TRAFFIC

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RAPID ASSESSMENT OF THE

BUSHMEAT TRADE

IN URBAN CENTRES IN TANZANIA: AN ANALYSIS FROM DAR ES SALAAM, MOROGORO, MBEYA, ARUSHA, AND MANYARA

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TRAFFIC REPORT

ACKNOWLEDGEMENTS

ABBREVIATIONS AND ACRONYMS

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
IUCN	International Union for Conservation of Nature
TWIX	Trade in Wildlife Information eXchange
TANAPA	Tanzania National Parks
TAWA	Tanzania Wildlife Authority
TAWIRI	Tanzania Wildlife Research Institute
TCM	Traditional Chinese Medicine
TZS	Tanzanian Shillings
USA	Unites States of America
USD	United States Dollar
WD	Wildlife Division – Tanzania
WWF	World Wide Fund for Nature

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EXECUTIVE SUMMARY

The trade in bushmeat[1] in Africa is a widespread conservation issue. Urban demand for bushmeat and other wildlife products exacerbates exploitation that threatens the survival of several species in the wild. The extent and prevalence of the bushmeat trade in urban areas in East Africa is relatively poorly understood.

From October to November 2019 a rapid assessment of the bushmeat trade in urban areas in Tanzania was conducted. Engagement with stakeholders suggested specific urban centres that are known for their bushmeat availability. This assessment focused on these centres and interviewed bushmeat traders and consumers. Bushmeat is consumed regularly in the centres assessed and flows to these sites undercover through different means of transportation, including motorcycles and public buses.

Sales of bushmeat were found to be through covert channels and mainly to known customers. This assessment identified 28 wild species as the most frequently traded, including Kirk's Dik Dik *Madoqua kirkii*, African Buffalo *Syncerus caffer*, Grant's Gazelle *Gazella granti*, Tora Hartebeest *Alcelaphus buselaphus*, Thomson's Gazelle *Eudorcas thomsonii*, Masai Giraffe *Giraffa camelopardalis*, Lesser Kudu *Tragelaphus imberbis*, Greater Kudu *Tragelaphus strepsiceros*, Common Hippopotamus *Hippopotamus amphibius*, Common Impala *Aepyceros melampu*, Common Eland *Taurotragus oryx*, Bohor Reedbuck *Redunca redunca*, Mountain Reedbuck *Redunca fulvorufula*, Common Warthog *Phacochoerus africanus*, Common Waterbuck *Kobus ellipsiprymnus*, Common Wild Pig *Potamochoerus larvatus*, Plains Zebra *Equus quagga*, and Common Wildebeest *Connochaetes taurinus*. Species also traded for other products across the study sites included Temminck's Pangolin *Smutsia temminckii*, African Elephant *Loxodonta, africana*, Crested Porcupine *Hystrix cristata*, African Lion *Panthera leo*, snakes Serpentes spp., Nile Crocodile *Crocodylus niloticus*, Serval Cat *Leptailurus serval*, Nile Monitor *Varanus niloticus*, Verreaux's Eagle-owl *Bubo lacteus*, and land snails, particularly *Achatina fulica*.

African Elephant and Temminck's Pangolin are listed as Vulnerable and Endangered respectively under IUCN's Red List of Threatened Species (IUCN 2020), are also listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and protected by the Tanzania Wildlife Conservation Act 2013, giving them the strictest possible protection. Despite these measures, demand for their body parts remains high.

Findings
- The trade in bushmeat in Tanzania is illegal and therefore operates as a clandestine activity (unlike in some bushmeat markets in Central and West Africa where bushmeat is sold openly).

- Poachers sold their consignment directly to known consumers based on trust and who they are in contact with by phone or physical visits.

- Bushmeat is primarily traded locally in Tanzania, but almost a quarter of respondents from Arusha mentioned a cross-border bushmeat trade with Kenya and this involved giraffe.

- The bushmeat trade is largely conducted for local consumption but occurs alongside other wildlife products used for traditional medicine, and ornaments/decorations (some of which are exported).

- Respondents expressed awareness of hunting restrictions and perceived that law enforcement restrictions increased challenges to their involvement in the bushmeat trade.

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[1] The term bushmeat is here used to refer to illegally sourced meat from wild animals

- The prevalence of the bushmeat trade, scarcity of wild species in open areas, and the targeting of wildlife in protected areas, suggests that the bushmeat trade is a significant threat to wildlife in Tanzania.

- Formalization of game meat trade, without ensuring effective control mechanisms and law enforcement, will simply be legitimizing the present unsustainable bushmeat trade.

- The presence of bushmeat in urban centers suggest that the control of bushmeat trade is not effective.

