


# Profiling the types of restaurants that sell wild meat in Central African cities

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## Abstract

Central African cities are major centres of demand for wild meat, even when affordable alternative proteins are widely available. Many people eat wild meat in restaurants; therefore, restaurateurs are well placed to provide insights into the wild meat trade and consumer preferences. We surveyed 326 restaurants in Brazzaville and Kinshasa, the adjoining capital cities of the Republic of Congo and Democratic Republic of the Congo, to determine which types of restaurants sell wild meat, how sales of wild meat dishes compared with those containing other proteins, and the importance of wild meat to these businesses. The majority of wild meat-selling restaurants are informal establishments owned by women. Although most only sell wild meat dishes weekly, we estimate that nearly 10,000 wild meat dishes are consumed daily in restaurants across Brazzaville and Kinshasa. Its wide availability reinforces the social norm around eating wild meat, yet few restaurateurs considered wild meat to be central to the viability of their business. It is important to distinguish between restaurants reliant on wild meat sales and those that offer it to diversify their menus. Forging partnerships with restaurateurs offer untapped potential to develop mutually beneficial allegiances to further wild meat demand reduction efforts.

## KEYWORDS

bushmeat, Congo Basin, illegal wildlife trade, primates, supply chain, urban

## Résumé

Les villes d'Afrique centrale sont des centres importants de demande de viande de gibier, même lorsque des protéines alternatives sont largement disponibles à des prix abordables. Un nombre élevé de personnes consomment de la viande sauvage dans les restaurants. Les restaurateurs sont donc bien placés pour fournir des informations sur le commerce de la viande de gibier et les préférences des consommateurs. Nous avons interrogé 326 restaurants à Brazzaville et à Kinshasa, les capitales voisines de la République du Congo et de la République Démocratique du Congo, afin de déterminer les types de restaurants qui vendent de la viande de gibier, de comparer les ventes des plats à base de viande de gibier par rapport à celles des plats contenant d'autres

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protéines, et l'importance de la viande de gibier pour ces entreprises. La majorité des restaurants vendant de la viande de gibier sont des établissements informels appartenant à des femmes. Bien que la plupart ne vendent des plats à base de viande de gibier qu'une fois par semaine, nous estimons que près de 10 000 plats à base de viande de gibier sont consommés quotidiennement dans les restaurants de Brazzaville et de Kinshasa. La grande disponibilité de la viande de gibier renforce l'idée que sa consommation est une norme sociale, mais peu de restaurateurs considèrent que celle-ci est essentielle à la viabilité de leur entreprise. Il est important de distinguer les restaurants dont l'activité dépend de la vente de viande de gibier de ceux qui en proposent pour diversifier leur menu. Établir des partenariats avec les restaurateurs, ouvre la voie à un potentiel inexploité d'élaboration d'allégances mutuellement bénéfiques, visant à faire progresser les efforts de réduction de la demande de viande de gibier.

## 1 | INTRODUCTION

Across Central Africa, rural populations are engaged in the hunting of wild animals for meat. While a proportion of this wild meat is consumed at the village level, demand in urban areas has created an extensive network of rural to urban supply chain actors (East et al., 2005; Edderai & Dame, 2006; La Cerva, 2016; van Vliet et al., 2019). Although per capita consumption of wild meat in large cities may be comparatively low, the aggregate biomass of wild animals consumed is high (Ingram et al., 2021; Nasi et al., 2011), with higher consumption rates associated with increased wealth (Brashares et al., 2011; Wilkie et al., 2005). Africa's urban population is expected to more than triple over the next 40 years (Güneralp et al., 2017), and as the cities of Central Africa continue to grow and prosper, demand for wild meat is expected to increase.

