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Page: 28 – 44

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BIORESOURCES (FAUNA) ASSESSMENT OF WILDLIFE FOR TRADITIONAL MEDICINE IN MARKETS OF IBADAN, SOUTHWEST NIGERIA

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Abstract

Bio-resources are naturally occurring gifts but wildlife (as their fauna aspect) lives in natural environments undisturbed by man. Wildlife constitutes significant parts of traditional medicine in Africa and there is shift of patronage from orthodox to native medications in developing countries due to economic situations. This study therefore assessed the wild avian, mammalian and reptilian species used for traditional medicine in Ibadan. Four sub urban markets: Bode in Molete area, Ijokodo, Oje and Sanngo were visited while Akufo a rural settlement was also visited. Heads of stakeholders' associations were contacted and interviewed using structural questionnaire. Data generated were analysed using Descriptive statistics of sums, bar chart and percentages. Results revealed that the business is divided into hunting, trading and herbalism. Also that traders and herbalists are concentrated in suburban areas while hunters are found mostly in rural communities. Investigations also showed that there was no educational requirement for the business, besides all respondents were married but the idea of zoonotic diseases was low among them. More respondents believed that wildlife abundance and distribution are higher during dry than wet seasons. Out of 45 animal species recorded in this study, mammals were more utilised in traditional medicine than birds and reptiles. The same was their population status in the wild as the number of endangered, threatened and vulnerable wild animals utilised for traditional medicine in Ibadan involved more mammals than birds and reptiles. Except for some big mammals, wild animals captured in this study are used as wholes especially birds and some snakes. Recommendations of Government sensitization for the public against indiscriminate wildlife exploitation especially those that have drastically reduced in the wild to save them from extinction were made.

Keywords: Bio-resources, Wildlife, Utilisation, Endangered, Threatened

Introduction

Bio-resources according to Ingle et al (2020) are renewable and biodegradable materials from agriculture, forests and aquatic environment. Wildlife resources which are animals that serve as prey to other ones and which contribute to overall food web within an ecosystem play a significant role in traditional medicine as they provide hoofs, skins, bones, feathers and tusks for cultural, preventive and protective purposes when incorporated into other preparations for treating diseases as well as magical and religious purposes (Hall et al., 2024). Traditional medicine trade as it involves utilisation of bio-resources for healing and well-being of people is practised in developing countries and gaining popularity around the globe: it therefore provides a platform for establishing the frequently traded species according to Chebii et al (2024). In the process and healing the sick in the traditional ways and using natural resources, their sustainable use and biodiversity protection within the immediate and remote environments should be consciously kept in mind according to Alves and Rosa (2007).

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Due to somewhat shift from orthodox medicine to traditional medications, patronage for native medicine is on the increase; this situation is caused by economic factors which are forcing people to depend on nature and save costs while desiring similar results with Western treatments (Soewu *et al.*, 2012). According to the same source, hospital facilities are nowhere adequate and a considerable number of people living in the rural or suburban areas of tropical parts of Africa rely on traditional medicine. Extension of this report was made by Omoniyi (2024) that economic hardship has led many Nigerians into adopting traditional medicines instead of orthodox ones as retail price for routine medications have increased by 300% in one year due to fluctuating exchange rates, inflation and removal of subsidies.

Trade in ethnomedicine involves the exchange of traditional medical knowledge in practices, driven by increasing demand for traditional health systems: this situation has prompted Chebii *et al* (2022) to report that there exists vast traditional medicine and herbal remedies prescribed for diseases and sociocultural ills that are sold in local medicine markets. Also the ethnomedicine industry developed itself in the evolutionary history of humanity to provide health care services and has long existed before the currently preferred conventional medicine; by then it was the only trusted means of health to people (Wanzanla and Minyoso, 2024).

Traditional medicine exerts pressure more on species, genera and families of wild fauna than others depending on the human communities, culture and ailments (Rajeev and Simeon., 2015); studies on the use of animals for traditional medicine by Sukuma tribe in Tanzania showed that seventeen mammals, seven birds, four reptiles, eight arthropods and two molluscs were used to treat diseases of cough, tuberculosis, asthma and other respiratory diseases. They concluded that forty-two animal species were being used to treat nearly thirty ailments and this showed that ethnozoological practices are greatly patronised in the tribe. In a similar report, Soewu *et al* (2012) documented that 53 wildlife species found in traditional wildlife markets in Ogun State of Nigeria comprised 30 mammals and others (aves, molluscs, reptiles and invertebrates). Extension of this situation was depicted by Kendie *et al* (2018) that indigenous people of Metema Woreda in the northwestern part of Ethiopia utilize mammals (27 species, 17.6%) and reptiles (9 species, 17.6%) with reptiles (6 species, 11.8%), fish (1species, 2%, arthropods, (7 species, 13.7%) and lastly annelids (1species, 2%) in traditional medicine.

Reports of scarcity of species used for traditional medicine are being received with increasing frequency (Anon, 1999; Soewu *et al.*, 2012) presently and the need to document the states of key wildlife species populations in the wild as evidenced by their availability in markets prompted this study in a bid to ensuring sustainability in biodiversity utilization. This study therefore provides an array of the avian, mammalian and reptilian species used for various traditional, medical and spiritual treatments in Ibadan against their states of abundance in their natural habitats.