Recommendations

Government departments such as the Tanzania Wildlife Authority (TAWA), Tanzania National Parks (TANAPA) and Tanzania Wildlife Division (WD) are encouraged to:

- Reinforce surveillance and enforcement in urban areas in Tanzania, particularly those identified in this report including borders between Tanzania and Kenya. This will provide a better understanding of the scale and volume of the bushmeat trade as well as the dynamics of the trade between rural and urban areas and between Tanzania and Kenya.
- Collaborate with and provide support to the traffic police to conduct inspections for bushmeat and other illegal wildlife products at existing police check points.
- Engage with local community leaders to build awareness about protected species, exposure to zoonoses and threats facing species and communities due to the bushmeat trade.
- Engage with police units in Tanzania to build awareness about transportation of bushmeat along roads, protected species, and threats facing species due to the bushmeat trade.
- Increase awareness to the public about the game meat selling regulations, procedures for accessing game meat, costs and the species involved.
- TAWA needs to formulate sound strategies to control the trade in bushmeat and monitor legally sourced game meat.
- TAWA needs to monitor the harvest of wildlife in protected areas to see if the new game meat trade is impacting wild population numbers

Tanzania's police are encouraged to:
- Collaborate with TAWA and other government agencies to build capacity and understanding on protected species, exposure to zoonoses and threats facing species and communities due to the bushmeat trade.
- Strengthen capacity in wildlife crime investigations
- Increase their surveillance of bushmeat along roads and other routes using existing police checkpoints. Greater controls are required on the movement of illegal bushmeat by stopping and searching vehicles and bicycles along roads.

Research agencies
- TRAFFIC in collaboration with the Tanzania Wildlife Research Institute (TAWIRI) should develop a risk analysis approach looking at harvest management (including quota setting and offtake) that examine legality and sustainability throughout the game meat supply chain. This will help to develop and evaluate management options.

BACKGROUND

The trade in wildlife products, including bushmeat, is one of the major drivers of wildlife species' declines (Lindsey et al., 2013). Bushmeat is often obtained within or adjacent to protected areas (Kiffner et al., 2013; Kiffner et al., 2014; Okello et al., 2004). In some areas, people still use traditional hunting techniques involving bow and arrows or snares (Campbell and Hofer, 1995), with meat being sold for subsistence (Hawkes et al., 2001). In other areas, hunting is a large-scale commercial activity involving the use of guns, with meat being sold locally (Arcese et al., 1995) or transported away from the source area and sold in cities (East et al., 2005; Cowlishaw et al., 2005) or even transported out of the country (Eves and Ruggiero, 2000; Chaber et al., 2010).

Published research shows that in many countries throughout Africa, wildlife populations have been dramatically reduced by unregulated and unsustainable hunting (Caro, 2008; Henschel, et al., 2011; Western et al., 2009), often with the loss of important ecosystem services (Western et al., 2009; Wang et al., 2007; Brodie et al., 2009).

Despite the known links between the bushmeat trade and declines in wildlife, Tanzania published regulations to sell game meat[2] in special butcheries in February 2020. These regulations allow people to trade game meat with a valid licence issued by the Tanzania Wildlife Management Authority (TAWA). The regulations specify that any person who desires to own and operate a game meat selling facility must apply for a permit by registering through the TAWA Director General. In addition, the regulations require that a Game Meat Selling Advisory Committee should be formed by the TAWA director and should be composed of members from fields such as the wildlife veterinary, wildlife management and health control management. The Director of TAWA may, upon being advised by the advisory committee that the applicant has met the requirements, issue a permit for the selling of game meat. Both game meat and bushmeat are sourced from the wild; the difference between the two is based on legality.

Currently, game meat is sourced from open areas and game-controlled areas, but the government has encouraged game meat dealers to establish ranches where the meat will be sourced after they are fully operational. The first selling point was inaugurated in December 2020 in Dodoma, where wildlife management officials joined residents at the butchery, which sold meat for about TZS3500 (USD1.5) per kilogramme. Game meat selling had not yet been launched across the country and during the time this study was undertaken, all trade in wild-sourced meat i.e., bushmeat was illegal. According to the Tanzania Wildlife Conservation Act 2013, trading in bushmeat has always been illegal, although there is evidence that it is conducted year-round. Currently, most poaching is carried out by local people[3]. The bushmeat is sold either fresh or processed (dried meat) depending on multiple factors, including the availability of animals, customer preference and associated risks such as likely encounters with law enforcement (Rentsch and Damon, 2013). In addition, bushmeat is primarily acquired by consumers through house-to-house sales and middlemen/traders (Katani et al., 2019). , Martin et al., 2012).

Bushmeat is consumed by urban dwellers for different reasons, including availability, spiritual, price, taste, health, and tradition (van Vliet and Mbazza, 2011). If unchecked, the urban demand for bushmeat will lead to a serious decline in wildlife populations outside and inside protected areas.

During this study, traders, and consumers of bushmeat from Dar es Salaam, Morogoro, Mbeya, Arusha and Manyara were interviewed to gain an understanding of the bushmeat trade in urban areas in Tanzania. The interviews gathered data on the species being traded, the specific parts and products traded, their usage and means of transportation to urban areas. The results of this assessment will be disseminated to

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[2] Game meat is the meat legally sourced from wild animals.

government, law enforcement and wildlife agencies to encourage bushmeat monitoring and to reinforce surveillance by the Tanzania police units.

