

WILDAID

**UNDERSTANDING URBAN
CONSUMPTION OF
BUSHMEAT IN NIGERIA**

Understanding Urban Consumption of Bushmeat in Nigeria

January 2021

Summary

A growing appetite for bushmeat among urban residents increases the risk of zoonotic disease transmission, and threatens wildlife populations in Nigeria and its surrounding countries. This consumption also overlaps with the illegal trade networks, fueling the trade in protected species like elephants and pangolins. While studies have shown that bushmeat consumption in Nigeria is influenced by a number of factors such as taste, health, and culture, there is little information on the attitudes, awareness, preferences, and reservations of the general public in major cities such as Lagos, Abuja, Port Harcourt, and Calabar.

The survey is designed to guide future conservation initiatives by establishing baseline data on attitudes, values, motivations, and behaviors of urban buyers, users, and intended users of bushmeat. WildAid also sought to identify the hotspots of bushmeat purchases while investigating the groups that are most likely to purchase or advocate for the conservation of wildlife in Nigeria. With a better understanding of these influencing factors, multi-stakeholder interventions can ultimately lead to more effective and integrated policies along with permanent behavior change.

We sampled 2,000 respondents from September to October 2020 across four major cities in Nigeria using a questionnaire that was sent to mobile phones via their telecommunications carrier. Results found that over 70% of urban Nigerians have consumed bushmeat at some point in their lives, and 45% consumed it within the last year. Taste and flavor are significant factors influencing urban bushmeat consumption, with about 51% of bushmeat consumers indicating that it is one of the primary reasons for their choice. Grasscutter (cane rat or *Thryonomys swinderianus*) and antelopes (such as bushbuck, red-flanked duiker, bay duiker, Maxwell's duiker, black duiker, Ogilby's duiker, yellow-backed duiker, and dwarf antelope) were reported as the most commonly eaten species and were also the most desirable animals, even without taking price into account.

More than half of consumers surveyed believe that there is less bushmeat available now as compared to five years ago. The Endangered Species (Control of International Trade and Traffic) (Amendment) Act, 2016 and several other federal and state laws that impose penalties on hunting and trading of species like pangolins, rock pythons, elephants, and some antelope species, were found to be poor deterrents on consumer behavior, as 54% of consumers believe that all bushmeat is legal to buy, and 88% believe that some or all bushmeat should be legal to buy.

Around 98% of urban bushmeat consumers indicated that there are suitable alternatives to bushmeat, with one-third of consumers citing fish as the most appropriate substitute, followed by chicken. Despite the COVID-19 pandemic and the links between the bushmeat trade and the spread of zoonotic diseases, 75% of the respondents intend to eat bushmeat in the future. Generally, those sampled believe that lack of hygiene (51%) is the primary cause of COVID-19 and other zoonotic diseases such as Lassa Fever, HIV, and Ebola, followed by contact with wild animals (44%) and lab experiments/research (43%).

Urban consumers demonstrate a sense of worry about the impact of their choices on wildlife populations. Thirty-eight percent of consumers indicated concern about animals going extinct in the wild as one of the top reasons why they would consider avoiding bushmeat consumption. By extension, almost 80% feel that it is the responsibility of the federal or state governments to protect Nigeria's wildlife, while 69% of urban bushmeat consumers sampled

believe iconic species like lions and elephants should be protected, and 59% believe that these animals are an important part of Nigerian heritage.

Introduction

Seventy-five percent of all emerging infectious diseases in the last decade have originated in animals, according to the World Health Organization¹. Outbreaks of Ebola, HIV, and SARS have been linked to the wild or bushmeat trade, with COVID-19 also potentially spread through this activity and causing tremendous health and economic impacts².

Nigeria has flourishing bushmeat markets in major cities selling both legal and illegal bushmeat. This trade remains largely unregulated. The process of trapping and transporting wild animals in stressful and unhygienic conditions in which they come into contact with people and domesticated animals greatly increases the risks of new disease introduction and transmission.

A commercial trade serving large urban centers poses a significantly higher risk and a larger rate of outbreak than subsistence use in rural areas. For example, the 2014-2015 Ebola outbreak in West Africa killed over 11,000 people³. Several governments launched large-scale mass media campaigns that discouraged people from consuming bushmeat^{4,5}. Consumers quickly adjusted their preferences away from bushmeat, especially fruit bats and monkeys⁶, and switched to alternatives such as fish⁷. Bushmeat sellers complained bitterly about the poor sales during the epidemic⁸; however, by 2018 sales of bushmeat had rebounded in Nigeria⁹.

Wildlife in Nigeria face a number of threats from poaching for body parts and meat, to habitat loss from deforestation, infrastructure development, and agricultural expansion. Populations of lions (c.50), elephants (c. 169-463), gorillas (c.100), and chimpanzees (c. 1,400-2,300) in Nigeria have dramatically declined and some species, such as pangolins, are either endangered or on the brink of extinction. Other declining species, including crocodiles and antelope species like duikers, are widely found in bushmeat markets across the country.

In addition to bushmeat consumption, Nigeria has emerged as the primary transit hub in Africa for ivory and pangolin scales exported to Asian countries. The country was linked to about half of all pangolin scale seizures globally between 2016-2019¹⁰. While wildlife laws and penalties were upgraded in 2016, they are often poorly understood by the public and law enforcement officials and frequently go unenforced by authorities.

