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# Assessment of Domestic and Wild Animals Pets Owned by Residents of Makurdi Metropolis, Benue State, Nigeria

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***Authors' contributions***

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## ABSTRACT

Peting is an age-old habit of keeping either domestic or wild animals as man's companion. In Makurdi metropolis, residents also keep pets. This study was conducted with the objectives of assessing the Domestic and Wild Animal pets owned by residents of Makurdi Metropolis. Questionnaire was used and structured into 2 sections namely, socio- demographic characteristics of residents and ownership of domestic and wild animals pets. Simple and systematic random samplings were used to select sample locations in which a total of 250 questionnaires were administered; Descriptive statistics, Students t-test and chi-square analysis were used to analyzed data. Result showed that, out of the 250 respondents; 144 were male respondents while 106 were female respondents. Residents of Makurdi Metropolis owned both domestic and wild animal's pets. The commonest domestic animal pet was the Dog. While the commonest wild animal pet was the Red Patas Monkey (Erythrocebus patas). It was therefore recommended that more Enlightenment

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campaigns on the danger of zoonotic diseases transmission associated with pets and their preventive measures should be given to residents of Makurdi metropolis to forestall future public health hazards.

*Keywords: Makurdi metropolis; pet owners; domestic and wild animals.*

## 1. INTRODUCTION

A household consist of one or more people who reside in the same dwelling and also share meals or living accommodation, and may consist of a single family or some other grouping of people. [1]. Wildlife refers to all forms of wild animals and their environment; this encompasses all living organism that occur in the wild state. In most cases the term is usually restricted to vertebrate and to a lesser extent the invertebrate. Wildlife is normally defined as free-roaming animals (mammals, birds, fish, reptiles, and amphibians), Pet is any domesticated or tamed and undomesticated or untamed animal that is kept at home as a companion and treated or cared for affectionately, examples of domesticated pets includes dogs, cats, tortoise, gold fish, parrot, and horses while, rodents, monkeys, and snakes are undomesticated pets. Pet can transmit a number of diseases. Dogs and cats are routinely vaccinated against rabies. Pets can also transmit ringworm and giardia, which are endemic in both animals and human populations. Toxoplasmosis is a common infection of cats; in humans, it is a mild disease although it can be dangerous to pregnant women, [2]. It was originally believed that the first domesticated wolves appeared around 15,000 years ago in the Middle East. New evidence, however, suggests it was much earlier than that [3]. Swedish geneticist Pontus Skoglund published a study last year in the journal *Current Biology*, describing his findings of a 35,000-year-old Siberian wolf bone. He concluded that canine domestication may have first occurred 27,000 to 40,000 years ago [3]. Most human disease originated in animals, however only disease that routinely involve animal to human transmission like rabies are considered direct zoonosis, [4]. Zoonoses have different modes of transmission. In direct zoonoses the disease is directly from the animal to humans through such media as air (influenza) or through bites and saliva (rabies). In contrast transmission can also occur via an intermediate species (referred to as a vector), which carry the disease pathogen without getting infected. When humans infect animals, it is called reverse zoonosis or anthroponosis, [5]. This study was therefore conducted with the following objectives in mind: assessment of domestic and wild animals owned as pets by residents of Makurdi metropolis. The study is justify because, previous studies such as [6] and [7] have showed that they is a large population of dogs in the study area with potential health hazards to residents.