METHODS

Study area

The study took place in five Tanzanian urban centres, including:
1) Dar es Salaam, located approximately 219 km from the Selous Game Reserve/Nyerere National Park and 200 km from Saadani National Park
2) Morogoro, located approximately 176 km from the Selous Game Reserve/Nyerere National Park and 98 km from Mikumi National Park
3) Mbeya, located approximately 212 km from Ruaha National Park, and 74 km from Kitulo National Park
4) Arusha, located approximately 126 km from Manyara National Park, 120 km from Tarangire National Park and approximately 51 km from Arusha National Park
5) Babati, located approximately 41 km from Tarangire National Park, 134 km from Manyara National Park, 165 km from Ngorongoro Conservation Area and 2,467 km from Serengeti National Park (Figure 1). All distances are by road.

Figure 1. The location of study sites and neighbouring key protected areas. Credit: Andimile Martin September 2020.

Data collection
Surveys were conducted between October and November 2019. Two research teams were deployed, each comprising two people (one experienced enumerator and an assistant), who were trained by the author in conducting bushmeat surveys.

Each team spent 15–20 days in each city and conducted face-to-face interviews with traders and consumers. *Traders* were defined as those who purchased and sold bushmeat, and *consumers* were defined as those who bought and consumed bushmeat. Bushmeat trade hotspots were identified based on prior information given by stakeholders, including anonymous wildlife law enforcement officials from TAWA and the Ministry of Natural Resources and Tourism, Wildlife Division (WD). As bushmeat is illegal in Tanzania, those carrying out the surveys excised caution and it was made clear to respondents that their responses would be kept confidential.

Informed Consent (IC) was obtained prior to each interview, and respondents were informed that they could stop the interview process at any point. The respondents were asked a series of questions about the bushmeat trade. Interviews were conducted in Swahili and ranged in length from 20 to 30 minutes. Most respondents answered comfortably and openly about their involvement in the bushmeat trade. Currencies for incomes/revenues were recorded in Tanzanian Shillings and converted into US dollars using November 2019 Oanda rates (TZS to USD 0.0004).

SURVEY RESULTS

Composition of respondents

Table 1. Interview respondent categories, total number of respondents per study site, age range and gender. Field Assessment. October–November 2019

Urban centre	Number of interviews	Respondent categories			Gender		Age ranges
		Traders	Consumers	Retired traders	Male	Female	
Dar es Salaam	25	10	5	0	22	3	25–52
Morogoro	32	24	6	2	30	2	25–40
Arusha	20	14	5	1	17	3	25–40
Manyara	17	10	6	1	15	2	20–52
Mbeya	10	5	3	1	8	2	20–50
Total	104	63	25	5	92	12	

Average incomes of the respondents

All traders confirmed that they were involved in other income generating activities. Their monthly incomes differed between the studied centres. In Dar es Salaam the average monthly income of traders was TZS437,500 (USD175), above the public minimum monthly wage of TZS350,000 (USD140) as set by the Tanzania government (Tanzania Ministry of Labour and Employment, 2019).

Table 2. The lowest and highest monthly incomes generated from all sources as reported by the respondent groups

Study area	Lowest income	Highest income	Average income
Dar es Salaam	TZS125,000 (USD50)	TZS750,000 (USD300)	TZS437500 (USD175)
Mbeya	TZS125,000 (USD50)	TZS450,000 (USD180)	TZS287500 (USD115)
Arusha	TZS125,000 (USD50)	TZS450,000 (USD180)	TZS287500 (USD115)
Manyara	TZS75,000 (USD30)	TZS350,000 (USD140)	TZS212500 (USD85)
Morogoro	TZS75,000 (USD30)	TZS350,000 (USD140)	TZS212500 (USD85)

Wildlife species in trade

A total of 28 species of wildlife, including large herbivores and carnivores, were encountered, and reported during the assessment (Table 3). These species were confirmed by wildlife officials from TAWA, who also added that claws of African Lion *Panthera leo* and live tortoises *Malacochersus* spp. are traded for other purposes such as traditional healing.

Most of the species were traded for bushmeat and these included Kirk's Dik Dik *Madoqua kirkii*, African Buffalo *Syncerus caffer*, Grant's Gazelle *Gazella granti*, Tora Hartebeest *Alcelaphus buselaphus*, Thomson's Gazelle *Eudorcas thomsonii*, Masai Giraffe *Giraffa camelopardalis*, Lesser Kudu *Tragelaphus imberbis*, Greater Kudu *Tragelaphus strepsiceros*, Common Hippopotamus *Hippopotamus amphibius*, Common Impala *Aepyceros melampu*, Common Eland *Taurotragus oryx*, Bohor Reedbuck *Redunca redunca*, Mountain Reedbuck *Redunca fulvorufula*, Common Warthog *Phacochoerus africanus*, Common Waterbuck *Kobus ellipsiprymnus*, Common Wild Pig *Potamochoerus larvatus*, Plains Zebra *Equus quagga*, and Common Wildebeest *Connochaetes taurinus*.

