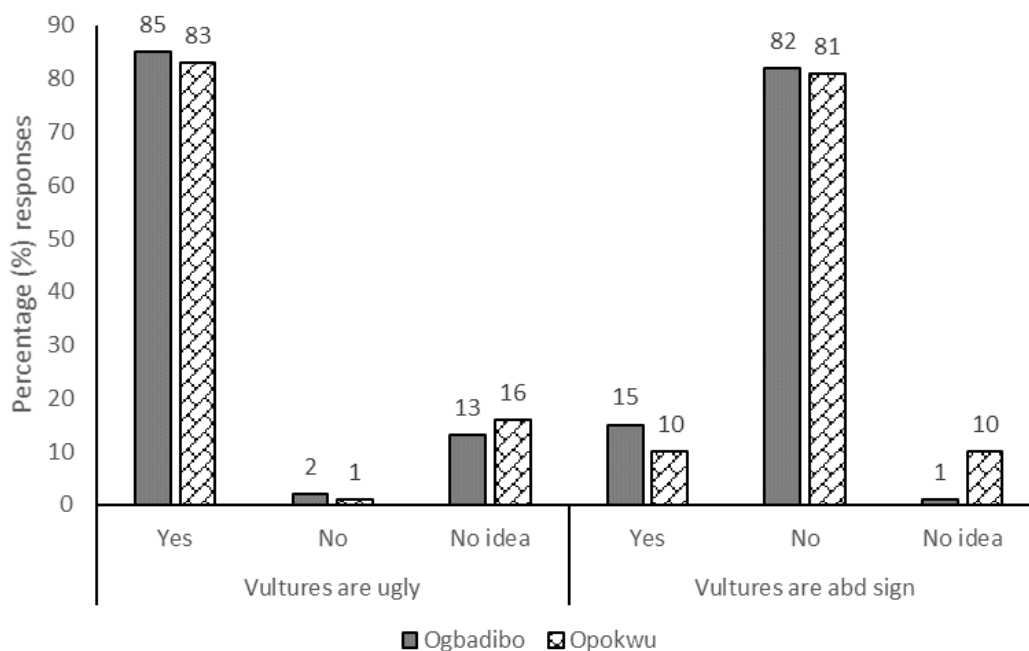


Figure 5: Perception of respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria, on the sighting of vultures.

respondents were Christians, 382 (85%) and 396 (88%) for Ogbadibo and Opokwu LGAs respectively. Traditional religion had 67 (15%) and 54 (12%) percentages for Ogbadibo and Opokwu LGAs respectively. Comparison of number of respondents in each religion between the two LGAs showed no significant difference ($p > 0.05$).

The distribution of the respondents based on occupation showed that 288 (64%) out of the respondents were

farmers while 90 (20%) were business owners and then 72 (16%) were employees in Okpokwu LGAs (Figure 4). In Ogbadibo, 261 (58%) of the respondents were farmers followed by business owners 103 (23%) while employees had the least respondents of 85 (19%). The respondents were also grouped based on the period lived in the study area. At Opokwu LGA, 274 (61%) respondents shared they had lived there for 6 years while 67 (15%) shared

they had spent less than 2 years in the LGA. At Ogbadibo LGA, 297 (66%) respondents had spent at least 6 years while 45 (10%) had lived for less than 2 years in the LGA.

Respondents' perception on vultures

To assess the perception of the local people on vultures, 900 respondents were asked some structured question on vulture. Out of the 900 respondent, 450 respondents were from Ogbadibo LGA while the remaining 450 were from Opokwu LGA. Of the 450 respondents from Ogbadibo LGA, 382 (85%) said vultures are ugly and cannot be used for anything good while 373 (83%) of the respondents from Opokwu described vultures as ugly animals (Figures 5 to 8).

The question on whether appearance or sighting of vultures signifies a sign that something bad or horrible is about to happen, 369 (82%) from Ogbadibo LGA, disagreed to this assertion while 364 (81%) from Opokwu LGA, also disagreed to the assertion. On the respondents knowledge on the role played by vultures in cleaning the environment, only 85 (19%) had some knowledge on the role of vultures in the environment.

The respondents were to respond on whether they had observed any decline in vulture populations over time. Out of the 450 respondents in each LGA, 409 (91%) and 400 (89%) respondents, acknowledged they had observed rapid decline in vulture population over time with Ogbadibo and Opokwu respectively. On knowledge of the need for a collective effort in vulture conservation 405 (90%) from Ogbadibo and 351 (78%) from Opokwu responded that they had not seen the need or been told of the need to put any conservation efforts in saving the remnants of vultures. Only few respondents had the perception that vultures like any other creature have the right to live and socialize, 36 (8%) and 72 (16%) respondents from Obadibo and Opokwu respectively. The respondents perception between the two LGAs did not differ significantly ($p>0.05$).