## 2. MATERIALS AND METHODS

This study was conducted in Makurdi Metropolis, Makurdi Local Government Area (LGA) of Benue state, Nigeria. Makurdi LGA is located in the North central Nigeria along the Benue River on Latitude $7.44^0$ N and Longitude $8.32^0$ E. Fig. 1. Simple and systematic random sampling techniques were adopted. Five locations were randomly selected based on information recorded from previous survey and known to be residential areas ,these locations are Wadata, North Bank II, Wurukum, Kanshio and High Level. In each of the five residential areas, five streets were randomly sampled and (50) houses were selected based on houses with odd numbers on each street, following the method by Omudu et al. [6], and for each of the selected houses a semi - structured questionnaire was administered and responses were documented. The questionnaire used in this survey was designed to extract information on the resident's ownership of domestic or wild animal's pets. The questionnaire contain 30 questions structured into three sections, these were: Socio-demographic characteristics of residents in the study area, ownership of domestic and wild animal's pets. The hypothesis constructed in the null form was: H0. Residents of Makurdi Metropolis owned more domestic than wild animal's pets. Therefore the test criterion was given as, reject the null hypothesis HO and accept the alternate hypothesis HA if t-cal. Is > t-tab. ($p = 0.05$) the data was analyzed using Descriptive statistic, student's t-test and chi-square was used to test the residence level of ownership on domestic and wild Animals pets. The GARMIN GPSMAP "78" Series was also used to determine the spatial location of wild animal pets in the study area.