The rate of wildlife offtake to supply urban centres has had significant ecological consequences, with defaunation now widespread across the Congo Basin's forests (Benítez-López et al., 2017; Fa et al., in press). Furthermore, as has been brought to the fore as a result of the COVID-19 pandemic, the rural to urban wild meat trade poses a zoonotic disease risk as pathogens are transported long distances into populous cities where disease spillover and spread could have disastrous effects (WCS, 2020). Yet, conservation interventions to address the unsustainable trade in wild meat have generally focused on hunting and trafficking in the vicinity of protected areas, with limited attention given to urban-based wild meat trade actors and the consumer behaviours which are driving this trade (Wieland et al., in press).

Brazzaville and Kinshasa, the adjoining capital cities of the Republic of Congo (ROC) and the Democratic Republic of the Congo (DRC), are the closest capital cities in the world—separated only by the width of the Congo River. This urban agglomeration is now considered to be the largest on the African continent. In 2020, the population of Brazzaville was estimated at 2.4 million inhabitants, while Kinshasa, with an estimated population of 14.3 million, was

classified as a megacity and is projected to become the fourth largest city in the world by 2050 (Hoorweg & Pope, 2017; UNDESA, 2019). However, there are significant differences in socioeconomic conditions between the two countries, with income per capita in 2020 estimated at USD 1846 in ROC and USD 544 in DRC (World Bank, 2022). Yet, these figures mask the extreme differences in wealth between the rich and the poor, including within urban settings. Both cities are major centres of demand for wild meat despite the wide availability of affordable alternative proteins (Fa et al., 2019), with wild meat having gained status as more of a luxury item (La Cerva, 2016; Wilkie et al., 2016). As such, wild meat is sourced from across vast swaths of ROC and DRC to meet consumer demand, with cross-border trade rife and unfettered. A conservation strategy that encompasses the whole wild meat supply chain and addresses urban consumer demand is therefore needed. This necessitates understanding and engaging supply chain actors both in urban and rural areas, including the intermediaries that trade in and transport wild meat to urban centres and those that sell it to the end consumer.

In cities across Central Africa, wild meat can be purchased fresh or smoked at markets, which often have a dedicated wild meat section, or can be acquired directly from traders away from formal marketplaces. Although studies have found that the majority of wild meat consumed in large cities is prepared and eaten in the home (East et al., 2005; Edderai & Dame, 2006; Wright, 2018), there are also many people who opt to eat pre-prepared wild meat dishes in restaurants. There are a wide variety of types of restaurants that sell wild meat to cater for different tastes and budgets, and these range from open-air street stalls with wooden benches to expensive restaurants in international hotels (Abernethy & Ndong, 2010; Randolph, 2016; Trefon, in prep). These restaurants make wild meat accessible to the masses as an occasional treat, as well as catering for the wealthy urban elite (Bahuchet & loveva-Baillon, 1997; Wilkie et al., 2016). Almost a quarter of all restaurants in Brazzaville and Kinshasa were found to overtly sell wild meat (Fa et al., 2019); therefore, restaurants are key venues in the wild meat supply chain, with

restaurateurs well placed to provide insights into wild meat trade dynamics and consumer preferences. Yet, research focusing specifically on wild meat sales in restaurants has been limited to date.

As conservation NGOs increasingly turn their attention to the trade and consumption of wild meat in urban areas, it is essential that these behaviours, and the motives behind them, are better understood and that nuanced differences between actors and practices are disaggregated to enable the more effective targeting of interventions. Previously, we documented the distribution and abundance of meat-selling outlets in Brazzaville and Kinshasa and found that wild meat-selling restaurants were found at higher densities close to the administrative centres of each city (Fa et al., 2019). Here, we describe these wild meat restaurants in more detail. We examine the different types of restaurants that sell wild meat and how sales of wild meat dishes compared with those containing other proteins. We also determine which species are most in demand, where restaurants source wild meat, the types of customers that order wild meat, and estimate how many wild meat meals are sold daily in Brazzaville and Kinshasa. Finally, we consider how important wild meat is for the survival of these restaurant businesses and make recommendations as to how restaurateurs can be engaged in future supply reduction and behaviour change efforts.