In addition, respondents mentioned other wildlife products such as Temminck's Pangolin *Smutsia temminckii* scales, Crested Porcupine *Hystrix cristata* spines, African Lion skin and oil, snake Serpentes spp. skins, Nile Crocodile *Crocodylus niloticus* skin, Serval Cat *Leptailurus serval* skin, ungulate horns, Common Hippopotamus teeth, African Elephant *Loxodonta africana* dung, live Nile Monitor *Varanus niloticus*, Verreaux's Eagle-owl *Bubo lacteus* eggs, and land snail shells, particularly *Achatina fulica* (Table 3). The trade involved species listed as Vulnerable, Near Threatened, and Endangered under the IUCN Red List of Threatened Species (IUCN 2020). It also involved products from species listed in Appendix I (Temminck's Pangolin and African Elephant) and Appendix II (Masai Giraffe, African Lion and Nile Crocodile, Serval Cat) of CITES.

Respondents from Morogoro reported more frequent bushmeat consumption than other study areas, with Common Impala (59%), Grant's Gazelle (39%), Common Eland (24%) and African Buffalo (12%) the most consumed species. Respondents from Mbeya reported trading other wildlife products more than bushmeat, including those from Temminck's Pangolin, African Elephant, Masai Giraffe, Nile Crocodile, African Lion, Serval Cat, and Common Hippopotamus.

Interviewees were specifically asked about the trade in Common Hippopotamus teeth, given the perception that the teeth are new targets for trade (Biggs et al., 2013; Anderson and Gibson, 2017) following strict law enforcement actions taken against trade in ivory and rhino horns. All (100%) traders said they had never traded Hippopotamus teeth themselves, although 14% said that the teeth are valuable and traded for ornamental purposes.

Common Eland meat

African Buffalo meat being smoked

Dried African Buffalo

Figure 2. Photos of selected bushmeat in various states, i.e., fresh, being smoked and sun dried. Field surveys. October–November 2019.

Various wildlife products at a traditional medicine

Unidentified wildlife horns

Nile Crocodile skin being dried

Dried Nile Crocodile skin

Figure 3. Photos of selected wildlife products, including skins, horns, and teeth.

Table 3: Species and products found during the surveys

Species Common name	Scientific name	Threatened/Protection Status		Product type	Frequency of mention (%)	Sampling site
		IUCN	CITES Appendix			
Common Impala	*Aepyceros melampus*	LV	Not listed	Meat	95	All study sites
Common Warthog	*Phacochoerus africanus*	LC	Not listed	Meat	94	All study sites

Common Wild Pig	*Potamochoerus larvatus*	LC	Not listed	Meat	92	All study sites
Kirk's Dik Dik	*Madoqua kirkii*	LC	Not listed	Meat	90	All study sites
Mountain Reedbuck	*Redunca fulvorufula*	ED	Not listed	Meat	81	All study sites
Common Eland	*Taurotragus oryx*	LC	Not listed	Meat	81	All study sites
Grant's Gazelle	*Gazella granti*	LC	Not listed	Meat	80	All study sites
Thomson's Gazelle	*Eudorcas thomsonii*	LC	Not listed	Meat	80	All study sites
Common Wildebeest	*Connochaetes taurinus*	LC	Not listed	Meat	76	Morogoro
Common Waterbuck	*Kobus ellipsiprymnus*	LC	Not listed	Meat	75	All study sites
Bohor Reedbuck	*Redunca redunca*	LC	Not listed	Meat	75	All study sites
				Horns	11	All study sites
African Buffalo	Syncerus caffer	NT	Not listed	Meat	68	All study sites
Plains Zebra	*Equus quagga*	NT	Not listed	Meat	51	All study sites
Common Hippopotamus	*Hippopotamus amphibius*	VU	II	Meat	40	All study sites
Lesser Kudu	*Tragelaphus imberbis*	NT	Not listed	Meat	34	Arusha
Greater Kudu	*Tragelaphus strepsiceros*	LC	Not listed	Meat	31	Arusha
Tora Hartebeest	*Alcelaphus* buselaphus	EN	Not listed	Meat	28	Morogoro and Arusha
Masai Giraffe	*Giraffa camelopardalis*	VU	II	Meat	24	Arusha
African Lion	*Panthera leo*	VU	II	Fat/oil	8	All study sites

				Skin	18	All study sites
Crested Porcupine	*Hystrix cristata*	LC	Not listed	Spines	14	All study sites
Serval Cat	*Leptailurus serval*	LC	II	Skin	14	All study sites
Land snail	*Achatina fulica*	LC	Not listed	Shells	13	All study sites
African Elephant	*Loxodonta Africana*	VU	I	Tail	5	Mbeya
				Dung	9	Dar es Salaam, Morogoro and Mbeya
Temminck's Pangolin	*Smutsia temminckii*	VU	I	Scales	8	Arusha
Verreaux's Eagle-owl	*Bubo lacteus*	LC	Not listed	Eggs	5	All study sites
Nile Monitor	*Varanus niloticus*	LC	Not listed	Skin	3	All study sites
Snakes	Serpentes spp. Species not identified			Skin	3	All study sites
Nile Crocodile	*Crocodylus niloticus*	LC	II	Skin	3	All study sites

IUCN conservation status: LC = Least Concern, NT = Near threatened, EN = Endangered, CR = Critically Endangered, VU = Vulnerable, NA = Not assessed.