Respondents' opinions on factors affecting vulture populations

Five (5) factors were identified as the most prevailing reasons for decline in vulture populations in the two LGAs Benue State Nigeria. Out of the five factors, habitat destruction had the highest respondents in the two Local Government Areas, with 261 (58%) and 279 (62%) respondents for Ogbadibo and Opokwu LGAs respectively. This was followed by used of vulture parts, eggs and eyes for rituals with respondents, 166 (37%) and 148 (33%) for Ogbadibo and Opokwu LGAs respectively. Poisoning of vultures had only 22 (5%) and 18 (4%) respondents, respectively for Ogbadibo and Opokwu LGAs. Absence of food and poaching for

Bush meat had no respondents in both LGAs (Figure 9).

Vulture parts used for ethno-cultural purposes

Vulture parts identified by the respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria, as being used for ethno-cultural purposes included the skull, feathers, heart, bones, eggs, brain, eyes and wings (Figures 10 and 11). However, out of 450 respondent from each LGA, the use of vulture eggs had the highest number of respondents, 117 (26%) and 112 (25%) for Ogbadibo and Opokwu LGAs respectively. This was followed by the use of vulture eyes, 90 (20%) and vulture heart 63 (14%) for Ogbadibo and Opokwu LGAs respectively. The respondents perceptions on the use of vulture parts for ethno-cultural purposes between the two (2) LGAs did not differ significantly ($p>0.05$).

On the healing power of vulture parts, 184 (41%) respondents from each LGA believed that vulture parts possess healing power when used in traditional medicine. Killing of vultures for ritual was also one of the people's perception about vultures with 117 (26%) and 112 (25%) of the respondents from Ogbadibo and Opokwu LGAs respectively. The assertion that vultures were used for clairvoyance was one of the questions asked to the respondents. While some denied knowledge of the claim, 85 (19%) and 90 (20%) of the respondents admitted that vultures had such powers in Ogbadibo and Opokwu LGAs respectively. Use of vultures for magical powers had 58 (13%) and 63 (14%) respondents from Ogbadibo and Opokwu LGAs respectively.

DISCUSSION

The highest of the respondents in the study area were of the Christian faith with farming as their major occupation, followed by business owners. This finding concurs with the report of Olotu *et al.*(2020) who reported that majority of the population of Opokwu Local Government Area are of the Christian faith and that farming, hunting, fishing and small scale business were the predominant occupations.

On the other hand, most of the respondents have the perception that vultures are ugly. Reason given for this opinion is that, vultures are dirty birds that feed on the remains of dead animals. Report by Campbell (2009); Kanka and Abukara (2020), agree with this finding. They reported that local people detest vultures because they believe they are ugly, dirty and barbaric since the feed on remains of dead animals. This could be an instrument of use in enlightenment campaign, to deter communities from killing vultures.

The study further reviews that most of the respondents

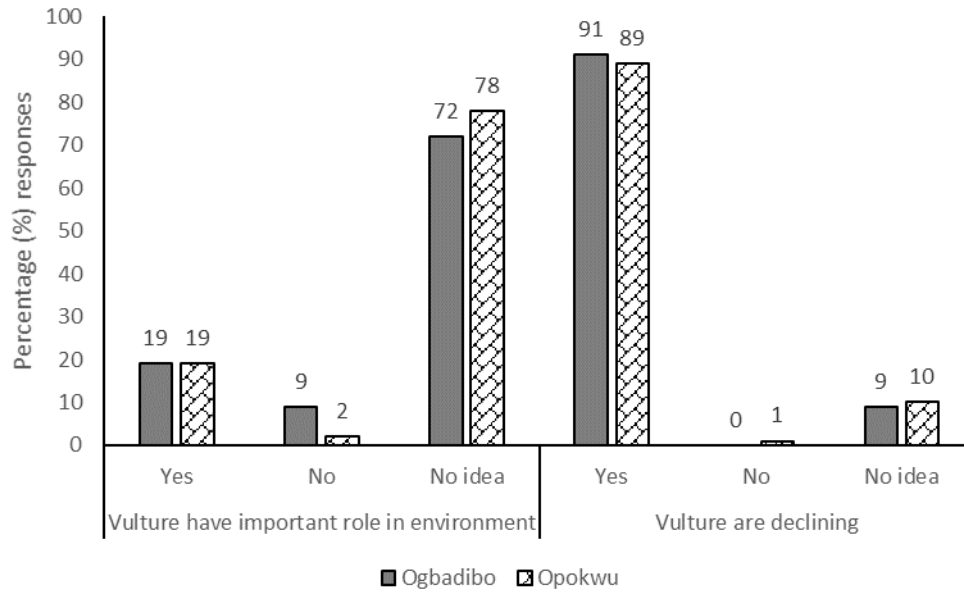


Figure 6: Perception of respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria, on role and abundance of vultures.