## 2 | METHODS

To obtain a representative sample of restaurants located across Brazzaville and Kinshasa, we conducted a census of all restaurants contained within 60 randomly distributed squares, each 1 km<sup>2</sup> in size. The 'Create Random Points' tool in ArcMap 10.3 was used to pinpoint the centre of each square, with 20 random points generated for Brazzaville and 40 for Kinshasa in proportion to each city's urban footprint. Between May 2017 and January 2018, a team of eight research assistants mapped all meat-selling outlets located within these squares—this included markets, cold stores, food shops, butchers and street vendors as well as formal and informal restaurants. Before data collection commenced, research permissions were obtained in both cities from the relevant central and local government departments. The full details of this mapping approach are outlined in Fa et al. (2019, pp. 2–5).

A follow-up survey of the mapped restaurants was conducted in September and October 2018 to identify those openly selling wild meat. Due to security concerns, an assessment of the risks associated with returning to each square was conducted based on official recommendations and on-the-ground intelligence. Prioritising the safety of the research team, thirty sample squares in Kinshasa and nineteen in Brazzaville were retained as the sampling frame for this survey. Half of these squares were then randomly selected to revisit—nine in Brazzaville and fifteen in Kinshasa. The GPS points collected during the mapping exercise were used to locate all the restaurants originally identified. Given the time interval between the mapping exercise and this follow-up survey, several restaurants had closed down or moved and could not be located. Two additional

1 km<sup>2</sup> squares were then purposefully selected in the administrative district of Brazzaville to bolster the total number of restaurants sampled in this city; however, this was purely for the purpose of profiling wild meat-selling restaurants and not for making city-wide generalisations.

The restaurant survey involved a combination of observation and formal interviews. A team of ten research assistants moved around each square in pairs but visited the restaurants alone. After taking GPS coordinates and categorising the restaurants according to a predefined list, the assistants then checked to see whether the restaurant had a menu and if wild meat was listed on it. They were also encouraged to observe their surroundings and ascertained whether wild meat was being served or eaten. The person in charge of the restaurant on the day of the survey was then approached for an interview. Informed consent was obtained before each interview began, with all research assistants having been trained in research ethics following the guidance provided by the CITI Program on Human Subjects Research (CITI Program, 2018). The assistants followed a questionnaire loaded onto their smartphones in KoBoCollect (KoBoToolbox, 2018). The questions covered seven main themes: (1) restaurant characteristics, (2) proteins available, (3) prices, (4) wild meat species requested and sold, (5) customer characteristics, (6) wild meat sourcing and (7) the overall importance of wild meat to the business. Restaurants were classified as wild meat-selling restaurants if wild meat was listed on the menu, wild meat was observed being served or eaten, or the sale of wild meat at the restaurant was confirmed by the interviewee.

The data were analysed using cross-tabulations and chi-squared tests in SPSS version 28. We also extrapolated from the data to provide an estimate of the number of wild meat dishes sold daily in restaurants in Brazzaville and Kinshasa. This calculation was based on the number of days wild meat was served in each restaurant per year, the number of customers served in each restaurant per day and the proportion of dishes sold in each restaurant that contained wild meat. The total number of wild meat dishes sold within the sample squares was then extrapolated to the total surface area of each city (237.3 km<sup>2</sup> for Brazzaville and 476.3 km<sup>2</sup> for Kinshasa), with the interview non-response rate for each city taken into account. Population data for 2018, as published in UNDESA (2019), were used to calculate the number of wild meat dishes sold relative to the size of each city's population. Finally, we calculated the total biomass of wild animals consumed in restaurants in Brazzaville and Kinshasa per annum by following Edderai and Dame (2006) and using 400g to convert one wild meat meal to the approximate equivalent in live animal weight.