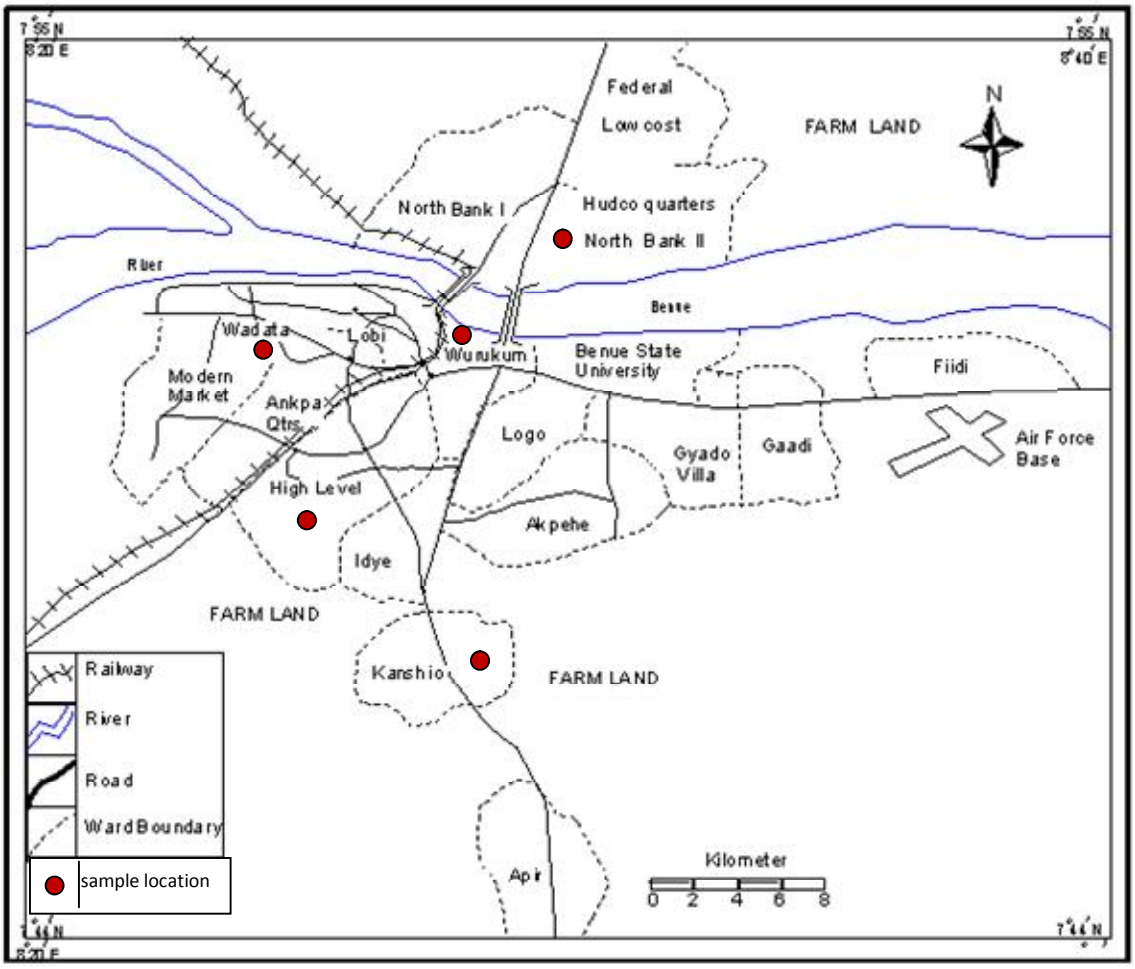



**Fig. 1. Map of study area showing sample locations**

## 3. RESULTS AND DISCUSSION

### 3.1 Socio-demographic Characteristics of Respondents

Table 1 below showed that a total of 250 questionnaires was administered in the five locations, data collected and analyzed revealed that 144 of the respondents were male while the proportion of female respondents was 106, the highest number of respondents were in the age group 25-29 years, this is similar to the findings of Tesfaye et al. [8] in Southwestern Ethiopia who also reported that male accounted for 123 respondents while female respondents were 52. However in Tesfaye et al. [8], the highest numbers of residents were in the age group 35-49 years which is at variant with the present study. This however implies that most residential areas are dominated by male residents who are also more willing to take surveys than women who are more reserved. They were more educated and married respondents in this survey. Most of the respondents keep poultry and pigs, among others this is not unconnected with the fact majority of the respondents are traders and therefore keep most of these pets for commercial reasons.

### 3.2 Resident with or Without Animals

Table 2 below showed that 40% of the residents surveyed owned domestic animals at home, 2% keep wild animals while 58% do not keep either domestic or animals as pets. This Result confirm the fact that majority of the residents are aware of the danger of zoonotic diseases transmission and therefore refrain from keeping any animals. This is similar to what was also reported earlier by Omudu et al. [6], in the study area.

**Table 1. Socio demographic characteristics of residents in the study area**

| Item | Responses | Frequency | Percentage (%) |
|---|---|---|---|
| **Gender** | Male | 144 | 57.6 |
| | Female | 106 | 42.4 |
| Age | 25-29 | 95 | 38 |
| | 30-34 | 71 | 28.4 |
| | 35-39 | 33 | 13.2 |
| | 40 and above | 51 | 20.4 |
| Marital Status | Married | 131 | 52.4 |
| | Single | 114 | 45.6 |
| | Divorced | 5 | 2 |
| Level of Education | Primary | 29 | 11.6 |
| | Secondary | 99 | 39.6 |
| | Tertiary | 54 | 21.6 |
| | Post tertiary | 68 | 27.2 |
| Number of people in household | 1-5 | 69 | 27.6 |
| | 6-10 | 123 | 49.2 |
| | 11-15 | 40 | 16 |
| | 16 and above | 18 | 7.2 |
| Major occupation | Traders | 89 | 35.6 |
| | Laborers | 48 | 19.2 |
| | Consultant | 9 | 3.6 |
| | Government Employees | 69 | 27.6 |
| | Private Employees | 24 | 9.6 |
| | Retirees | 11 | 4.4 |