Uses of wildlife products

Traders and consumers were asked to give their opinions on why people hunt wild animals despite it being illegal. According to these respondents, hunting is practiced primarily for obtaining food (62%), traditional local medicine (21%), ornamental purposes (10%), and for traditional Chinese medicine (TCM) (7%) (particularly scales of the Temminck's Pangolin).

Responses on the frequency of bushmeat consumption ranged from once a week (15%), several times a week (9%), several times a month (61%), several times a year (5%), to very rare (10%).

Trends in bushmeat trade

When asked for their opinions on any trends in the trade of bushmeat and other products within the past five years, most traders said that it had declined. However, a few respondents (21%) in Arusha reported that despite the decline there is a growing cross-border bushmeat trade around Namanga across the Kenya–Tanzania border. They added that giraffe is targeted for this trade due to the high volumes of meat from an animal. Wildlife officials from TAWA's Anti-poaching Unit "Kikosi Dhidi ya Ujangili (KDU)" in Arusha confirmed that bushmeat is traded to Kenya.

Wildlife trading system and markets

Traders at all five sites indicated that bushmeat from protected areas aggregates in adjacent villages before being dispatched to urban areas. The survey found that bushmeat was sold undercover mainly from hunters' homes, in the field and other hidden places, before being sent to urban centres. Traders buy bushmeat directly from hunters who sell at a cheaper price in the bush or villages. The meat is then handed to porters who transport it to the urban areas. The traders communicate in advance with consumers who buy the meat immediately after its arrival in the urban centres. Village traders mix bushmeat with farm products to conceal it from law enforcement officials then transport the products to urban centres using a variety of means including motorcycles (typically by boda boda[4]) and sometimes buses.

In Dar es Salaam, bushmeat is sourced mainly from the Selous Game Reserve, the new Nyerere National Park and occasionally from Saadani and Mikumi National Parks. According to the traders in Dar Es Salaam, one motorcycle can carry up to 30 kg of meat. Although traders in the study sites sell any ungulate species for bushmeat, they claimed that the most often sold species were African Buffalo, Tora Hartebeest, Common Eland, Common Warthog, Common Wild Pig, Kirk's Dik Dik, and Common Wildebeest. Most of the meat is sold fresh, but in some cases bushmeat is smoked or sun dried before it is transported to Dar es Salaam.

In Arusha, bushmeat is sourced mainly from the Enduement and Rendilen Wildlife Management Areas and partly from the National Parks and other surrounding reserves. Bushmeat trade hotspots mentioned by traders included Kwamuromboo, Sakina, Kisongo, Moshono, Ngaramtoni, Mirongene, Mjini Kati, Kaloleni and main bus stations. In terms of frequency of supply, the respondents said that the supply of bushmeat to cities is not predictable and ranges from every few days, weekly, monthly and every few months depending on the season and effectiveness of law enforcement.

Poachers sell the meat in different forms such as whole carcasses (58%) (mainly to traders), and in portions (25%) to consumers. When asked about the markets for bushmeat, all respondents said most of the customers are locals (within Tanzania) while Kenyans were mentioned as customers by respondents in Arusha in a few cases.

The TAWA officials from Arusha mentioned Asian countries including China, Singapore, and Viet Nam as markets for products other than bushmeat from Tanzania including Temminck's Pangolin scales and Nile Crocodile skins. They also highlighted the consumption of bushmeat by Asian residents in Tanzania, which corresponds with the results of a recent wildlife use study in East Africa (Mgaza *et al.*, 2020).

Reasons for bushmeat trade

Respondents said the reasons for their involvement in the bushmeat trade were for domestic consumption (10%), financial gain (85%), and for traditional reasons (5%). African Buffalo and antelopes were traded for meat, while African Elephant dung, African Lion fat and oil were traded for traditional medicine to treat a variety of ailments. Skins from Serval Cat and African Lion were sold to traditional healers to be used for witchcraft.

Drivers of bushmeat consumption

Consumer respondents were asked to give reasons for their bushmeat consumption despite it being illegal and risky. Some 60% said they considered bushmeat cheaper, healthier, and more nutritious compared to livestock, and a few (10%) said they eat bushmeat because it is "delicious". The traditional medicinal use of bushmeat was also mentioned: consumption of species such as Common Warthog is considered important for preventing disorders like hernias.

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[4] Boda boda are motorcycle taxis commonly found in East Africa.