## 3 | RESULTS

271 restaurants were located within the randomly selected squares—213 in Kinshasa and 58 in Brazzaville. An additional 55 restaurants were identified within the purposefully selected squares, bringing the number of restaurants visited in Brazzaville to 113 and

increasing the total sample size to 326. Consent was given to administer the questionnaire at 201 restaurants—127 in Kinshasa (all from random squares) and 74 in Brazzaville (44 from random and 30 from non-random squares). This equates to a 62% response rate. All of these restaurants were full-time operations, open 5–7 days a week. Most interviews (69%) were conducted with the restaurant owner, with the remaining interviews conducted with waiters, chefs or managers. Most interviewees (78%) had worked at the restaurant for at least two years.

### 3.1 | The restaurant landscape in Brazzaville and Kinshasa

Data from the randomly selected squares suggest that the majority (80%) of restaurants across the two capital cities are informal. These types of restaurants, known locally as 'malewas', are typically situated under a structure made from wood or corrugated metal, or simply under an umbrella. Restaurants in Kinshasa served more customers per day than those in Brazzaville (typically  $\geq 21$  customers a day compared to  $\leq 20$ ) and usually had more dishes on offer ( $\geq 6$  different dishes a day compared to  $\leq 5$ ). 91% of restaurants in Kinshasa were owned by women, compared with 68% in Brazzaville. While nearly all (96%) of the informal restaurants in Kinshasa were owned by women, 43% of formal restaurants—that is those located in permanent buildings—were owned by men ( $\chi^2 = 23.257$ ,  $df = 1$ ,  $n = 127$ ,  $p = 0.001$ ). This differentiation was less stark in Brazzaville where more men were involved in both the formal and informal restaurant sectors. The most frequently sold dishes in Brazzaville and Kinshasa contained either fish, beans or chicken, with Kinshasa restaurants typically offering all three options on a daily basis, while those in Brazzaville appear to be more likely to alternate, with chicken being the mainstay for many.

### 3.2 | Characteristics of wild meat-selling restaurants

Of the restaurants in which interviews were conducted, 79 were identified as wild meat-selling restaurants (30 in Brazzaville and 49 in Kinshasa). Although most of these (77%) were informal establishments, as a proportion of the total number of restaurants of each type, formal restaurants were more likely to sell wild meat dishes than informal ones, and more of the wild meat-selling restaurants in Brazzaville were formal than in Kinshasa. Some of the informal restaurants selling wild meat were located inside private houses ( $n = 6$ ), with this type of establishment likely underrepresented in the sample due to them being harder to detect. Well-established restaurants that had been open for at least six years were significantly more likely to sell wild meat ( $\chi^2 = 19.269$ ,  $df = 2$ ,  $n = 201$ ,  $p = 0.001$ ). Although most did not have written menus, for the seven that did, wild meat dishes were openly listed. The vast majority (91%) of wild meat-selling restaurants were owned by women,

with female restaurateurs more likely to have wild meat dishes as part of their repertoire than men. However, a higher proportion of the wild meat-selling restaurants located close to the administrative centre of each city were owned by men, with the only high-end international restaurant found to sell wild meat being owned by a man. Older restaurateurs (aged  $\geq 45$ ) were significantly more likely to sell wild meat than younger restaurant owners ( $\chi^2 = 19.692$ ,  $df = 1$ ,  $n = 201$ ,  $p = 0.001$ ).

### 3.3 | The range of dishes available at wild meat-selling restaurants

All of the restaurants that sold wild meat also had a range of other dishes available. In line with the finding for restaurants in general, most wild meat-selling restaurants had fish, chicken and bean dishes available daily (86%, 83% and 72% of restaurants respectively). Most other proteins, including wild meat, were typically available less often. The majority of wild meat-selling restaurants (59%) had wild meat dishes available on one or two days per week, with wild meat sold daily in only six establishments. In Kinshasa, all of these were informal restaurants ( $n = 4$ ), whereas in Brazzaville, they were all formal ( $n = 2$ ). In general, wild meat was available at a similar frequency to beef, which was also available once or twice a week in most wild meat-selling restaurants (57%). Restaurants selling wild meat were more likely to sell beef, bean, fish and insect dishes than other restaurants. In contrast, pork, goat/lamb, egg and snail dishes were rarely available at wild meat-selling restaurants.