While many rural communities have limited dietary options, urban bushmeat consumption is a matter of choice driven by a number of factors from health to taste, as well as culture and concerns about chemicals in imported frozen chicken and turkey. Among the many protein choices in urban areas, bushmeat is frequently more expensive than regular meat or fish and is sometimes purchased for special occasions.

Method

Two thousand members of the urban Nigerian public were surveyed by GlobeScan using mobile internet between September and October 2020 in four main cities (800 in Lagos, 450 in Abuja, 450 in Port Harcourt and 300 in Calabar). Of the participants aged 18-65, 69% were between the ages of 25-44; 53% were male and 47% female; 42% earn 100,000 Nigerian naira (US\$263) or below per month; 72% have completed university education or higher; and 86% are Christian, 12% Muslim. The questionnaire, which consisted of 38 quantitative questions, took a median of 15 minutes to complete. All participants were asked questions regarding demographics, along with past and future bushmeat consumption

habits. Those who had eaten bushmeat in the previous 12 months ($n=901$) were asked further questions to gather more information about their habits and preferences.

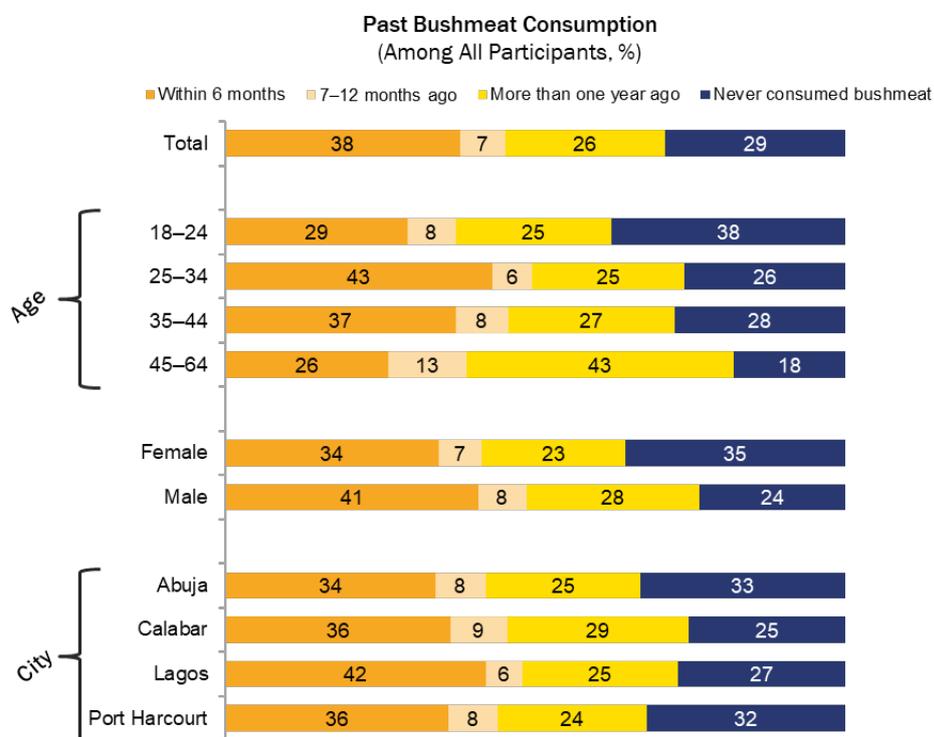
Results

Bushmeat consumption is widespread across Nigeria, as 71% of the respondents say they have consumed bushmeat at some point in their lives, with 45% having consumed it within the last year. Sixteen percent of those who have consumed bushmeat in the past year eat it weekly. Nearly half of the consumers (47%) say their consumption was influenced by their parents, while 40% said they made the decision themselves.

Grasscutters are the most popular bushmeat in Nigeria, eaten by 44% of bushmeat consumers, followed by antelope/deer (25%), snake (21%), and wild pig (15%). Other species consumed include monkey (11%), porcupine (10%), tortoise (9%), crocodile (8%), monitor lizard (7%), bat (6%), sea turtle (4%), and chimpanzee, pangolin, hedgehog and civet (approximately 2% each). Thirty-two percent of bushmeat consumers indicated that they consumed other bushmeat species beyond those listed above. These may include other species commonly found in bushmeat markets, such as genet, squirrel, giant rat, rock hyrax, guinea fowl, mongoose, and buffalo.

Fifty-one percent of consumers who had eaten bushmeat within the last year believe bushmeat is tastier than domesticated meat and 30% view it as being part of their culture. Up to 28% believe it has fewer chemicals and thus is healthier and fresher than regular domestically farmed meat and fish.