Challenges faced

Traders were asked about any challenges/risks associated with their involvement in the bushmeat trade. Challenges put forward included arrest and seizure of bushmeat by law enforcement, difficulty obtaining hunting supplies and the scarcity of wildlife in the bush, and the long distance to protected areas where bushmeat is sourced (Figure 1). Hunters added that, unlike in the previous decade, they now have a difficult time finding animals outside of protected areas. Stronger law enforcement and police checkpoints along primary roads were other challenges (Figure 4). When probed about physical risks, such as injury, none of the respondents said they had experienced this, but hunters did encounter dangerous wildlife in the bush.
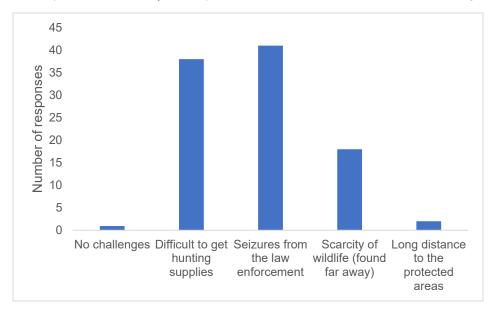

Figure 4. Challenges faced by bushmeat traders and other stakeholders.

New species in trade

Respondents were asked about any new species and products in the bushmeat trade. Some 91 (87%) respondents said there were no new species while nine (13%) said Temminck's Pangolin scales, and Common Hippopotamus teeth were new products in the trade.

Products that are rare in the market

Some 62 (60%) respondents said that Serval Cat skin, African Elephant tails, Leopard skins, African Lion claws and ungulate skulls were rarely traded, mainly because the species are increasingly scarce to find and catch in the bush.

Bushmeat trade and law enforcement controls

Traders interviewed in this study acknowledged that the seizure of bushmeat by law enforcement agencies is one of the challenges that they face; however, the presence of the bushmeat trade in urban centres indicates that law enforcement controls are not effective. A significant gap in intervention methods is the lack of effort to prevent vehicle drivers and other transporters from transporting bushmeat from rural to urban centres.

Currently, the major way of controlling bushmeat is through established anti-poaching operations around protected areas. Other controls are indirect and include benefit sharing programs such as infrastructure provision and conservation education to change the behaviour of hunters, consumers, and traders in communities adjacent to protected areas. There is no control on the movement of bushmeat that involves

the stop and search of vehicles and bicycles along roads simply because wildlife agencies have no system of check points at which to inspect bushmeat that may be on transits to urban centres.

The organisation of check points falls under the remit of the Tanzania police force, but they are not fully utilised due to lack of collaboration and inadequate awareness about the impact of bushmeat trade. This is largely due to police perception that bushmeat crimes are of low priority.

CONCLUSIONS

The study shows that bushmeat is frequently traded and consumed, often on a weekly basis. This may threaten wildlife species, impact on the health of ecosystems upon which communities depend and the future economies of people and governments.

Reports from traders indicate there is an increasing scarcity of wildlife in the bush and catching certain species was becoming a challenge. This implies a significant negative impact on wildlife populations.

Concerns are higher for species already categorised as Vulnerable, Near Threatened, and Endangered that are traded for bushmeat and other products. In addition, some of these species are listed in CITES Appendix I and II so any cross-border international trade is illegal without appropriate permits.

Although bushmeat is traded mainly for consumption within Tanzania, traders indicated that there is a growing cross-border trade between Kenya and Tanzania, particularly for giraffe. The growing cross-border trade and the supply of bushmeat to urban areas can cause negative impacts on wildlife species.

The study found that bushmeat trading was not the primary activity for traders, which indicates that it mainly takes place to supplement income.

Game meat selling regulations and bushmeat trade in Tanzania.

Tanzania approved regulations in February 2020 to allow local hunters to sell game meat in special butcheries. The regulations allow people to buy game meat that is obtained. through the following sources: (a) resident hunting; (b) tourist hunting; (c) wildlife farms, ranches, and zoos; and (d) culling, cropping and problem animal's control.

Although the involved species are not specified in the regulations, it is likely that large. and small ungulates are going to be the target species of the trade because they are the most preferred bushmeat species in Tanzania. As per the regulations, before meat is taken into a butcher, it will be inspected by a Game Meat Selling Advisory Committee that is under TAWA, and an inspection certificate will be issued. The owner will be required to maintain a registry indicating sources of meat and its quantity.

The results of this assessment reveal that the current enforcement efforts to control the bushmeat trade in Tanzania are not effective. It is therefore anticipated that efforts to monitor and control the legal game meat trade will face significant challenges for numerous reasons including weak adherence to laws, gaps in enforcement capacity, corruption and the lack of scientific information needed to determine the sustainability of offtake quantities. In addition, the opportunity to launder illegal bushmeat as legal game meat will place additional pressure on wild species that are already at risk. Taking the above into consideration, the legalising the commercial trade in wildlife in Tanzania poses many more challenges than solutions.