Using price data collected from both formal and informal wild meat-selling restaurants, wild meat dishes appear to be among the most expensive dishes sold, with an average price of USD 3.16 ( $\pm 0.21$ ) per plate ( $n = 70$ ). In comparison, a similar dish with one portion of beef instead of wild meat had an average price of USD 2.54 ( $\pm 0.19$ ) per plate ( $n = 46$ ) and fish USD 1.98 ( $\pm 0.17$ ) per plate ( $n = 60$ ). However, there was some variation between the two cities, with fish being more expensive than beef in Brazzaville. A similar dish with goat or lamb appears to be more expensive than wild meat, with an average price of USD 3.58 ( $\pm 0.28$ ) per plate ( $n = 16$ ); however, relatively few of the wild meat-selling restaurants sold goat or lamb dishes, and those that did were more likely to be formal restaurants which may have skewed the average price.

### 3.4 | Wild meat dishes and level of demand

The majority (73%) of wild meat-selling restaurants prepared wild meat dishes as a matter of routine, while the remainder only prepared them when they received specific customer orders. In Brazzaville, most restaurants (59%) had one wild meat recipe that they used repeatedly, whereas in Kinshasa, there appears to be more variation, with 67% of interviewees indicating that different cooking methods, flavours or accompaniments were used to vary the wild

meat dishes on offer. In most restaurants (80%), the majority of customers were said to request 'wild meat' as opposed to asking for the meat of specific species. However, when customers did make specific requests, ungulates and rodents were the most popular species groups in Brazzaville, with red duiker, porcupine and blue duiker being the species most requested. In comparison, primates and ungulates were the most popular species groups in Kinshasa, with monkey, red duiker and wild pig said to be most requested. This broadly reflects what respondents said their restaurants sold. The price of a wild meat dish does not typically vary depending on the species, with 87% of restaurants charging a standard price for a wild meat meal. However, the price does differ depending on the setting, with formal restaurants charging higher prices than informal restaurants.

Most restaurateurs (70%) estimated that less than 25% of their customers ordered wild meat dishes, yet for four informal restaurants in Kinshasa and one formal restaurant in Brazzaville, wild meat constituted the bulk of their meal orders. Overall, we estimate that 1403 wild meat dishes are sold in restaurants across Brazzaville each day and that 8592 are sold daily in Kinshasa. This equates to 1 in every 1568 people in Brazzaville eating wild meat in a restaurant each day and 1 in every 1536 people in Kinshasa, which is broadly similar across the two cities. These data suggest that approximately 205 tonnes of wildlife, by live weight, are sold as wild meat in Brazzaville restaurants per year and that 1254 tonnes are sold annually in restaurants in Kinshasa. Two main types of wild meat customers were described by respondents—older male civil servants, or 'suit' workers, and young people, including students. However, some respondents found it hard to identify particular traits, saying that all types of people order wild meat. At the time this survey was conducted, which was before the COVID-19 pandemic, restaurateurs who thought there had been a decrease in demand for wild meat were in the minority (38%). Most said that demand had stayed the same or even increased.