EXHIBIT 1: Past bushmeat consumption across age, gender and location



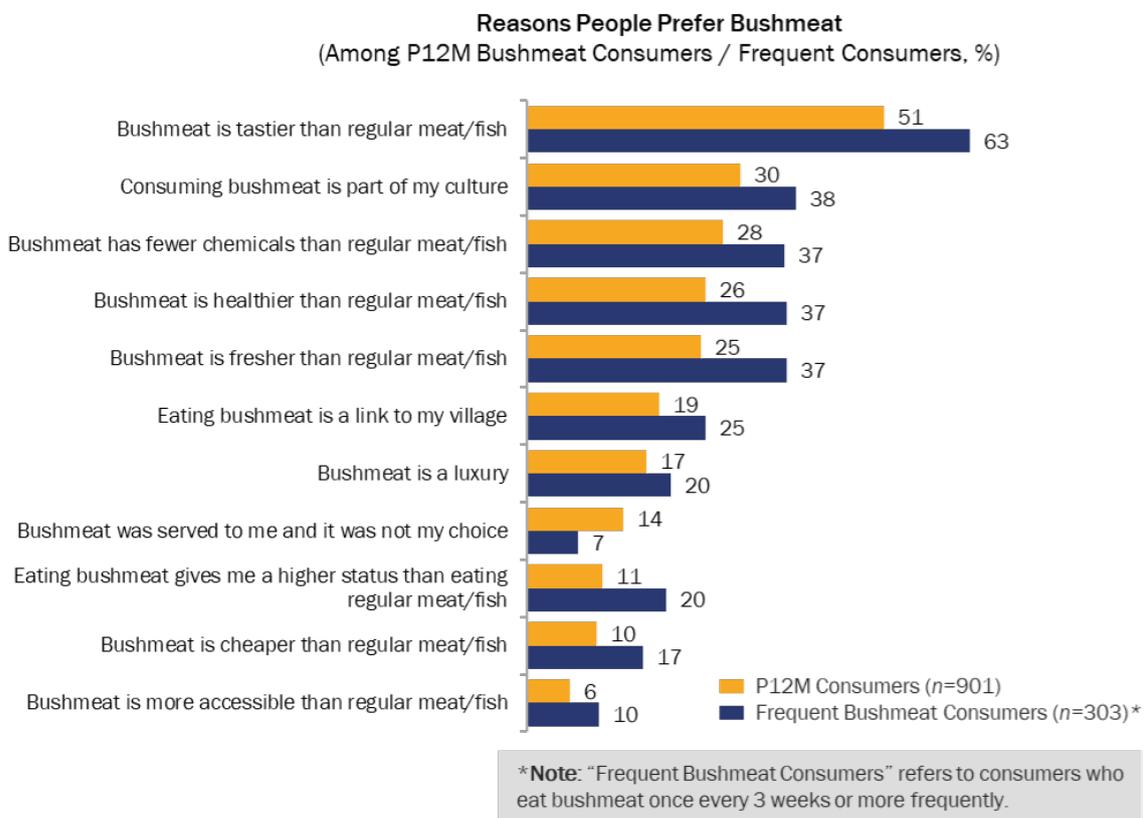
One third (33%) cite fish as the most appropriate alternative to bushmeat, followed by chicken (22%), and meat from other farmed animals such as goat and turkey (18%). Only 2% of bushmeat consumers believe there is no appropriate substitute for bushmeat.

While 27% indicated they had stopped eating bushmeat because of COVID-19, three-quarters of participants (75%) indicate that they would, in all likelihood, consume bushmeat in the future. The general impression among surveyed bushmeat consumers is that lack of hygiene (51%) is the primary cause of COVID-19 and other zoonotic diseases like Lassa Fever, HIV, and Ebola, followed by contact with wild animals (44%), and lab experiments/research (43%).

Concerns about the legality of bushmeat consumption is not a strong deterrent to those intending to purchase, with only 1 in 5 consumers citing it as a possible disincentive and 88% believing that some or all species should be legal to buy.

Thirty-eight percent of consumers cited concern for animals going extinct in the wild as one of the top reasons that would deter them from consuming bushmeat, with the primary reasons being that fish and regular meat is more accessible and affordable than bushmeat.

EXHIBIT 2: Preferences for bushmeat consumption



Given Nigeria’s increasingly publicized role as a key transit hub for the illegal wildlife trade, 55% of bushmeat consumers believe that Nigeria has higher levels of trade than other countries in West Africa.