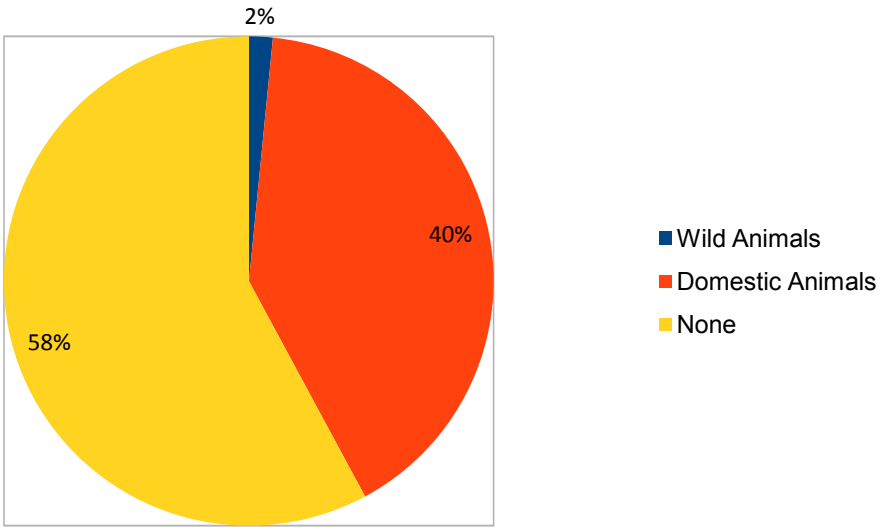



**Fig. 2. Residents with or without animal pets in the study area**

### 3.3 Types of Domestic Animals Owned by Residents

Results presented in Plate 1 and Fig. 3 revealed that, residents of Makurdi Metropolis owned and keep more dogs than any other domestic animal, while the least owned animal was the rabbit. This has several implications, it is likely that residents keep them for security purpose or as pets as opined by Omudu et al. [6]. This could also be because dog appears to be the commonest pet in the study area. This finding corroborates the

findings of Omudu et al. [7] who indicated that residents of Makurdi Metropolis have upwards of 500 dogs as pets. Apart from dogs, residents of Makurdi Metropolis owned and keep, pigs, cats, and poultry among others. The keeping of pets is also a function of the socio status of respondents as many of them up to 27% are government employee.

### 3.4 Spatial Distribution of Wild Animal Species in the Study Area

Results presented in Plate 2 and Table 2 revealed that four wild animal species were encountered, three of the animals were Red patas monkey and one was Tantalus monkey. Two of the Red patas monkeys were found in North bank11, one in Wadata and the Tantalus monkey in Kanshio. These findings agree with the reports by several authors like [9] and [10], that these species of primates are found in the savanna regions of the country of which the study area is located. The possession of these wild animals pets is not unconnected with the fact that most of the respondents are traders and therefore used such animals for pets shows in order to generate income.

**Pigs as pet (a)**

**Dogs as pet (b)**

**Cats as pets (c)**

**Domestic chickens as pets (d)**

**Plate 1. a-d Some domestic animals owned as pets by residents in the study area**

**Table 2. Spatial distribution of wild animal species in the study area**

| S/N | Location | Species of Wild animal | G.P.S. coordinates | Method of restriction |
|---|---|---|---|---|
| 1 | North Bank1 | Red patas monkey | $07^{0}45^{1}51.4^{11}$ $008^{0}32^{1}56.0^{11}$ | Chained to a tree |
| 2 | North Bank1 | Red patas monkey | $07^{0}45^{1}46.7^{11}$ $008^{0}32^{1}58.2^{11}$ | Chained to a tree |
| 3 | Wadata | Red patas monkey | $07^{0}44^{1}02.2^{11}$ $008^{0}31^{1}01.1^{11}$ | Caged |
| 4 | Kanshio | Tantalus monkey | $07^{0}41^{1}02.0^{11}$ $008^{0}32^{1}02.3^{11}$ | Chained to a tree |