Materials And Methods

Study Area

This study was conducted in Ibadan, southwest Nigeria which is entirely in the tropics (Lat.7.3507° N, Long. 3.8655° N). Ibadan dates back to the 18th Century playing a crucial role in governance as the headquarters of the British Colonial administration in Southwestern part of Nigeria; it is a major centre for culture, politics and trade (Salaudeen, 2025).

key stakeholders (traders, herbalists and hunters) who have been in the business for twenty or more years to determine their demographic and natural resources information. Among respondents with non-formal education, questionnaire copies were filled for them with the aid of field assistants. 140 respondents were contacted in the study (on the basis of questionnaire retrieved): 60 each from traders and herbalists, 20 from hunters.

Data generated were the respondents' demographic characteristics of sex, age, educational qualifications and marital status. Natural resources data acquired were wildlife species sold in the markets, their seasonal abundance, awareness about zoonotic diseases and ethnomedicinal or traditional uses of the species sold / hunted including the parts used for various purposes.

Results

Demographic Characteristics of Respondents

Demographic results from this study showed that the trade is gender biased. Among the traders interviewed, females were in the pattern of Bode: 16 (26.7%), Ijokodo : 18 (30%), Oje: 10 (16.7%) and Sango : 8 (13.3%). The male counterparts were Bode: 4 (6.7%), Ijokodo: 2 (3.3%), Oje ; 2 (3.3%) and Sanngo :0 (0%). Considering the age distribution of respondents, only 3 people (5%) were under 30 years of age and these were found in Oje market. For 40-49 age class, the distribution was Bode 10 (16.7%), Ijokodo 8(13.3%), Oje 6 (10%) and Sango 3 (5%). The 50-59 years age category featured 6 (10%) for Bode, 2 (3.3%) for Ijokodo, 2 (3.3%) for Oje and 2 (3.3%) for Sango markets. The age group of 60-69 years showed 2 (3.3%) for Bode, 12 (20%) for Ijokodo, 4 (6.7%) for Oje and 0(0%) for Sango while nobody belonged to 70 and above age class. (Table 1a).

Table 1a: Gender and Age Distribution of Traders in Wild Animal Medicine Trade in Study Area

Gender	Bode Market	Ijokodo Market	Oje Market	Sango Market
Male	4(7%)	2(3%)	2(3%)	0(0%)
Female	16(27%)	18(30%)	10(17%)	8(13%)
Age: Under30	0(0%)	0(0%)	3(3%)	0(0%)
40-49	10(17%)	8(13%)	6(10%)	3(5%)
50-59	6(10%)	2(3%)	2(3%)	2(3%)
60-69	2(3%)	12(20%)	4(7%)	0(0%)
70 or above	0(0%)	0(0%)	0(0%)	0(0%)

Source: Field Survey (2025).

The herbalists were a group of male dominated professionals in the study area: the business featured male respondents as follows: Bode 15 (25%), Ijokodo 12 (20%), Oje 24 (40%) and Sango 9 (15%). Age distribution of people contacted for indigenous information showed that nobody belonged to age category of 40-49 years. while 50-59 age class came as Bode 8 (13.3%), Ijokodo 6 (10%), Oje 10 (16.7%), Sango 4 (6.6%), the 60-69 age group was distributed as Bode 1 (1.7%), Ijokodo 0 (0%), Oje 4 (6.7%), Sango 0 (0%), and 70 years and above category were absent in both Bode and Ijokodo markets but were 8 (13.3%) at Oje and 6 (10%) at Sango market communities (Table 1b).

Table 1b: Gender and Age Distribution of Herbalists as Sub urban Respondents in the Study Area

Gender	Bode Market	Ijokodo Market	Oje Market	Sango Market
Male	15(25%)	12(20%)	24(40%)	9(15%)
Female	0(0%)	0(0%)	0(0%)	0(0%)
Age: Under30	0(0%)	0(0%)	0(0%)	0(0%)
40-49	0(0%)	0(0%)	0(0%)	0(0%)
50-59	8(13%)	6(10%)	10(17%)	4(7%)
60-69	1(2%)	0(0%)	4(7%)	0(0%)
70 or above	0(0%)	0(0%)	8(13%)	6(10%)

Source: Field Survey (2025).

Educational profiles of respondents in sub urban markets are compressed in Table 1c. The levels of literacy for stakeholders were restricted to elementary and secondary cadres.

However, no respondent had non-formal education, also nobody had tertiary education.

Table 1c: Educational Profiles of Sub urban Respondents in the Study Area

Education	Markets			
	Bode	Ijokodo	Oje	Sango
Non-formal	0(0%)	0(0%)	0(0%)	0(0%)
Elementary	20(33%)	21(31)	15(25%)	10(17%)
Secondary	15(25%)	18(30)	22(37%)	2(3%)
Tertiary	0(0%)	0(0%)	0(0%)	0(0%)
Others	0(0%)	0(0%)	0(0%)	0(0%)

Source: Field Survey (2025)

For rural communities in the Study Area, Akufo was chosen. There was nobody with non-formal education, the same way nobody attended any tertiary institution among the respondents. This situation is summarized in Table 1d.

Table 1d: Educational Profile of Rural Stakeholders of the Study Area

Educational Status	Number of People
Non-formal	0(0%)
Elementary	12(60%)
Secondary	8(0%)4
Tertiary	0(0%)
Others	0(0%)

Source: Field Survey (2025)

Contact and interviews among hunters who were based in rural communities (Akufo land), showed that hunters as stakeholders of the fauna aspect for bio-resources were characterised differently in terms of demographic information from their counterparts in semi urban centres. All the twenty respondents interviewed were males and their age profiles were between 40 and 60 years (Table 1e).