### 3.5 | The sourcing of wild meat for preparation and sale in restaurants

The majority of restaurants (76%) bought wild meat from markets rather than directly from traders; however, restaurants in Brazzaville were slightly more likely to source wild meat from traders than those in Kinshasa. Restaurants that depended on wild meat for 75%–100% of their business and larger restaurants ( $\geq 7$  tables) were also more likely to buy directly from traders. Half of the restaurants that offered wild meat for sale on a daily or weekly basis sourced it from a single supplier, whereas those that prepared wild meat less often appeared to be more opportunistic purchasers, with 75% buying from multiple suppliers. Although most restaurants (71%) bought animal parts rather than whole animals, restaurateurs were more likely to buy whole animals in Brazzaville than in Kinshasa. The establishments most dependent on wild meat sales bought wild meat every day, but the majority (56%) bought it weekly. At the time of

this study, which was prior to the pandemic, 64% of respondents had either not noticed any change in the availability of wild meat or said that it had become easier to find. However, 36% felt that it had become harder to source, with a greater proportion of respondents in Brazzaville (42%) saying it was harder to find than those in Kinshasa (31%).

### 3.6 | Importance of wild meat to restaurant businesses

Sixteen (23%) of the respondents representing wild meat-selling restaurants felt that wild meat sales were important for the business (31% in Brazzaville and 17% in Kinshasa), with some stating that the restaurant had become well known for its wild meat offering. However, out of all the restaurants in which interviews were conducted, wild meat sales were only considered to be important by 8% of these businesses. These were all formal or informal restaurants owned by women aged 35 to 54, except for the high-end international restaurant owned by a man. Most restaurateurs said they sold wild meat because it was in high demand and offered good profit margins. However, other reasons for selling it included helping to maintain Congolese culture, being able to offer an organic option and to diversify the menu. The reasons given for restaurants not selling wild meat included it being considered too expensive for people to afford, it not being demanded by the types of people frequenting the restaurant, it being hard to buy, the perceived disease risk and because selling it went against the ethics or beliefs of the restaurant owner. Only three respondents said that their restaurant did not sell wild meat because doing so was illegal.

## 4 | DISCUSSION

Our results from restaurants in Brazzaville and Kinshasa confirm the prominent role of women as urban wild meat supply chain actors. As previously reported in the capital city of Yaoundé in Cameroon (Edderaï & Dame, 2006), the vast majority of wild meat-selling restaurants in Brazzaville and Kinshasa were female owned, yet this is largely reflective of the dominance of women in the food preparation sector as a whole. Central African women have long been engaged in micro-entrepreneurial sectors that are predominantly informal and dependent more on interpersonal networks than formal educational skills (La Cerva, 2016). Although men are also engaged in the restaurant sector and were identified as owners of wild meat-selling restaurants, there is evidence to suggest that they typically specialise in higher-end restaurants strategically located in busy administrative districts, particularly in Kinshasa (see also La Cerva, 2016). This broadly corroborates findings from Yaoundé, where male restaurateurs were profiled as being both status seekers and risk takers since they were more likely to own higher-priced establishments and sell protected species, such as dwarf crocodile and pangolin, than female restaurateurs (Randolph, 2016).

As one of the more expensive meats available, wild meat appears to function as somewhat of a niche, premium price offering that provides good profit margins for restaurateurs and helps to diversify weekly menus. Yet, the range of different types of restaurants selling wild meat across Brazzaville and Kinshasa ensures that consuming it is not only within the realm of the rich. Some restaurateurs appear to consider the selling of wild meat to be the provision of a cultural service, and therefore may be motivated by more than just profit margins (referred to as 'trading charities' in Gore et al., 2021). While customers on the whole do not appear to differentiate between species, with most simply requesting wild meat, our results align with those of Gluszek et al. (2021) and indicate that primates are in particularly high demand in Kinshasa, which is a concern given their vulnerability to overhunting (Ripple et al., 2016). Although most restaurants in Brazzaville and Kinshasa were found to sell relatively few wild meat dishes compared with dishes containing other forms of protein, the total number of dishes sold across these two cities is estimated to equate to approximately 1459 tonnes of wild-life annually. Although research with urban consumers in ROC and DRC suggests that only 16% of wild meat meals are eaten in restaurants, with most being eaten in the home (Wright, 2018), the amount of wild meat passing through restaurants is significant and its overt sale continues to reinforce the social norm around eating wild meat.