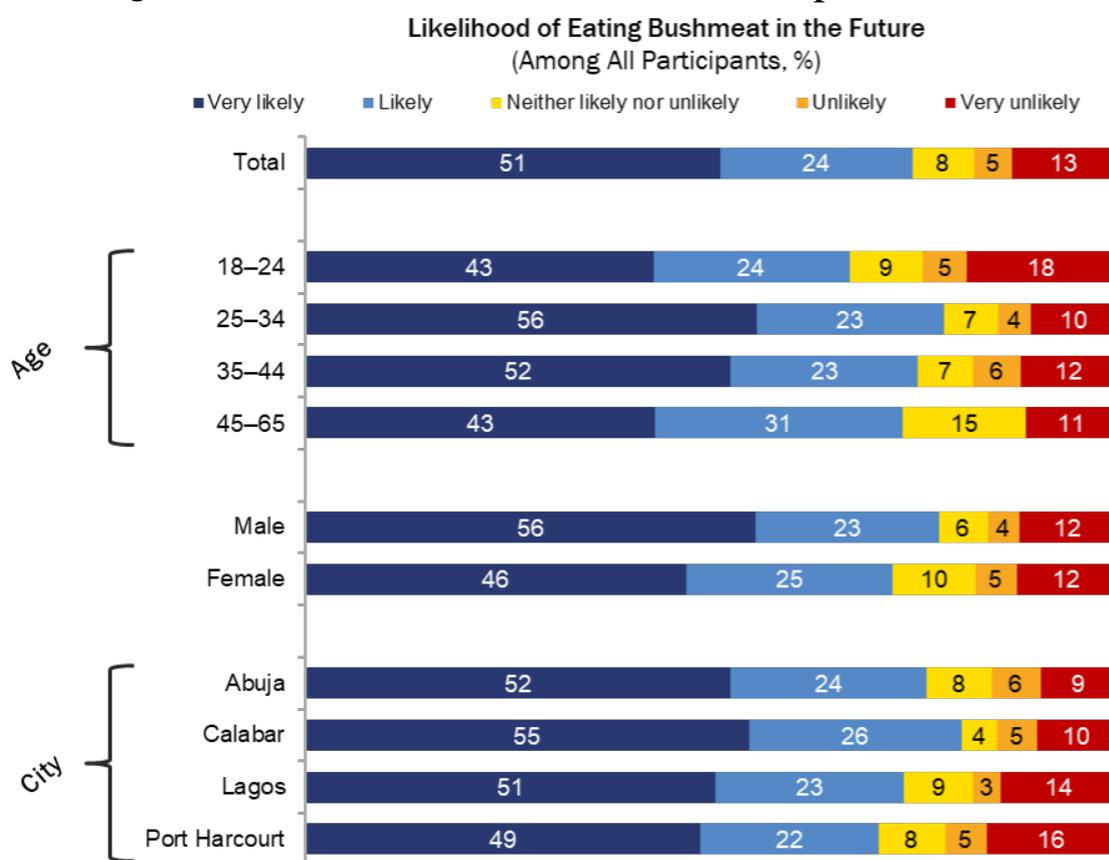
Despite this, there is considerable public support for increased wildlife conservation efforts, with nearly 80% indicating strongly that it is the responsibility of either the federal or state government to protect Nigeria’s wildlife. Moreover, consumers largely have positive perceptions of iconic species in Nigeria, such as elephants and lions, with 69% calling for their protection and 59% acknowledging that they are an important part of Nigerian heritage.

Discussion

Across West and Central Africa, bushmeat consumption seems to be widespread and well-developed, with mammals, particularly ungulates and rodents, among the most commonly traded species.¹¹ Again, taste, alongside other factors such as health and cultural reasons,¹² is the primary driver of consumer preferences for bushmeat across the region. This finding aligns with similar studies conducted in the Republic of Congo,¹³ Cameroon,¹⁴ and Ghana¹⁵.

There is no significant difference in the rate of bushmeat consumption across the four cities surveyed and no clear trend by age or income, although recent consumption is more common among wealthier consumers, as bushmeat tends to be more expensive than farmed meat or fish. For instance, duikers or antelopes can cost about 12,000 naira (US\$30) per piece in bushmeat markets in Lagos, whereas a kilogram of chicken is sold for under 1,500 naira (US\$4). With just US\$2, a low-income household can purchase relatively enough beef or fish to meet their dietary needs.

EXHIBIT 3: Likelihood of continued bushmeat consumption



The bushmeat supply chain varies and largely depends on the species involved. Consider the grasscutter or cane rat, a large plant-eating rodent found in dense grassland, wooded savanna and forest-savanna habitats across Nigeria as well as near farmlands, wetlands, and marshes. They breed relatively quickly¹⁶, but are also farmed locally to complement what is obtained from the wild due to high demand for their meat. The supply chain starts with primary suppliers such as hunters who typically capture the grasscutter from the wild to sell to local middlemen/wholesalers or directly to bushmeat traders, who in turn sell to end consumers comprising individuals and restaurant operators. At Oluwo market on the outskirts of Lagos, bushmeat traders say they purchase grasscutters from hunters in nearby and remote villages and bring them to urban markets. They are often kept with different species of animals, such as duikers with bullet wounds along with live crocodiles and

pangolins in close and unhygienic quarters. The traders then sell to restaurant owners and to other retailers who resell in smaller quantities in urban markets¹⁷.

Commonly traded antelope species include blue duiker, Maxwell's duiker, bay duiker, common gray duiker, and red-flanked duiker. There are worries that high levels of hunting to supply the bushmeat trade are leading to declining numbers of duikers, particularly outside of protected areas¹⁸. These antelope species play a critical role as prey for numerous endangered and protected predators. For example, one of the major threats facing the West African lion is the reduction in the availability of their prey base¹⁹ such as antelopes, pushing lions closer to humans in search of food like domestic livestock, and fueling a wave of retaliatory killings.

A 2012 study²⁰ that assessed the duiker populations in the larger section of the Cross River National Park in Nigeria's southeast region found only Ogilby's duiker and blue duiker, with no record of yellow-backed and bay duikers, prompting the researchers to suggest that their absence may indicate local depletion. Similarly, the bushmeat trade was cited as the major reason for the depletion of the duiker population in nearby Bioko island of Equatorial Guinea²¹. In 2016, both the bay duiker and yellow-backed duiker were moved from Least Concern to Near Threatened on the IUCN Red List of Threatened Species²², indicating that the species are being overhunted.