Table 1e: Gender and age Distribution of Hunters

Gender	Number of People
Female	0(0%)
Male	20(100%)

Age	
Under 30	0(0%)
30-40	0(0%)
40-49	15(75%)
950-59	0(0%)
60-69	5(25%)

Source: Field Survey (2025)

Religious affiliations in the study area are depicted in Table 2a: while Christian religion was absent among the respondents at Ijokodo, 2 (3.3%) were found in Bode Market; 4 (6.7%) were seen in Oje Market but 18 (13.3%) respondents were interviewed in Sango Market. This was the situation in sub urban communities.

Table 2a: Religious Affiliations in Sub Urban Markets of Study Area

Religion	Markets and Religious Beliefs			
	Bode	Ijokodo	Oje	Sango
Christianity	2(3%)	0(0%)	4(7%)	8(13%)
Islam	15(25%)	20(33%)	20(32%)	15(25%)
Traditional Rel.	8(13%)	4(7%)	12(20%)	2(3%)
Others	0(0%)	0(0%)	0(0%)	0(0%)

Source: Field Survey (2025)

In the rural communities visited however, the respondents were native citizens and Christian religion was absent among the stakeholders who were hunters. Muslims were 18 in number while traditional worshippers were 2 (Table 2b).

Table 2b: Religious Affiliations in Rural Areas of Study Area

Religion	Respondents' Numbers
Christianity	0(0%)
Islam	18(90%)
Traditional Rel.	2(10%)
Others	0(0%)

Source: Field Survey (2025)

Additional means of livelihood was assessed among the respondents: for traders, other means of livelihood besides tradomedicinal trade were absent in Bode and Sango Markets but 3 people (5%) and 1 person (1.7%) combined the trade with other sources of income. Among herbalists, solely traditional business people were assembled as 2 people (3.3%) in Bode, 4 (6.7) in Ijokodo, 6 (10%) while nobody (0%) in Oje and Sango communities (Table 3a).

Table 3a: Additional Means of Livelihood among Traders.

Income Nature	Markets			
	Bode	Ijokodo	Oje	Sango
Solely Traditional	15(25%)	12(20%)	15(25%)	14(23%)
Trado and others	0(0%)	3(5%)	0(0%)	1(2%)

Source: Field Survey (2025)

On the other hand, among herbalist, people that combined tradomedicinal business with other ventures were 13 people (21.7%) in Bode, 11 (18.3%) persons in Ijokodo, 9 respondents (15%) in Oje and 15 people (25%) in Sango.

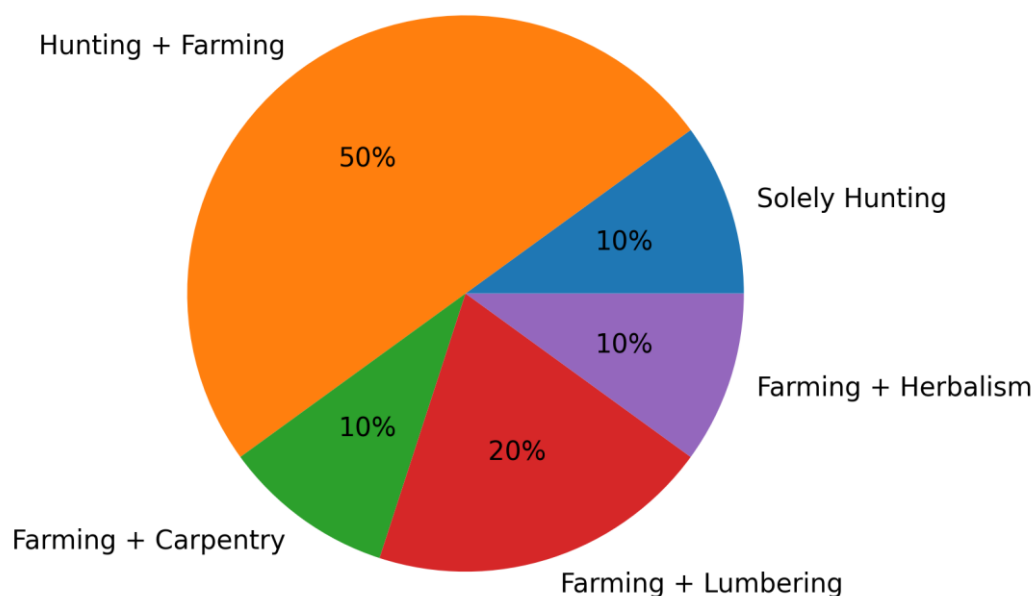
Table 3b: Additional Means of Livelihood among Herbalists.

Income Nature	Markets			
	Bode	Ijokodo	Oje	Sango
Solely Traditional	2(3%)	4(6%)	6(10%)	0(0%)
Trado and others	13(22%)	11(18%)	9(15%)	15(25%)

Source: Field Survey (2025)

Additional means of livelihood among hunters which were concentrated in rural areas of the study area are depicted in Table 3c: 2 people depended on hunting as their only source of income (the chief hunter and the assistant) due to their age attainment. The remaining 18 people combined hunting with other jobs (farming, carpentry, herbalism and lumbering).

Figure 3c: Hunters' Means of Livelihood

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Source: Field Survey (2025)

Assembly of marital status for the people involved on tradomedicinal business of the study area is provided by Table 4a: single people were absent among traders while married ones were distributed as Bode 16 (26.7%), Ijokodo 12 (20%), Oje 18 (30%) and Sango 15 (25%). Divorced people were absent 0(0%) in both Bode and Sango Market zones but in Ijokodo axis, 1 (1.7%) and Oje 2(3.3%) were documented as divorced respondents. Widowed respondents were found as Bode 0(0%), Ijokodo 3 (5%), Oje 2 (3.3%) and Sango 1 (1.7%) (Table 4a).