Findings
- The trade in bushmeat in Tanzania is illegal and therefore operates as a clandestine activity (unlike in some bushmeat markets in Central and West Africa where bushmeat is sold openly).

- Poachers sold their consignment directly to known consumers based on trust and who they are in contact with by phone or physical visits.
- Bushmeat is primarily traded locally in Tanzania, but almost a quarter of respondents from Arusha mentioned a cross-border bushmeat trade with Kenya and this involved giraffe.
- The bushmeat trade is largely conducted for local consumption but occurs alongside other wildlife products used for traditional medicine, and ornaments/decorations (some of which are exported).
- Respondents expressed awareness of hunting restrictions and perceived that law enforcement restrictions increased challenges to their involvement in the bushmeat trade.
- The prevalence of the bushmeat trade, scarcity of wild species in open areas, and the targeting of wildlife in protected areas, suggests that the bushmeat trade is a significant threat to wildlife in Tanzania.
- Formalization of game meat trade, without ensuring effective control mechanisms and law enforcement, will simply be legitimizing the present unsustainable bushmeat trade.
- The presence of bushmeat in urban centers suggest that the control of bushmeat trade is not effective.

RECOMMENDATIONS

Government departments such as the Tanzania Wildlife Authority (TAWA), Tanzania National Parks (TANAPA) and Tanzania Wildlife Division (WD) are encouraged to:

- Reinforce surveillance and enforcement in urban areas in Tanzania, particularly those identified in this report including the borders between Tanzania and Kenya. This will provide a better understanding of the scale and volume of the bushmeat trade as well as the dynamics of the trade between rural and urban areas and between Tanzania and Kenya.
- Collaborate with and provide support to the traffic police to conduct inspections for bushmeat and other illegal wildlife products at existing police check points.
- Engage with local community leaders to build awareness about protected species, exposure to zoonoses and threats facing species and communities due to the bushmeat trade.
- Engage with police units in Tanzania to build awareness about transportation of bushmeat along roads, protected species, and threats facing species due to the bushmeat trade.
- Increase awareness to the public about the game meat selling regulations, procedures for accessing game meat, costs and the species involved.
- TAWA needs to formulate sound strategies to control the trade in bushmeat and monitor legally sourced game meat.
- TAWA needs to monitor the harvest of wildlife in protected areas to see if the new game meat trade is impacting wild populations

Tanzania's police are encouraged to:
- Collaborate with TAWA and other government agencies to build capacity and understanding on protected species, exposure to zoonoses and threats facing species and communities due to the bushmeat trade.
- Increase their surveillance of bushmeat along roads and other routes using existing police checkpoints and by enhancing the systems of checkpoint. Greater controls are required on the movement of illegal bushmeat by stopping and searching vehicles and bicycles along roads.

Research agencies
- TRAFFIC in collaboration with the Tanzania Wildlife Research Institute (TAWIRI) should develop a risk analysis approach looking at harvest management (including quota setting and offtake) that examines the legality and sustainability throughout the game meat supply chain. This will help to develop and evaluate management options.

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APPENDICES

APPENDIX 1. General Market Survey questionnaire of Wildlife Species Trade in Urban Areas, Tanzania.

Trader

Date	Questionnaire #
town	Village/Locality

We are researchers studying the trade in wildlife species and products in the urban, Tanzania. We hope you can provide some information to help us better understand this topic. The survey is anonymous and all information you provide will only be used for research and analysis, we will not disclose anything to a third party. Additionally, there are no right or wrong answers to this questionnaire as each response will be valuable to us.

Q1. Are you ready to participate in this survey?

1. Yes   ☐   **2.**No, no, no   ☐

If **YES,** go to **Q2.** If NO, thank the respondent for his time." **Thank you for your time and a very good day to you"**

Q8. What is your marital status? 1. Married ❏   2.Single ❏ 3. Other (mention)…………

Q2. Sex:

1. Male 2. Feminine   ☐   ☐

Q4. Level of education

1. No formal education   ❏
2. Primary school   ❏
3. Secondary school   ❏
4. Undergraduate degree   ❏
5. Post-graduate degree(s)   ❏
6. Other   ❏

Q3. What age group do you belong to?

1. Under 18   ☐
2. [18 to 25 years old]   ☐
3. [25 to 35 years old]   ☐
4. [35 to 45 years old]   ☐
5. [45 to 55 years old]   ☐
6. [55 to 65 years old]   ☐
7. 65 and over   ☐

Q5. What is your role in the bushmeat/wildlife trade?

1. Hunter   ☐
2.Supplier   ☐
3. Intermediate   ☐
9. Other   ☐ specify………………………………………………………

5. Restaurant ☐
6.Processor   ☐
7. Porter   ☐
8. Wholesaler ☐

Q7. What wildlife products are you selling/sold today?