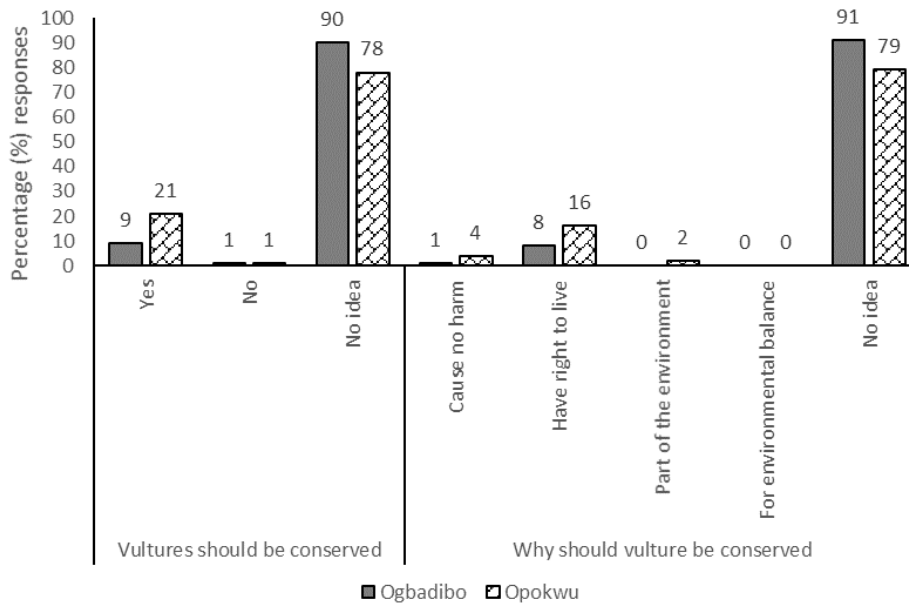


Figure 7: Perception of respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria, on conservation of vultures.

had no idea on the importance of vultures in the environment. This perception contradicts the finding of Owolabi *et al.* (2020) who reported that respondents in South West Nigeria perceived the ecological roles that vultures play in the environment by suppressing the spread of diseases through consumption of dead carcasses. This may be due to the educational level of

the respondents as education level has been indicated as a factor that improves tolerance (Torres *et al.*, 2018).

Ogada *et al.*, (2012), Murn and Botha, (2017) and Ogada *et al.* (2016) reported that vulture populations have declined, particularly in Africa. This report is in line with our finding, in which most of the respondents said that vultures are declining. We discover that the major

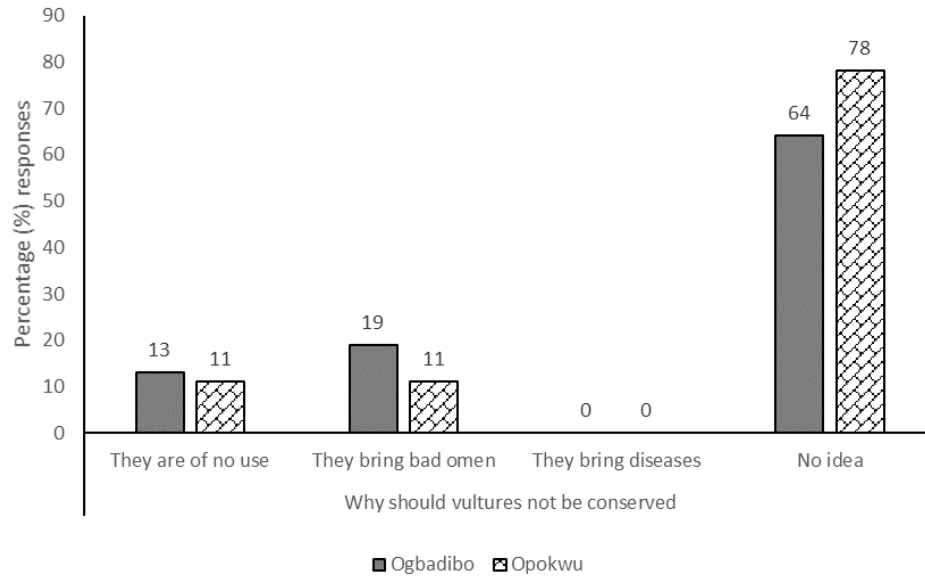


Figure 8: Perception of respondents from Ogbadibo and Opokwu Local Government areas of Benue state, Nigeria, on the reasons why vultures should not be conserved