Table 4a: Marital Status for Traders in the Study Area

Marital Status	Markets and Numbers			
	Bode	Ijokodo	Oje	Sango
Single	0(0%)	0(0%)	0(0%)	0(0%)
Married	16(27%)	12(20%)	18(30%)	15(25%)
Divorced	0(0%)	1(2%)	2(3%)	0(0%)

Widowed	0(0%)	3(5%)	2(3%)	1(2%)
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Source: Field Survey (2025)

Among herbalists (Table 4b), single people were absent in all the markets, married people were Bode: 14 (23.3%), Ijokodo 6 (26.7%), Oje 12 (20%) and Sango 12 (20%). Divorced herbalist were absent at Bode, Ijokodo and Oje Markets (0%) but 1 (1.7% at Sango) Market; widowed people were spread as Bode 2 (3.3%), Ijokodo 1(1.7%), Oje 1 (0%) and Sango 3(5%) (Table 4b)

Table 4b: Marital Status for Herbalists

Markets and Herbalists' Numbers				
Markets				
Single	0(0%)	0(0%)	0(0%)	0(0%)
Married	14(23%)	16(43)	12(20)	12(20)
Divorced	0(0)	0(0)	0(0)	1(2)
Widowed	2(4)	1(2)	0(0)	3(5%)

Source: Field Survey (2025)

For other demographic characteristics of stakeholders (Table 4c), research revealed that all stakeholders were married but for the chief hunter (and his assistant, who were the oldest persons in the profession) and who were widowers.

Table 4c: Marital Status for Hunters

Marital Class	Numbers
Single	0(0%)
Married	18(90%)
Divorced	0(0%)
Widowed	2(10%)

Source: Field Survey (2025)

Zoonotic disease awareness was tested among stakeholders of fauna bio-resources stakeholders in the study area (Table 5a). While some people admitted zoonotic disease spread and contact from wild animals (+), some were not aware of them (-). Zoonotic diseases awareness among traders was in the order: Bode +:4 (6.7%), - 15: (25%), Ijokodo + 6: (10%) – :20 (33.3%) , Oje + :0 (0%) -16: (26.7%) and Sango +: 12 (20%); - 3: (5%). The distribution among herbalists was Bode + 2: (3.3%), – 10: (16.7%); Ijokodo +:8 (13.3%), - 12: (20%), Oje +6: (10%), - 10: (16.7%) and Sando + 10: (16.7%), - 2: (3.3%).

Table 5a: Zoonotic Diseases Awareness among Traders and Herbalists Combined

Respondents	Markets			
	Bode	Oje	Ijokodo	Sanngo
Traders (+)	4(7%)	6(10%)	0(0%)	2(3%)
Traders (-)	15(25%)	14(23%)	13(22%)	6(10%)
Herbalists (+)	2(3%)	8(13%)	6(10%)	10(17%)
Herbalists (-)	10(17%)	12(20%)	10(17%)	2(3%)

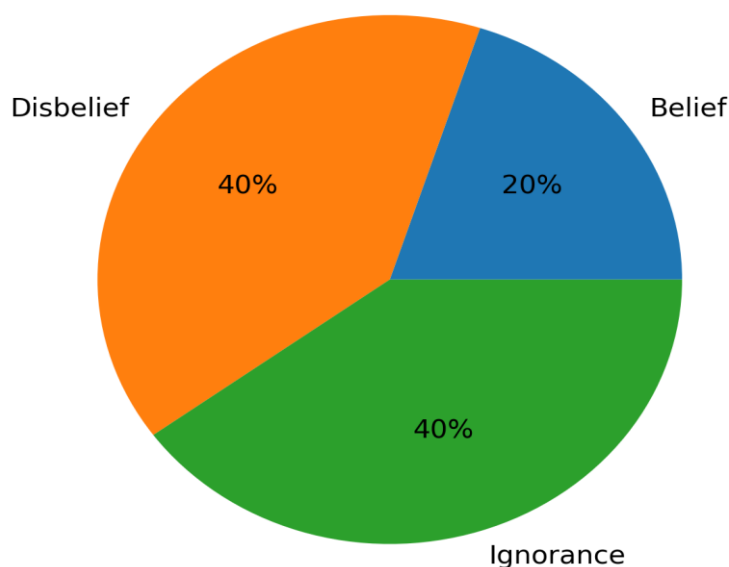
Key: Awareness (+), No Awareness (-)

Source: Field Survey (2025).

Table 5b shows the pattern of zoonotic disease awareness among hunters. While 2 Respondents admitted their existence and spread, the remaining people (8) insisted that the situation was not true while 8 hunters did not understand the meaning of zoonotic diseases.

Figure 5b: Hunters' Zoonotic Disease Awareness

Figure 5b: Hunters' Zoonotic Disease Awareness



Respondents' perceptions about wild animal seasonal abundance/ distribution/ diversity was assessed in the study area. For birds, among traders, the beliefs of the variables were in the order: Bode Wet Season 0 and dry season 16 people. Ijokodo: Wet 6, dry: 8; Oje: Wet 0 Dry 10 and Sango: Wet 6 Dry 14. Mammalian distribution was depicted as Bode: Wet 8 dry 10, Ijokodo: Wet 5 dry 15, Oje: Wet 2 Dry 12 and Sango: Wet 4 Dry 4. For reptiles, people's beliefs were Bode : Wet 9, Dry 9; Ijokodo: Wet 10, Dry 10; Oje: Wet 6 Dry 8 and Sango: Wet 2 Dry 6. Among herbalists, the pattern was similar: the results for avian distribution were Bode: Wet 6, Dry 12, Ijokodo: Wet 9, Dry 10 and Sango : Wet 2, Dry 7. Herbalists' beliefs about mammalian pattern of abundance was in the array of mammals: Wet 4, Dry 16,; Ijokodo: Wet 0, Dry 10; Oje: Wet6 Dry 8 and Sango: Wet: 2 Dry 4. For reptiles it was Bode; Wet 5, Dry 15, Ijokodo: Wet2, Dry 8, Oje: Wet 7, Dry 7 and Sango: Wet 2, Dry: 4 (Table 6a).