Some antelope species like red-flanked duiker, bay duiker, Maxwell's duiker, black duiker, Ogilby's duiker, and the yellow-backed duiker are protected²³ under the First Schedule of Nigeria's Endangered Species (Control of International Trade and Traffic) (Amendment) Act, 2016, which prohibits all hunting or trade in the species, according to officials at the Federal Ministry of Environment. Furthermore, all duikers not listed in the First Schedule fall under the Second Schedule, which requires a license to hunt or trade them. Federal forestry department officials reported that while some people obtain permits when they intend to export wild animals outside Nigeria, they are concerned that not many people *properly* obtain these permits from state governments in order to hunt or engage in domestic trade of some species protected by law.

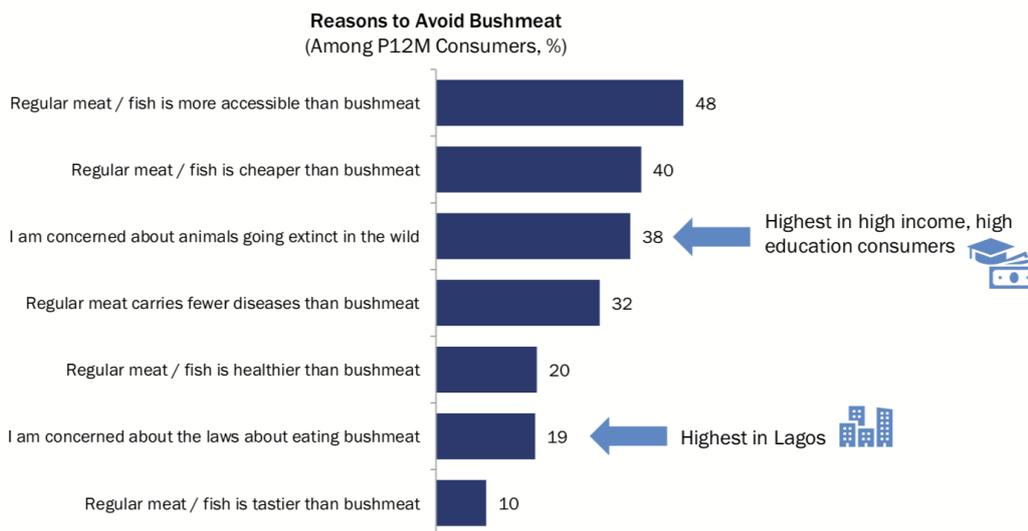
With pangolins considered to be the world's most trafficked wild mammal, bushmeat traders say they receive live pangolins from hunters in neighboring towns and villages, which lie close to forest habitats. In most cases, the hunters sell directly to market traders who then sell them to locals and Chinese expatriates²⁴. While the meat is consumed locally, bushmeat traders often work together to consolidate scales into a larger quantity and sell to mostly Chinese expatriates, who then export the scales illegally to China, Vietnam, Hong Kong, and Singapore.

In some cases, Chinese middlemen also visit rural communities to purchase directly from agents or intermediaries who aggregate scales from hunters. The Wildlife Justice Commission (WJC) reported that an estimated 206.4 tonnes of pangolin scales were seized between 2016 and 2019, and more than half of these seizures were linked to Nigeria¹⁰, underscoring the West African nation's prominent role in the supply chain of pangolin scales.

Bushmeat market traders say scales originating from Cameroon, Gabon, Central African Republic, and Democratic Republic of the Congo are brought into Nigeria, added to the locally sourced scales before being exported overseas. Although pangolins account for just 2% of species consumed by those surveyed, Nigeria is considered to be one of the largest markets for pangolin meat¹⁰, demonstrating the massive impact that even low levels of consumption can have on protected species.

This belief that bushmeat is healthier than domesticated meat is bolstered by regular media coverage of government officials and health experts warning that imported poultry products often contain harmful chemical residues that are detrimental to human health. In December 2019, Hameed Ali, the head of Nigeria Customs Service, said imported frozen chicken and turkey contained chemicals used in preserving dead bodies²⁵. Although imports of chicken have been banned in Nigeria since 2003²⁶, imports of smuggled chicken, usually via the land border from neighboring Benin, account for 70%²⁷ of the supply to the local market.