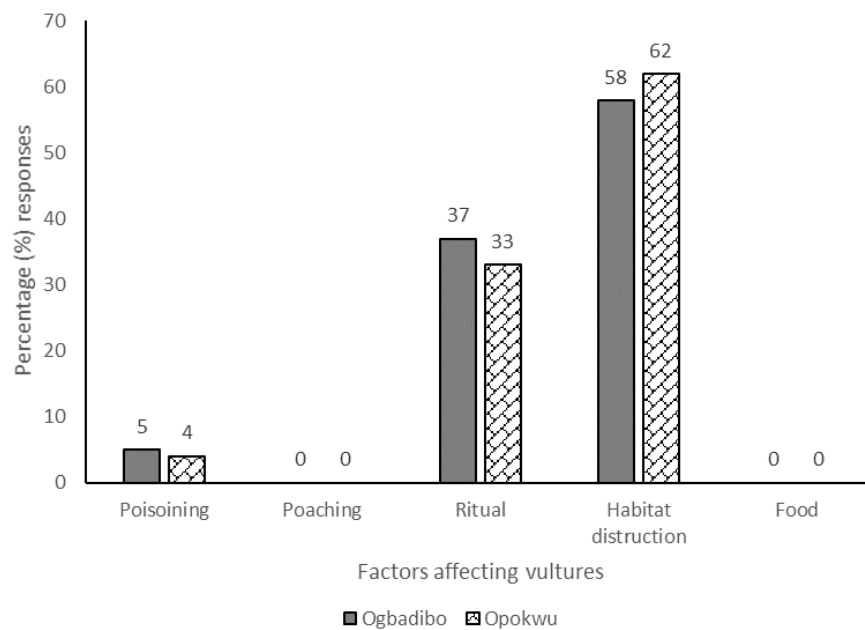


Figure 9: Respondents' Opinions on Factors Affecting Vulture Populations from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria.

threats affecting vulture populations in the study area were habitat destruction, usage for ethno-cultural purposes and poisoning. Adang *et al.* (2019), Ogada *et al.* (2016) reported that the major threats of Hooded

Vulture include non-target poisoning, capture for traditional medicine and direct persecution. Manja *et al.* (2021) noted that logging of tall trees in Kanke LGA and keeping live vultures in captivity for traditional practices in

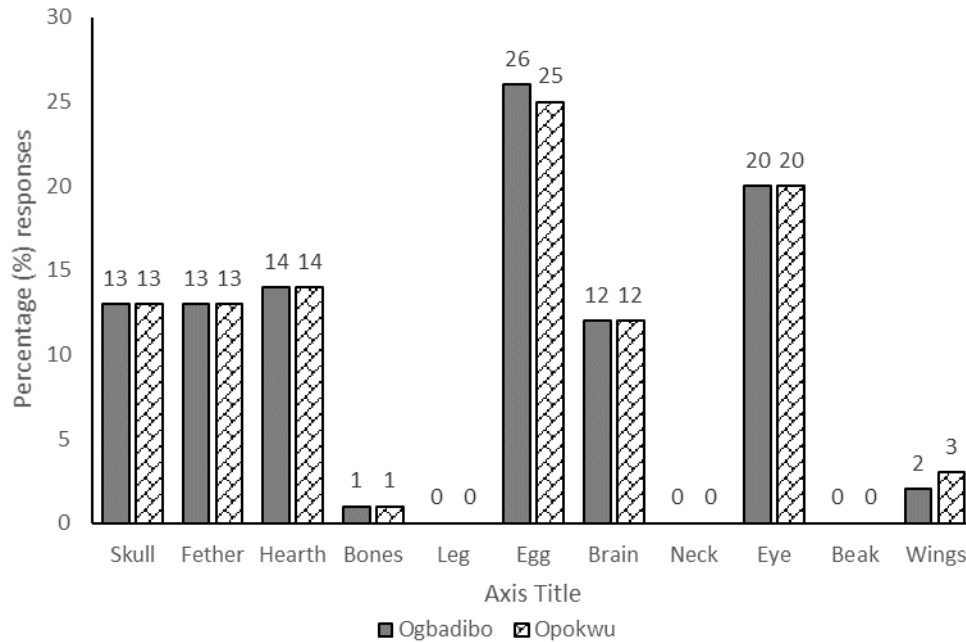


Figure 10: Vulture parts used for ethno-cultural purposes in Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria.