Table 6a: Pattern of Wildlife Seasonal Abundance/ Distribution/Diversity

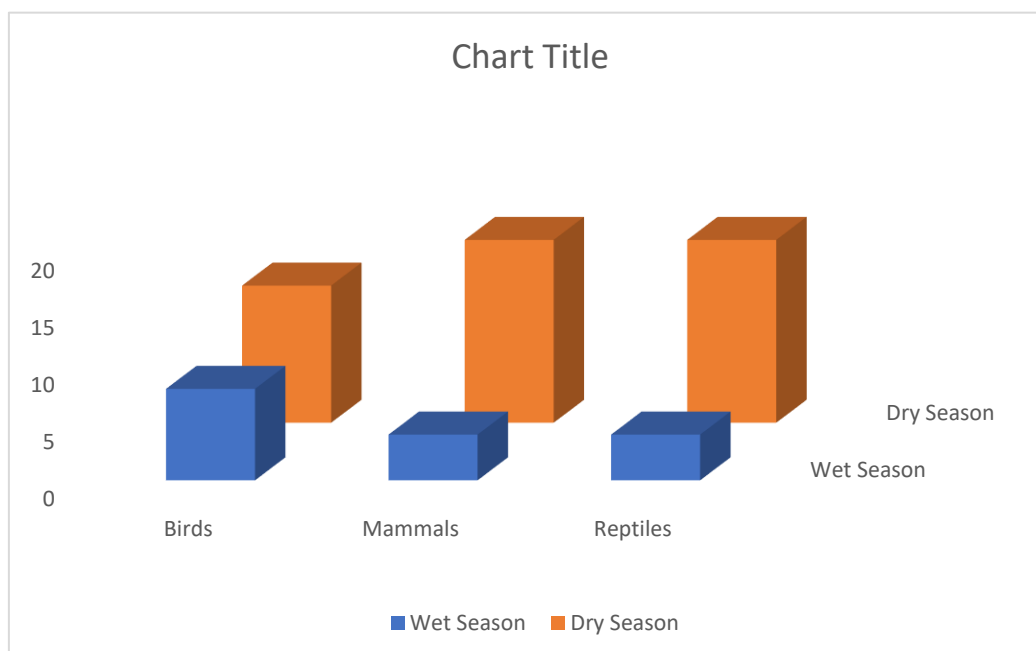
Markets	Wet Season Supporters	Dry Season Supporters
Traders		
Birds		
Bode	0	16
Ijokodo	6	8
Oje	0	10
Sango	6	14
Mammals		
Bode	8	10
Ijokodo	5	15
Oje	2	12
Sango	4	4
Reptiles		
Bode	9	9
Ijokodo	10	10

Oje	6	8
Sango	2	6
Herbalists		
Birds		
Bode	6	12
Ijokodo	9	10
Oje	4	10
Sango	2	7
Mammals		
Bode	4	16
Ijokodo	0	10
Oje	6	8
Sango	2	4
Reptiles		
Bode	5	15
Ijokodo	5	5
Oje	7	7
Sango	2	4
Total	110(32.4%)	230(67.6%)

Source: Field Survey (2015).

The pattern of seasonal figures among hunters (rural areas) was similar to those in urban areas: among birds, the figure ratios were Wet season to dry season were 8 to 12, for birds, 4 to 16 for mammals and 4 to 16 for reptiles (Fig. 1).

Figure 1: Seasonal distribution of different classes of wildlife...



Source: Field Survey (2015).

Utilization of Fauna Resources in Traditional Medicine

Utilization of wildlife based traditional medicine from this study was found to be in three categories: avian, mammalian and reptilian species.

Avian (Bird) Species

In the study area, the use of birds in traditional medicine is diversified; one avian species could serve many purposes when combined with other animal/herbal preparations to make medicines. Conversely two or more birds can serve one medicinal purpose, it was also observed that almost all parts of birds documented are used for traditional medicine and processing modes are the same (Table 7).

Table 7: Traditional Uses of Avian Species in Ibadan

S/No	Scientific Name	Common Name	Parts Used	Preparation	Medicine
1	<i>Ardea alba</i>	Common Egret	Head, feather, legs, eggs, whole body	burning	Safety, fortune, marriage lucky choice, money pull
2	<i>Corythaeola cristata</i>	Blue Turaco	Head, feather, legs, eggs, whole body	Ditto	Fertility, safety antidote, sales puller, money ritual
3	<i>Corythaeola cristata</i>	Red Turaco	Head, feather, legs, eggs, whole body	Ditto	Ditto
4	<i>Falco columbarius</i>	Falcon	Ditto	Ditto	Kleptomania removal
5	<i>Francolinus bicalcaratus</i>	Francolin	Ditto	Ditto	Safety, escape, child toddling ease, love, ulusiveness ⁶
6	<i>Milvus migrans</i>	Kite	Ditto	Ditto	Kleptomania removal, stealing success, child toddling ease
7	<i>Numida meleagris</i>	Guinea fowl	Ditto	Ditto	Fortune, witches appeasement
8	<i>Ploceus cucullatus</i>	Village weaver	Ditto	Ditto	Sales pull, human village/market /community establishment,
9	<i>Pycnonotus barbatus</i>	Common bulbul	Ditto	Ditto	Safety, witches appeasement, safe co-existence
10	<i>Stropelia semitorquata</i>	Common Dove	Ditto	Ditto	Fortune puller, protection, love from people, sales puller

Source Field Survey (2025).