EXHIBIT 4: Reasons to avoid bushmeat consumption in Nigeria

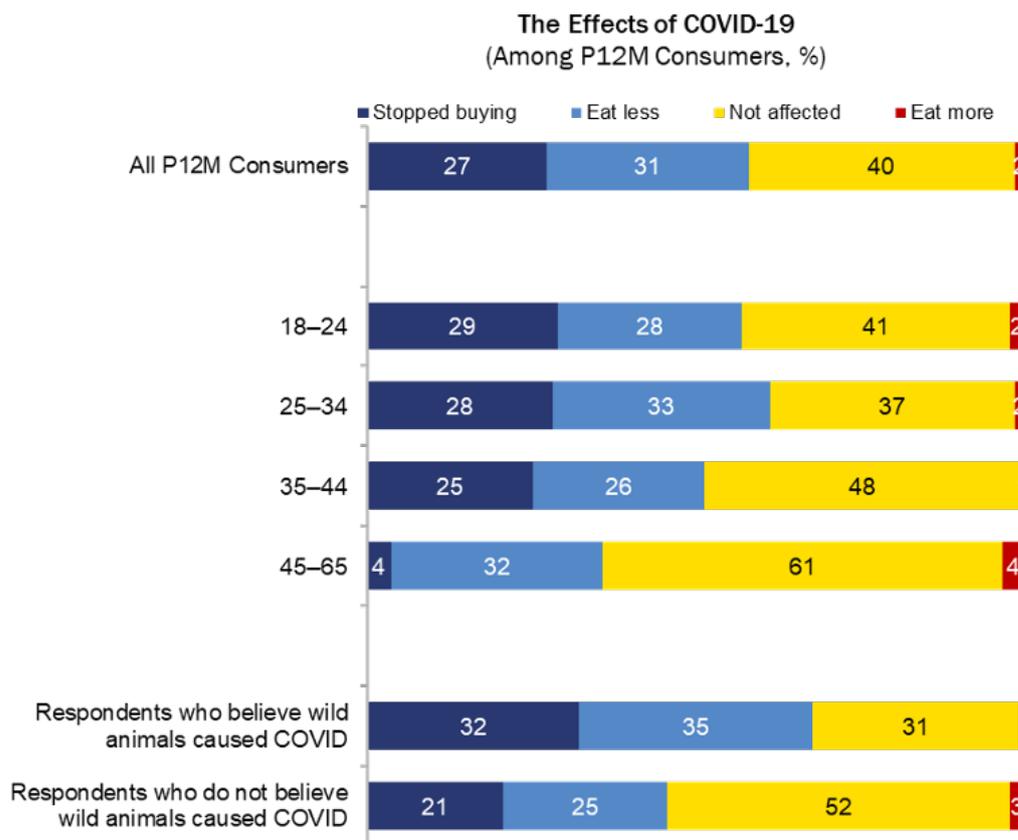


Such sentiments are widely mentioned in the news, which often quote customs officials²⁸ and local health experts²⁹, alongside warnings from the National Agency for Food and Drug Administration and Control that prohibit chicken and turkey imports which have heavy metals and high levels of antibiotics residue³⁰.

With the spread of open markets and roadside sellers dealing in bushmeat, it is unsurprising that one-third of consumers say that it is easy to buy bushmeat in their cities, with those in Calabar (55%) finding it the easiest. Cross River State, with Calabar as its capital, is home to expansive tracts of tropical rainforest in Nigeria and hosts a national park, wildlife sanctuaries, and several forest reserves, thereby facilitating a wider flow of bushmeat from the forest to towns and the Calabar metropolitan area³¹.

Meanwhile, COVID-19 appears to have had a minimal and likely temporary impact on people’s immediate consumption behavior. Like many countries, a wave of conspiracy theories, misinformation, and myths about the origin, diagnosis, and treatment of COVID-19 has spread across Nigeria since the country recorded its first confirmed case in late February 2020³². Many Nigerians believe the pandemic is not real and question the credibility of statistics surrounding confirmed cases, deaths, and discharges released by health authorities³³.

EXHIBIT 5: COVID-19 impact on bushmeat consumption in Nigeria



Prior to COVID-19, Nigeria has dealt with zoonotic diseases like Lassa Fever and monkeypox. The Lassa Fever outbreak in 2020 was particularly severe, killing 244 people³⁴, the highest number of deaths ever linked to the disease, which is endemic to Nigeria and some parts of West Africa.

Furthermore, COVID-19 has had a massive impact on Nigeria’s health sector and the economy. In a population of 200 million people, there have been 1,342 deaths recorded as of January 8, 2021³⁵. Although the numbers are relatively low, COVID-19 exposed the fragility of Nigeria’s health system and its economy to a large-scale disease outbreak. The economy, which is heavily reliant on proceeds from oil exports, has struggled to stay afloat as the pandemic dampened demand, disrupted global supply chains, and caused a slump in global oil prices. A lack of robust social protection systems makes Nigeria especially vulnerable to crisis or shocks, particularly because the informal sector, on which many citizens depend for daily or weekly income, accounts for over 80% of employment in Nigeria³⁶.

COVID-19-related lockdowns and curfews restricted movement and commerce, cutting millions of Nigerians from their source of income, and with the state’s emergency response only able to reach a small portion of the population, many were left to struggle. People feared that hunger, rather than the virus itself, would kill more people. For context, 40% of Nigerians (or nearly 83 million people)³⁷ are living below the country’s poverty line of 137,430 naira (\$381.75) per year, and around 27% of Nigeria’s labor force, accounting for more than 21 million Nigerians³⁸, are unemployed in the second quarter of 2020, up from 23% in the third quarter of 2018³⁹.

The pandemic also threatened to overshadow the successes recorded in the Nigerian health sector, including long-running efforts to tackle malaria, tuberculosis, HIV/AIDS, and polio.

COVID-19-related disruptions to health services and supplies could result in Nigeria losing 950 more children under-five daily and a further 6,800 maternal deaths within six months⁴⁰.

Designing behavior change campaigns on urban bushmeat consumption demands an approach that takes long-term goals into consideration and employs creativity in how zoonotic disease messaging is conveyed to different target audiences in culturally resonant ways. Previous campaigns on Ebola saw bushmeat consumption fall in the immediate aftermath, only to eventually bounce back after Ebola receded and risk communication messaging faded away⁹.