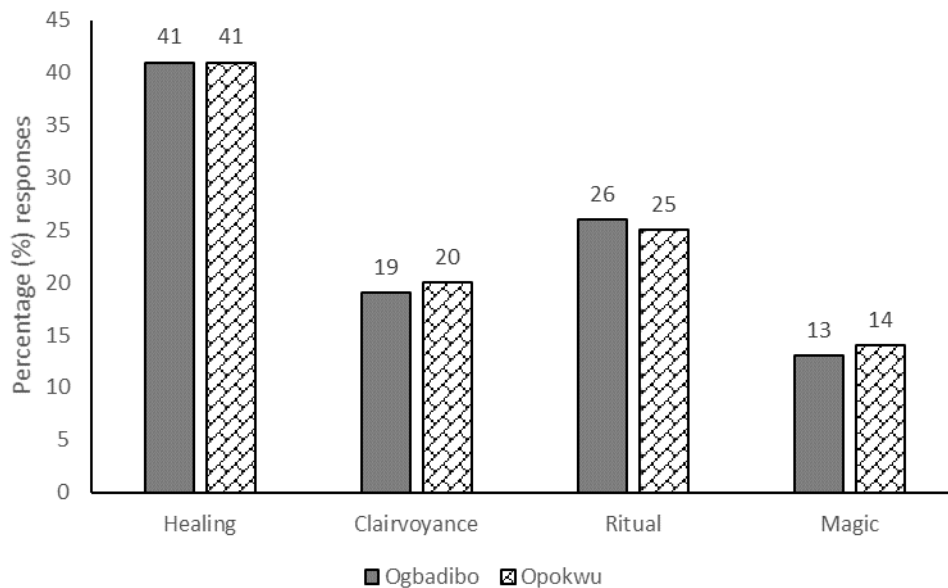


Figure 11: Ethno-cultural uses of vultures by respondents from Ogbadibo and Opokwu Local Government Areas of Benue State, Nigeria.

Langtang– South LGA of Plateau State, Nigeria had serious population consequences for Hooded Vultures that used these trees for roosting and nesting.

Despite the fact that vultures remove rotting carcasses and help to reduce the spread of deadly diseases, their survival in the environment is increasingly

being threatened (Mdhlano *et al.*, 2018). Intentional or unintentional human illegal obstruction has pushed vulture species to the brink of extirpation especially through ethno-cultural uses and poisoned carcasses, which eventually kills the species in large numbers, thereby, reducing the population of vultures in the natural

ecosystem (McNutt and Bradley, 2014). In southern Africa and many part of the world, poisoning of vulture species is claiming their live in large numbers (Murn and Botha, 2017). This is either intentional as poacher's lace carcasses with poison to target vultures so that they do not expose poaching activities (Ogada *et al.*, 2016), or for ritual purposes (Groom *et al.*, 2013; McKean *et al.*, 2013) On the other hand, it was found that vulture parts used for ethno-cultural purposes in the studied area included the skull, feathers, hearth, bones, eggs, brain, eye and wings. This finding is similar to the finding of Owolabi *et al.* (2020) who reported that vulture body parts used for ethno-cultural purposes in South West Nigeria were (skull, feather, heart, bones, leg, brain, beak, neck, and wings. Similarly, majority of the respondents believed that vultures are used for healing, ritual and clairvoyance purposes respectively. This finding concur with the finding of Mullié *et al.* (2017) who reported that the skull, bones and the legs are also used in clairvoyance, which is the belief of seeing into the future or beyond normal sensory contact. McKean *et al.* (2013) reported the use of skull to cure headaches, feathers are said to be used in securing spiritual protection and power against enemy.

Conclusion and recommendations

This study shows that the respondents were highly ignorant of the importance of vultures in the ecosystem, similarly the results suggest that vulture species are still threatened by habitat degradation, poisoning and illegal harvesting of vulture part for ethno-cultural uses. It is therefore recommended that authority should: (i) enhance education and awareness campaigns on the ecological role of vultures, and demystify notions related to vultures body parts for ethno-cultural uses; (ii) collaborate with other local guards to limit the constant killing of vultures in the forest.

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