Mammals in Ethnomedicine in Ibadan

The use of mammalian species for traditional medicine in Ibadan involves more parts than the avian counterparts. This similarly increased their traditional uses to more purposes than birds (Table 8).

Table 8: Traditional Uses of Mammalian Species in Ibadan

S/No	Scientific Names	Common Names	Parts Used	Preparation	Medicine
1	<i>Anomalurus beecrofti</i>	Flying Squirrel	Tail, skin, leg, head, limbs, whole body	Burning,	Fertility, body cleanser

2	<i>Cephalophus rufilatus</i>	Grey duiker	Head, tail, horn, skin, legs, intestines	Burning, cooking	Command, fortune pull, stomach ache, escape
3	<i>Cercopithecus mona</i>	Mona monkey	Ditto	Ditto	ditto + twin bearing
5	<i>Cerphalophorus leucogaster</i>	White duiker	Ditto	Ditto	Ditto
2	<i>Civettitis civetta</i>	African Civetcat	Skin, , tail head, limb	Ditto	Conquer, boldness
6	<i>Cricetomys gambianus</i>	Giant rat	Head, tail, intestine	Ditto	Rituals, Command
7	<i>Colobus guereza</i>	Columbus monkey	Ditto	Burning, cooking	Ditto for 3
8	<i>Crocota crocuta</i>	Spotted hyaena	Skin, paws, tongue droppings, limbs	Burning, cooking	Victory, fortune
9	<i>Dendrohyrax dorsalis</i>	Tree hyrax	Head, skin, limbs	Burning	Victory, fortune, safety
10	<i>Eidolon helvum</i>	Bat	Skin, head, whole	Burning, cooking	Safety, antidote
11	<i>Epixerus ebii</i>	Tree squirrel	Head, skin, limbs	Ditto	Convulsion
12	<i>Equus guagga</i>	Zebra	Skin, head, teeth		
13	<i>Erythrocebus patas</i>	Red patas monkey	Ditto	Ditto	Ditto for 3
14	<i>Erinaceus eoropaus</i>	Hedgehog	Skin, whole,	Ditto	Prosperity, money pull
15	<i>Felis libyca</i>	African Wild cat	Head, limb, skin	Burning	Evil spirit prevention
16	<i>Genetta genetta</i>	Genet Civet cat	Head, anus paw, skin, intestines	Burning, cooking	Evil spirit prevention, convulsion
17	<i>Gorilla gorilla</i>	Gorilla	Skin, limb, fur, anus, head, paw	Burning, cooking	Victory, Command, Leadership, fortune
18	<i>Herpestes sanguineus</i>	Fox	Footprint, paw, head, skin, head	Burning, mixture (footprint)	Safety
19	<i>Loxodonta Africana</i>	African elephant	Skin, teeth, paw, droppings, flesh	Burning, cooking	Convulsion, rheumatism, luck
20	<i>Manis gigantean</i>	Pangolin	Scales, whole, limbs, head, limbs	Ditto	Safe childbirth
21	<i>Pan trongdolyte</i>	Chimpanzee	Head, limbs, skin paws, flesh	Burning, cooking	Victory/breakthrough
22	<i>Panthera leo</i>	African lion	Skin, head, claws, tongue, droppings	Burning, cooking, sewing (skin),	Conquering
23	<i>Papio Anubis</i>	Baboon	Head, fur, palm skin, paw, nails	Burning	Fortune
24	<i>Phargoschoerus Africana</i>	Warthog	Skin, head, skin, teeth	Burning	Safety
25	<i>Syncerus afer</i>	Buffalo	Head, horn, hoofs, skin	Mixture with other things, sewing (skin) burning	Convulsion, rheumatism, wrestling success, luck
26	<i>Tragelaphus scriptus</i>	Bush buck	Head, skin, hoof, horn, intestines	Burning, cooking (intestines)	Oracular guide, prosperity
27	<i>Thryonomys swinderianus</i>	Grasscutter	Head, limbs, skin	Burning cooking	Safe delivery, general
28	<i>Xerus erythropus</i>	Ground squirrel	Skin, limbs, head	Ditto	Pancreatic diseases

Source: Field Survey (2025)

Reptilian Species in the Study Area

The use of reptilian species for native medicine was not as diversified as birds and mammals: the snake head, tail, skin and intestines were mostly used for medicinal preparations (Table 9).

Table 9: Traditional Uses of Reptilian Species in Ibadan

S/No	Scientific Name	Common Name	Parts Used	Preparation	Medicine
1	<i>Bitis arietans</i>	Puff Adder	Skin, teeth, head. Droppings, head	Burning (head, tail) (skin), grinding (teeth)	Antidote, success, money ritual
2	<i>Chameledeo spp</i>	Chameleon	Whole body, skin	Burning, raw	Prosperity
3	<i>Crocodilus amphibius</i>	Nile Crocodile	Skin, teeth, head, scales, claws	Varies	Prosperity
4	<i>Groyia smithii</i>	Smith Water snake	Ditto for Puff adder	Burning	Antidote
5	<i>Kinixys erosa</i>	Land tortoise	Shell, head, intestines, whole	burning, cooking	Haemorrhoid
6	<i>Veranus mambitang</i>	Monitor lizard	Skin, head, teeth	Ditto	Safety
7	<i>Vipera Spp</i>	Viper	Head, teeth, skin	Ditto	Ditto

Source: Field Survey (2025).