Recommendations

Based on the findings presented in this report and given the nation's economic and cultural importance in the West Africa region, it is recommended that Nigeria should lead the region with a proactive model response to protect human health and wildlife populations.

Implementing demand reduction and education campaigns on wildlife

There is a demonstrated need for large-scale public awareness campaigns with clear and sustained messaging to educate people about the health and ecological risks of consuming high-risk bushmeat species. Government agencies like the Nigeria Centre for Disease Control, Ministry of Environment, National Environmental Standards and Regulations Enforcement Agency (NESREA), and National Parks Service must collaborate to deliver unified messaging on the risks of eating protected species and the damaging socio-economic impacts of the illegal wildlife trade.

As trade and consumption drivers for all actors along the supply chain are better understood and investigated, messaging must be clearly tailored to the target audience (urban vs. rural consumers, traders vs. hunters) and the species (pangolins and primates vs. grasscutters), rather than using a one-size-fits-all campaign to address them all. This must go hand in hand with long-term “pride” campaigns and conservation education programs that emphasize the positive and prominent roles of wildlife in economies, ecosystems, and cultures.

Simplifying and improving the communication of wildlife laws

With three different pieces of federal legislation that govern the protection of hundreds of wildlife species for domestic and international trade, public awareness of and familiarity with current wildlife laws is extremely low, even among enforcement officers. Consequently, these laws remain largely unenforced and wildlife crime unreported.

We recommend a major effort to publicize existing protections (as outlined in the table below) and penalties to the key high-risk species consumed as bushmeat in a simple form that all target audiences can understand. These efforts must be part of the overall education and outreach efforts outlined above.

Once proper mechanisms are in place for regulation and enforcement, we recommend the government consider communicating a shortlist of what can be legal for commercial trade and human consumption without license, after all risks, whether disease, ecological or otherwise, have been properly evaluated. Instead of a complex and ever-growing list of what cannot be hunted or can only be hunted under license, the government could instead communicate a very short list of acceptable species (such as grasscutters) that all stakeholders can easily identify. Consumers will be clear on what bushmeat is legal and “safe”, while enforcement officials will be able to easily identify illegal trade.

EXHIBIT 6: List of common bushmeat species and their current legal status

Name	Species	Legal status
Grasscutter	NIL	NIL
Antelope	Western hartebeest, red-flanked duiker, bay duiker, Maxwell’s duiker, black duiker, Ogilby’s duiker, yellow-backed duiker, Dwarf antelope, topi, roan antelope, waterbuck, kob, klipspringer, oribi, Bohor reedbuck	Protected under First Schedule of the Endangered Species (Control of International Trade and Traffic) (Amendment) Act, 2016 which prohibits hunting or capture of or trade; all duikers not listed in First Schedule are covered by the Second Schedule which prohibits hunting or trade in wild animals unless a licence has been issued under this Act
Snake	Royal python, rock python	Protected under First Schedule
Wild pig	Red river hog	Protected under Second Schedule
Monkey	Olive colobus, Niger Delta red colobus, Preus’s red colobus, red-capped mangabey, drill, white-throated monkey, Sclater’s guenon	Protected under First Schedule; all monkeys not listed in the First Schedule receive protection under the Second Schedule
Porcupine	Crested porcupine	Protected under Second Schedule
Tortoise	African spurred tortoise, Senegal flapshell turtle, serrated hinge-back tortoise	Protected under First Schedule; all tortoises and turtles not listed in the First Schedule receive protection under the Second Schedule
Crocodile	Nile crocodile, slender-snouted crocodile, dwarf crocodile	Protected under First Schedule

Monitor lizard	Nile monitor lizard, Bosc’s monitor lizard	Protected under First Schedule
Bat	Straw-colored fruit bat, Franquet's epauletted fruit bat, hammer-headed bat, Egyptian rousette fruit bat	NIL
Sea turtle	Hawksbill turtle, Olive ridley, green sea turtle, leatherback turtle,	Protected under First Schedule
Chimpanzee	Nigeria-Cameroon chimpanzee	Protected under First Schedule
Pangolin	Giant ground pangolin, white-bellied tree pangolin, long-tailed (black-bellied) pangolin	Protected under First Schedule
Hedgehog	NIL	NIL
Civet	African civet, African palm civet	Protected under First Schedule

Strengthening law enforcement

The government amended the Endangered Species (Control of International Trade and Traffic) (Amendment) Act in December 2016⁴¹ to increase fines under the First Schedule from 1,000 naira (\$3) to 500,000 naira (\$1,313) or five years imprisonment, or both for offenders who hunt or trade in endangered species. This includes such species as chimpanzees, pangolins, sea turtles, as well as some species of civet, monkeys, pythons, and crocodiles. With regards to the Second Schedule, fines were increased to 300,000 naira (\$770) or three years in prison or both. Airlines, shippers, or cargo handlers who freight illegal wildlife products now pay a fine of 2 million naira (\$5,128)²³. However, the law is rarely enforced⁴², as seen with many other wildlife laws, such as the National Environmental (Protection of Endangered Species in International Trade) Regulations 2011, which has a maximum fine of 5 million naira (\$13,137) and a three-year jail term for people involved in wildlife-related crimes.