1. Live animals   ❏
2. Whole fresh carcass   ❏
3. Whole dried carcass   ❏
4. Bushmeat portions   ❏

5. Scales   ❏
6. Skins   ❏
7. Bornes   ❏
8. Fat   ❏
9. Teeth   ❏

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Q8. What wildlife species do you sell the most? (Please rank top 3 species in order)

1. Warthog	❑	7. Elephant	❑	13. Pangolin	❑
2. Monkeys	❑	8. Red river hog	❑	14. Snake	❑
3. Hippos	❑	9. Civet	❑	15. Monitor Lizard	❑
4. Cane rat	❑	10. Porcupine	❑	16. Fox	❑
5. Hare	❑	11. Striped cat	❑	17. Rat	❑
6. Turtle	❑	12. Squirrel	❑	18. Antelope	❑

19. Others to specified…………………………………………………………………………………………………

Q9. From your choices in Q8, please specify who buys the most of the top three species sold:

1. Most sold species …………………………………………….   Main buyers……………………………………

2. Second sold species ………………………………………   Main buyers……………………………………

Q10. Have you sold hippo teeth since early January 2018? 1. Yes ❑   2. No ❑

Q11. If NO, why you have not sold hippo teeth since January 2018?

1. It is rare   ❑

2. It is a protected species   ❑

3. Other (to specified)………………………….............

Q12. If YES, what is your sales frequency?

1. Everyday   ❑

2. Once a week   ❑

3. Once a moth   ❑

4. Once every six moths   ❑

5 Other to be specified……………………………….

Q13. Number of hippo teeth sold since January 2018

Number per Day ……………………………………………

Number per Week ……………………………………

Number per month …………………………………………….

Number /6 Months…………………………………….

Q14. In which state do you sell wildlife/products?

1. Whole life   ❑

2. Whole dead   ❑

3. Alive and dead   ❑

4. Whole descaled   ❑

5. Other to be specified……………………………….

Q15.What do you do with the unsold stock?……………………………………………………………………

Q16. Have you ever sold wildlife or wildlife products to an Asian?

     1. Yes ❏   2. No ❏

Q17. If YES, When?

     2018 ❏2017 ❏2016 ❏2015 ❏Before 2015 ❏

Q18. What challenges do you face in selling wildlife products today?

     1. There are no barriers   ❏
     2. It is difficult to get supplies   ❏
     3. Seizures from the law enforcement   ❏
     4. The trade in pangolins is illegal   ❏
     5. Other to be specified……………………………………………………………

Q19. How do you or your suppliers transport your wildlife products to the market?

     1. Private transport   ❏
     2. Public transport   ❏
     3. Clandestine vehicles   ❏
     4. Bus /cars   ❏
     5. Bikes   ❏
     6. Trucks   ❏
     7. Other to be specified…………………………………………………

Q15. Are there any species/products that were not sold in the past?

 1. Yes ☐   **2.**No, no, no ☐

Q16. If so, what species/products?

………..…………………………

……

Q18. Are there any products you no longer sell?

1. Yes   ☐   **2.**No, no, no   ☐

Q19. If so, what species/products?

………..…………………………

……

20. What are the uses of the products you sell?

01____Medicine

02____Food

03___Traditional Chinese Medicine

04___Ornamentation

05___Jewelry

06___Aquarium trade

21. Who do you buy from these wildlife products?

01___Harvesters/fishers

02___Middlemen

03___Wholesalers

04___Self-harvest

99___Others (specify)……………………………

22. What is the scale of your trade?

01___Local

02___National

03___International

04___Both local and international

23. If international, what countries do you export to?

01___China

02___Viet Nam

03___Singapore

04___European countries

05___East African

99___Other African countries (mention)

24. What among the following nationalities are your customers?

01___Tanzanian

02___Kenyan

03___East African

04___Chinese

05___Vietnamese

06___Singaporeans

07___Malaysian

07___Europeans

08____US citizens

09____South African

99____Others (specify)

"Thank you for taking the time to participate. Please have a soda as a token of thanks."

Source Grading

An Always Reliable ☐
B Mostly Reliable ☐
C Sometimes Reliable ☐
D Unreliable ☐
E Reliability not known ☐

Information Grading

1 Known to be true without reservation ☐

2 Known personally to the source ☐

3 Not personally known but corroborated ☐

4 Cannot be judged ☐

5 Improbable, False or Malicious report ☐

Handling Code

1 Dissemination to NGOs, Civil Society (including media), non-enforcement agencies and/or Any enforcement (conditions may apply)

2 Dissemination to Police and other law enforcement agencies only, National or International (please specify)

3 Dissemination to International law enforcement agencies only (specify conditions which apply)

4 Dissemination may be permitted but the receiving party is to observe the restricted conditions as specified (refer to primary source, specify conditions prior to dissemination)

5 Internal TRAFFIC use only (specify reasons and internal recipients)

OUR MISSION IS TO ENSURE THAT TRADE IN WILD PLANTS AND ANIMALS IS NOT A THREAT TO THE CONSERVATION OF NATURE

TRAFFIC

ARCADIA
A CHARITABLE FUND OF
LISBET RAUSING & PETER BALDWIN