IUCN Status of fauna Resources use for Traditional Medicine in Ibadan

The International Union for Conservation of Nature (IUCN) rating for abundance in the wild about these fauna resources encountered is summarized in Table 10. Among birds (ten in number), one species has insufficient data, 2 species threatened and one species endangered; for mammals (28 in number), the arrangement is least Concerned (12), critically endangered (4), vulnerable (2), Lower risk (1), Near threatened (4), Threatened (4). Among reptiles (7 in number), Near threatened (1), Threatened (2), Least Concern (1), Endangered (1), Vulnerable (1) and Data Deficient (1) were documented.

Figure 10A: Species Used in Traditional Medicine by Class

Figure 10A: Species Used in Traditional Medicine by Class

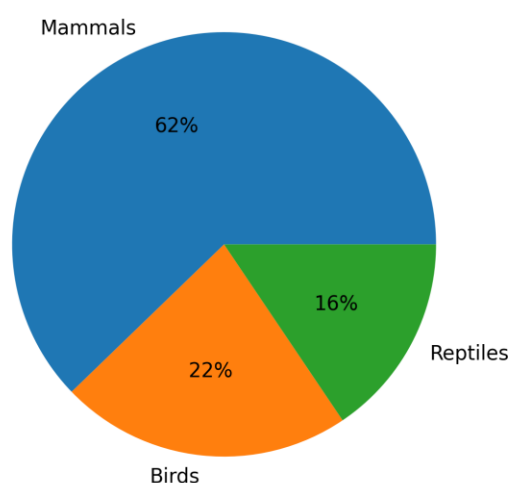


Figure 10B: IUCN Status of Mammals Used

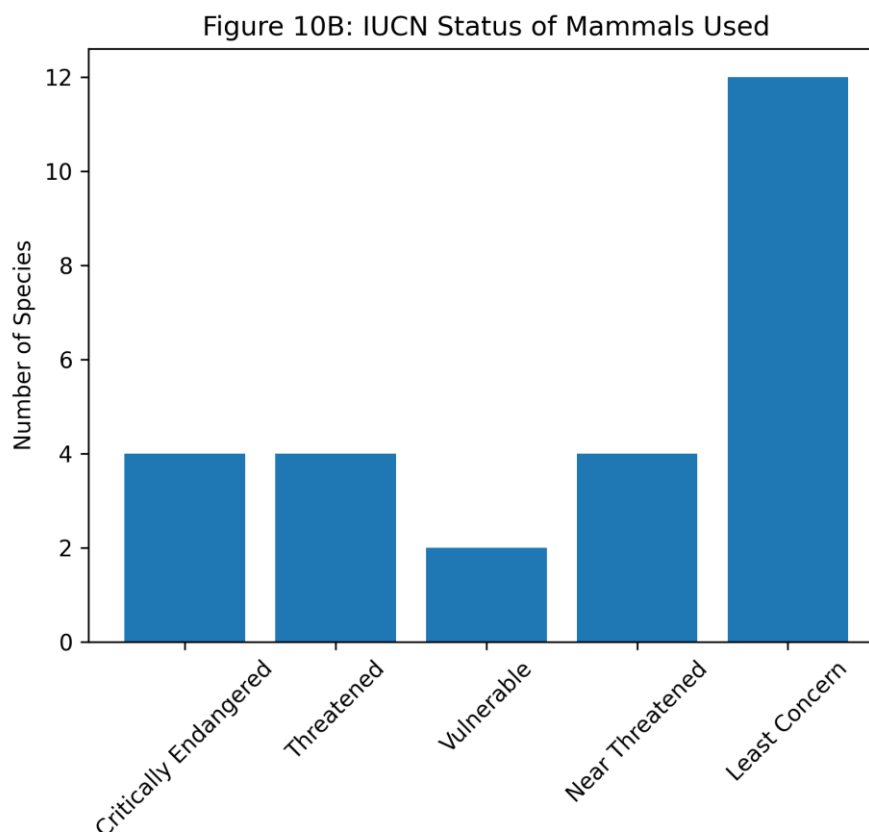


Table 10: IUCN Rating for Fauna Species Encountered in the Study Area

S/No	Scientific Name	Common Name	IUCN Status
BIRDS			
1	<i>Ardea alba</i>	Common Egret	Data Deficient
2	<i>Corythaeola cristata</i>	Blue Turaco	Least Concern
3	<i>Corythaeola cristata</i>	Red Turaco	Least Concern
4	<i>Falco columbarius</i>	Falcon	Threatened
5	<i>Francolinus bicalcaratus</i>	Francolin	Endangered
6	<i>Milvus migrans</i>	Kite	Threatened
7	<i>Numida meleagris</i>	Guineafowl	Least Concern
8	<i>Ploceus cucullatus</i>	Village weaver	Least Concern
9	<i>Pycnonotus barbatus</i>	Common bulbul	Least Concern
10	<i>Stropelia semitorquata</i>	Common Dove	Least Concern
MAMMALS			
11	<i>Anomalurus beecrofti</i>	Flying Squirrel	Least Concern
12	<i>Cephalophus rufilatus</i>	Grey duiker	Lower Risk
13	<i>Cercopithecus mona</i>	Mona monkey	Near Threatened
14	<i>Cerphalophorus leucogaster</i>	White duiker	Threatened
15	<i>Civettictis civetta</i>	African Civet cat	Least Concern
16	<i>Cricetomys gambianus</i>	Giant rat	Least Concern
17	<i>Colobus guereza</i>	Columbus monkey	Least Concern
18	<i>Crocuta crocuta</i>	Spotted hyaena	Threatened
19	<i>Dendrohyrax dorsalis</i>	Tree hyrax	Least Concern
20	<i>Eidolon helvum</i>	Bat	Near Threatened
21	<i>Epixerus ebii</i>	Tree squirrel	Threatened
22	<i>Equus guagga</i>	Zebra	Threatened
23	<i>Erythrocebus patas</i>	Red patas monkey	Near Threatened
24	<i>Erinaceus eoropaus</i>	Hedgehog	Near Threatened