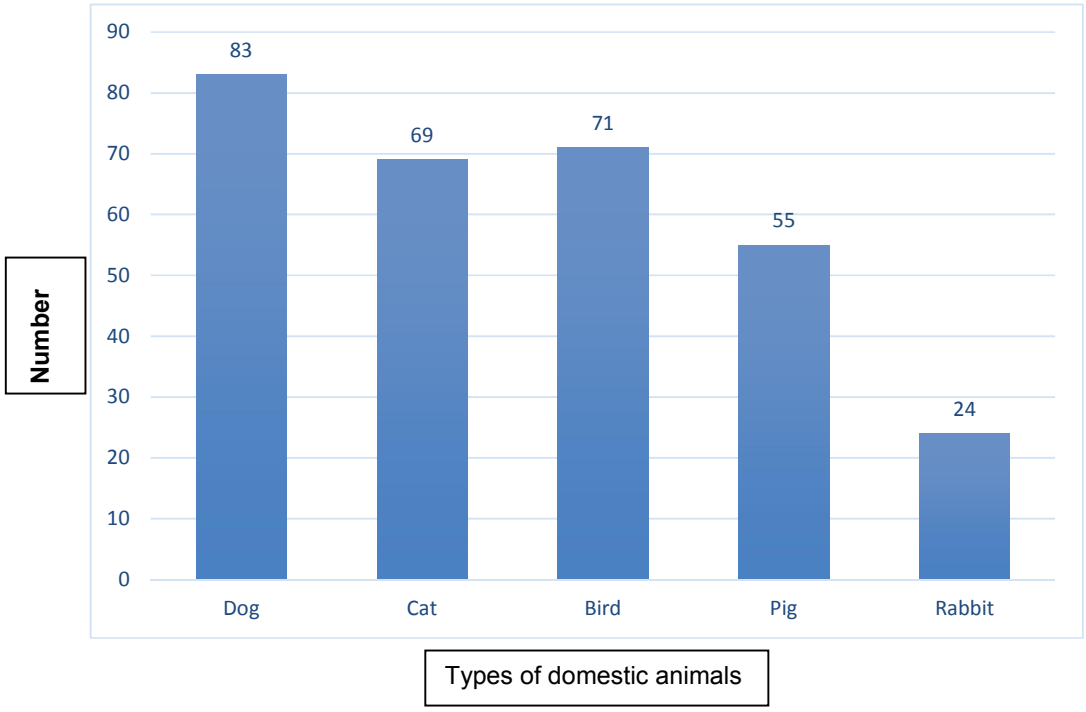
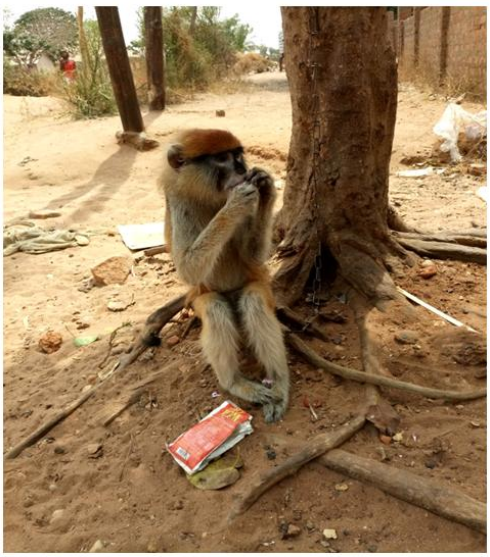



**Fig. 3.Types of domestic animals owned by residents**



***Erythrocebus patas*** **(a)**

***Cercopithecus ethiops tantalus*** **(b)**

**Plate 2. a-b Some wild animal owned as pets by residents in the study area**

## 4. CONCLUSION AND RECOMMENDATIONS

The residents of this study area, owned different types of domestic and wild animal's pets. Dog is the most popular pet despise the risk of zoonotic disease transmission to humans which can be very dreadful to the human population. Apart from dogs, residents of Makurdi Metropolis owned and keep, poultry and pigs, among others this is not unconnected with the fact majority of the respondents are traders and therefore keep most of these pets for commercial reasons. Four wild animal species were encountered, three of

the animals were Red patas monkey and one was Tantalus monkey, these are savannah species according to authorities in primate's ecology. It was therefore recommended that more sensitization and enlightenment campaigns should be given to residents of Makurdi Metropolis to avoid the risk and spread of zoonoses.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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