With conservation efforts increasingly focused on urban consumption as one of the drivers of wildlife decline, it is important to determine how many people's livelihoods could potentially be impacted by attempts to reduce demand or increase law enforcement (Booth et al., 2021; Ingram, 2020). Wild meat demand reduction campaigns have recently been launched in a few Central African cities, including Kinshasa, and the COVID-19 pandemic has also caused some people to think twice about eating wild meat due to heightened concerns over the disease risks (Funk et al., 2022; Li et al., in prep). It is therefore conceivable that some restaurateurs—almost exclusively women—could be negatively impacted by reduced wild meat sales as a result. However, as was also found in Yaoundé (Edderai & Dame, 2006), the number of restaurants dependent on wild meat sales in Brazzaville and Kinshasa was small. For the vast majority of restaurants, wild meat was not considered to be central to the viability of the business. It is therefore important to distinguish between restaurants that specialise in and are reliant on wild meat sales and those that sell it as part of a more diverse offering, since these different types of restaurant would need to be engaged in conservation efforts in different ways.

To date, conservationists in Central Africa have neglected to engage with restaurateurs who, given their direct links to and influence over consumers, could be highly effective behaviour change allies. For those who have found a niche in the wild meat sector, shifting the focus of their businesses to other products or developing alternative income streams could be a struggle without external support. Kinship tends to play a key role in the establishment of wild meat-focused businesses, with restaurants and supply chain contacts, as well as knowledge and experience, shared by and inherited from family members (La Cerva, 2016; Mendelson et al., 2003).

Having such connections is often essential when it comes to being competitive in a particular sector, and making new connections to facilitate an alternative business venture could prove challenging. Furthermore, well-established wild meat-focused restaurants can be very profitable enterprises (Trefon, in prep), which means that motivation to remove wild meat from the menu may be lacking. It is therefore essential that we develop an in-depth understanding of the motives and circumstances of the women whose businesses rely on wild meat sales, and how their income-generating prospects within the broader economy have impacted their decision making. Conservation efforts with this group should therefore focus on sensitive and respectful engagement to understand their perspectives and empower these women to make appropriate changes to their livelihood strategies that align with their needs and aspirations (Wright et al., 2016).

Restaurants that are not financially reliant on wild meat sales on the other hand could be a low hanging fruit for conservation. Engaging with and persuading some of these restaurants to remove wild meat from their menus would both decrease its availability to consumers and help in changing the social norm around eating wild meat. Restaurateurs are also well placed to inspire change in consumer behaviour by developing and promoting dishes that fulfil some of the same functions and appeal in a similar way to wild meat, such as the recipes designed by a prominent Congolese chef in Kinshasa that have been promoted as part of the Yoka Pimbo campaign (Yoka Pimbo, 2021). The diversity of alternative options available and how they are promoted in restaurants has been shown to have a direct effect on consumer behaviour in other contexts (Pechey et al., 2022). Focusing on the illegality of selling wild meat is unlikely to dissuade restaurateurs from preparing it in their restaurants, particularly if such laws are perceived as 'foreign' and misaligned with local values and cultural identities (Frost Yocum et al., 2022). Non-reliant restaurants should instead be engaged as partners in the co-design of wild meat demand reduction efforts. In particular, they can advise on appropriate messaging strategies that align with the values and desires of their customers, and could in turn benefit from free promotion as part of campaign efforts, possibly adopting a shared identity as being 'wild meat-free' or similar.

Changing the long-standing practices of wild meat supply chain actors, and crucially those of consumers, requires active engagement with these groups to forge mutually beneficial allegiances. Further qualitative research with wild meat restaurateurs in general, and those in Brazzaville and Kinshasa in particular, is now needed to better understand the business models of the different types of wild meat-selling restaurants identified in this study. Deeper insights alongside respectful negotiation are ultimately the pathway forward for designing collaborative and innovative strategies for behaviour change in the wild meat sector.

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## CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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