25	<i>Felis libyca</i>	African Wild cat	Least Concern
26	<i>Genetta genetta</i>	Genet Civet cat	Least Concern
27	<i>Gorilla gorilla</i>	Gorilla	Critically Endangered
28	<i>Herpestes sanguineus</i>	Fox	Least Concern
29	<i>Loxodonta Africana</i>	African elephant	Vulnerable
30	<i>Manis gigantean</i>	Pangolin	Vulnerable
31	<i>Pan trongdolyte</i>	Chimpanzee	Critically Endangered
32	<i>Panthera leo</i>	African lion	Critically Endangered
33	<i>Papio Anubis</i>	Baboon	Critically Endangered
34	<i>Phargochoerus africanus</i>	Warthog	Least Concern
35	<i>Syncerus afer</i>	Buffalo	Near Threatened
36	<i>Tragelaphus scriptus</i>	Bush buck	Least Concern
37	<i>Thryonomys swinderianus</i>	Grasscutter	Least Concern
38	<i>Xerus erythropus</i>	Ground squirrel	Least Concern
REPTILES			
39	<i>Bitis arietans</i>	Puff Adder	Least Concern
40	<i>Chameledeo spp</i>	Chameleon	Threatened
41	<i>Crocodilus amphibious</i>	Nile Crocodile	Near Threatened
42	<i>Groyia smithii</i>	Smith Water snake	Threatened
43	<i>Kinixys erosa</i>	Land tortoise	Data Deficient
44	<i>Veranus mambitang</i>	Monitor lizard	Endangered
45	<i>Vipera Spp</i>	Viper	Vulnerable

Discussion

Bio-resources (fauna) business is glaringly gender sensitive: while the trade aspect is feminine based, the herbalism and hunting aspects are masculine in membership. This assertion was also observed by Alqethami (2017) that ethnomedicinal trade in Mecca is mostly practised by women, also that the business of bio-resources is sustainable because predominant part of the stakeholders are married, implying that people are able to cater for their family members from the business. This idea was also documented by Ingle et al. (2020) that bio resources business has a lot of prospects. Education is not a basic requisite requirement in the business because elementary and secondary tiers of education are the most common literacy levels in the vocation. This was also documented in a similar way by Soewu et al. (2012). Hunting success among hunters on avian, mammalian and reptilian species from this study was higher in dry season than wet. This perception was also held by Soewu (2008) that wild animals are more abundant for sale during late dry season and early wet season in selected markets of Ogun State in Nigeria. Zoonotic diseases awareness among respondents was low: disbelief and ignorance figures outnumbered awareness figures of zoonotic diseases, this situation might probably be caused by their low levels of education. Abdulaziz et al. (2024) also reported that perceptions and knowledge related to zoonotic diseases are not enough in some communities of Ethiopia. In terms of fauna aspects of bio-resources in the study area, species involvement for traditional medicine was in the order mammals (28)> birds (10)>reptiles (7). Ameade et al (2025) documented a similar report in Ghana that mammals are the most traded class of vertebrates, followed by birds for traditional medicine. This study reveals that in comparison with IUCN status, threatened species were in the order mammals> birds> reptiles. Threatened ones are arranged as mammals >birds=reptiles; vulnerable species were found among only birds and mammals while the Least Concern fauna species are in the assemblage mammals> birds> reptiles. The only animal with Lower Risk status in the wild was *Cephalophus rufilatus*. Wild animals belonging

to Insufficient Data Category were absent among mammals, 1 among reptiles (*Kinixys erosa*) and 1 among birds (*Ardea alba*). This distribution is in agreement with Soewu et al, (2012).

Conclusion And Recommendations

Fauna aspects of bio-resources business in Ibadan is seemingly a profitable venture: while the aspects are gender sensitive, there is division of labour in the endeavor. The situation of zoonotic diseases awareness being low among respondents is caused by the situation of no educational requirement for the jobs. Despite the fact that more animals are harvested during dry than wet season for traditional medicine in Ibadan and environs, mammals are under the greatest hunting pressure from forest exploiters. Government at all tiers should therefore expedite action of awareness campaigns through different mass media techniques to sensitise people in wildlife utilization against indiscriminate exploitation. Stakeholders in traditional medicine should also be educated about the population status of vulnerable, threatened and endangered species because the consequences of overharvesting them in the wild is extinction risk. Government should also met stiff penalties on violators of environmental conservation rules in order to serve as deterrent to other ones intending to commit the same or similar offences. Other strategies to save key species from extinction such as establishment of more forest reserves and National Parks should be put in place. Adult Education Programmes should be given more priority among stakeholders of fauna trade and utilisation in a bid to understanding the nutritional and pathological aspects of traditional medicines being produced, marketed and consumed in their surroundings.

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