We recommend improving enforcement of wildlife laws with a specialized and well-resourced multi-agency unit that tackles wildlife crime, along the lines recommended by INTERPOL’s National Environmental Security Task Forces (NESTs) initiative⁴³. This brings together police, customs, cross-border agencies, environmental agencies, prosecutors, non-governmental organizations and intergovernmental partners to tackle environmental crimes from all sides, from poaching to investigation to the financial affairs of criminal networks⁴⁴. It could also evaluate specific measures, including placing prosecutors within wildlife law enforcement units and establishing special courts to improve the prosecution rates of wildlife-related offenses, as has been done in Uganda⁴⁵ and South Africa⁴⁶. Simultaneously, judges and prosecutors at the state and federal level should be included as part of capacity-building and awareness outreach to help improve the effectiveness of sentencing and fines on wildlife-related crimes.

Strengthening anti-corruption efforts and improving accountability and transparency mechanisms among agencies fighting wildlife trafficking⁴⁷ will be key for protecting wildlife. Recently, the U.S. State Department elevated the status of Nigeria from a ‘Focus Country’ to a ‘Country of Concern’ on illegal wildlife trade, citing “serious concerns” about rampant corruption⁴⁸.

Providing and publicizing sustainable alternatives to high-risk bushmeat species

Urban consumers report that they avoid bushmeat when regular meat and fish are more readily available and cheaper than bushmeat. We recommend encouraging locally-sourced free-range chicken and sustainably farmed fish as alternatives for both employment and consumption. A large segment of the Nigerian population already consumes conventionally farmed animals such as beef, poultry, lamb, and pork alongside bushmeat, implying that while consumers prefer bushmeat, they almost always look at other sources of protein, mainly from domestic livestock. In past decades, statistics show that demand for poultry meat has grown significantly across West Africa, especially in urban centers where growing income and population fuel higher demand⁴⁹.

Local livestock production is mainly dominated by small- and medium-scale farmers who rely on extensive and semi-intensive systems to breed livestock for consumption, often with low productivity. For instance, the entire local production is only able to meet 30% of the demand for chicken eggs and meat⁴⁹. Fish, a major component of the Nigerian diet, accounts for about 40% of the country's protein intake⁵⁰. However, demand overwhelms local production, where 75% of the supply is from capture fisheries (fish harvested from the wild) and 25% from farmed production of species like catfish and tilapia⁵⁰. Overfishing has already depleted or overexploited some fish species in the wild⁵¹, with over 800,000 metric tonnes of fish imported yearly to meet local demand⁵². Nigeria's Minister of Agriculture and Rural Development said the country might consider stopping fish imports by 2022, as local production, largely driven by aquaculture, ramps up to close the demand-supply gap⁵³.

Transforming these sectors to be able to sustainably meet growing demand would be crucial to improving trust and confidence in locally-sourced animal and fish protein without leading to the negative collateral impacts that industrial livestock rearing and overfishing can have on the environment.

Endnotes

About WildAid

WildAid is a non-profit organization with a mission to end the illegal wildlife trade in our lifetimes. While most wildlife conservation groups focus on protecting animals from poaching, WildAid primarily works to reduce global consumption of wildlife products, such as elephant ivory, rhino horn, and shark fin soup. With an unrivaled portfolio of celebrity ambassadors and a global network of media partners, WildAid leverages more than \$218 million in annual pro-bono media support with a simple message: *When the Buying Stops, the Killing Can Too*.

More information on WildAid can be found at www.wildaid.org or follow us on Twitter [@wildaid](https://twitter.com/wildaid)

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WildAid in Africa

Since 2015, WildAid has embarked on an ambitious program in countries like Tanzania, Uganda, South Africa, Gabon and Mozambique to highlight the urgency in protecting wildlife while encouraging sustainable environmental behaviors like domestic wildlife tourism. Using celebrity ambassadors from singers and athletes to ministers and influential religious

councils, we have aimed to reach the hearts and minds of the public at all levels of society with the tagline *Poaching Steals From Us All*.

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Acknowledgements

We would like to thank the following individuals, organizations and institutions for their contribution to this report: Angiolo Laviziano; Environmental Investigation Agency (UK); Federal Department of Forestry, Federal Ministry of Environment, Nigeria; GlobeScan; Nigerian Conservation Foundation; Nigeria Centre for Disease Control; Professor Olajumoke Morenikeji.

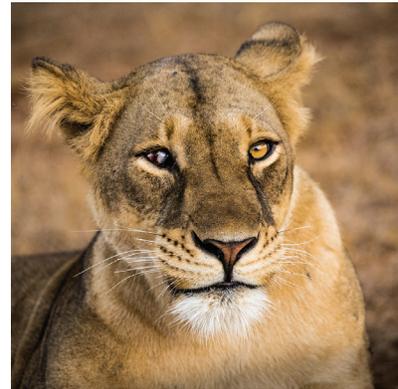
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When the buying stops, the killing can too.



WILDAID

The illegal wildlife trade is a multi-billion dollar global industry largely driven by consumer demand in expanding economies. While most wildlife conservation groups focus on scientific studies and anti-poaching efforts, WildAid works to reduce global consumption of wildlife products and to increase local support for conservation efforts.

We also work with governments and partners to protect fragile marine reserves from illegal fishing and shark finning, to enhance public and political will for anti-poaching efforts, and to reduce climate change impacts.



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