TITLE OF INTERNSHIP: Internship to support desk-based review of Illegal Killing and Taking of Birds (IKB) in Sub-Saharan Africa

HOST COUNTRY, SITE LOCATION, AND THE DATES OF INTERNSHIP: Kenya, Nairobi; from September 21, 2020 to May 20, 2021

SPONSORING INSTITUTION: BirdLife International

AIM: To review literature on IKB in Sub-Saharan Africa, a step towards a full scientific review of the issue

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Section 1:

Executive Summary (max 200 words)

- ***The summary should be written concisely, summarising the entire report with a statement about the internship's aim, objectives, key results and impacts.***

The internship's aim was to literature review Illegal killing, taking, and trading of birds (IKB) as a step to understanding the issue in sub-Saharan Africa. The specific objectives were: 1) to identify bird taxa and numbers affected by IKB, 2) reasons for and methods applied in IKB, 3) identify hotspot areas; and, 4) legislation regarding IKB. Information from peer reviewed publications, blogs, grey literature, TRAFFIC and BirdLife Datazone dated from 1990 to 2021, relevant to the region were reviewed. Each cited case of IKB was entered in Ms Excel spread sheet, and later analysed. 632 cases from 346 documents covering 41 countries were compiled from online search using keywords. Results showed that 43 families of birds are affected by IKB, family Psittacidae (31%) and Accipitridae (22%) being the most affected. The main reasons for IKB were trade (42%), food for subsistence (29%) and traditional medicine (14%). The most common method used in IKB was poisoning (67%). West Africa had the

largest number of IKB cases (33%). Central Africa was a key hotspot area for illegal killing of Psittacidae birds (41%) while in Southern Africa Accipitridae birds were highly affected (43%). Birds are affected despite countries having policy and legislation protecting birds from IKB.

Introduction (max 250 words)

Keep the introduction short and include:

- ***The conservation value of the internship work***
- ***Background to the internship site and its conservation significance (if relevant)***
- ***Identify any key partners and their role in the internship***
- ***Include a small map of the area (if internship included field work***)

IKB is a global threat that could lead to the extinction of birds as well as the ecosystems, communities, and livelihoods (UNEP, 2016). Sub-Saharan region has high species richness, being home to 2406 bird species, 1400 of the species being endemic to the region with ten endemic bird families and two endemic bird orders (IUCN, 2021; Ryan & Sinclair, 2011). However, threats and pressures to these species and their habitats have led to a decline in their population. For example, 276 bird species are globally threatened with extinction while 29 of them are critically endangered (BirdLife International, 2017). Gathering knowledge on these threats is of paramount importance to help design effective for conservation of birds in the region. BirdLife International has conducted several studies on IKB in different regions of the world but sub-Saharan Africa remains a gap. For example, in the Mediterranean region an estimated of 11–36 million birds per year in 2016 were affected by IKB (Brochet et al., 2016).

Lack of sufficient and affordable protein in rural parts of sub-Saharan Africa prompts consumption of wildlife including birds (Jimoh et al., 2012; Wilkie et al., 2016). Trade of vultures for traditional medicine in West Africa has led significant declines (Buij et al., 2015). Birds the families Accipitridae, Ardeidae, and Bucerotidae are among 354 species of used for traditional medicine in 25 African countries (Williams et al., 2013). Subsistence use, trade and belief-based use of birds create a tradeoff between conservation of birds and daily livelihood

of the people in the region. TRAFFIC, the secretariats for: Convention on Migratory Species (CMS), African Eurasian Water Bird Agreement (AEWA), Convention on International Trade of Endangered Species (CITES), governments among others are important parties to engage to address the IKB threat.

Section 2:

Aim and objectives (max 100 words)

- ***Provide a statement of the main aim and underlying objectives of the internship as described in the Internship Proposal or explain any changes or adaptations to the original statement***.

The main objective was to support desk-based research on illegal killing, taking and trading of birds with a focus on the Sub-Saharan Africa as a step towards the a full scientific review of the issue in the region and to generate knowledge products from the desk-based research for dissemination.

The specific objectives of the study were;

To identify the families and numbers of birds affected by IKB in Sub-Saharan Africa region

To determine the reasons and methods used in carrying out IKB

To identify the key hotspot areas where IKB is practiced

To provide an overview on legislation relevant to IKB in Sub-Saharan Africa

Activities and Methodology (max 500 words)

- ***Describe in concise and specific statements the most important internship activities and their associated methodologies (i.e. what did you do and how did you do it?).***
- ***Please organise these activities according to the internship objectives. Include both ecological and social science methodologies, details on data processing and analysis (if relevant).***

The literature review on IKB in Sub-Saharan Africa was conducted from September 2020 to May 2021 through the following web search engines: Google, Science Direct, Google Scholar,

TRAFFIC, and BildLife Datazone. Cross-referencing from other published works i.e. checking reference lists to identify additional studies was also used. Peer-reviewed journals, blogs, and grey literature were used to identify past studies on the topic. The key phrases used were: illegal killing of birds, illegal hunting of birds, poaching of birds, illegal trade of birds, consumption of birds, use of birds for traditional medicine, birds in captivity and illegal keeping of birds as pets. The phrases were used for search in each of the 48 Sub-Saharan African region countries and in the region as a whole.

The publications cited ranged between 1990 to 2021. Data on illegal killing and seizure of birds, bird carcasses and birds body parts from different countries were compiled by TRAFFIC from 2005-2019. Whilst seizure data is a vital source of information, caution was applied not to assume that there is a direct correlation between seizures and the overall illegal wildlife trade or that information across locations, species or time is consistent (TRAFFIC, 2021). Each cited case of illegal killing, taking and trading of birds was entered in an MS Excel spreadsheet. The variables/fields entered per case included; country, subregion, presence or absence of relevant legislation regarding hunting and poaching of birds, details on the law for each country, what the law says in terms of legality of hunting and poaching, common name of birds, scientific name of birds, family name of birds, cases, numbers of birds affected by IKB and details, units (individual birds, chicks, eggs, body parts, specimens, species or unspecified), method of IKB, reason for IKB, locality(specific place where IKB occurred), source of information, time (year) when this happened and other Information.

A working definition for IKB was as: any form of deliberate action that results in the death or removal from the wild of an individual bird (regardless of whether it is the target of this action or not) that is prohibited under national legislation (Brochet et al., 2016). The meaning of illegal and legal hunting was defined by different countries' perspectives. E.g., for countries with hunting or taking regulations in their national legislation, illegal killing and taking of birds involves all killing that is not permitted by the regulations. Countries with complete hunting bans, all killing is considered illegal. The legality of hunting methods was determined for the countries in the sub-Saharan Africa region by reviewing the most recent legislation, derived from http://www.fao.org/faolex/country-profiles/en/ (FAO, 2020). Reference material and

links to websites searched and consulted was compiled using Zotero Version 5.0.96.2. A briefing/webinar on the preliminary findings of the review was provided to BirdLife staff. One article on preliminary findings and to invite information was published on BirdLife website.

Outputs and results (max 250 words)

- ***Provide details of all the outputs (qualitative and quantitative) of the internship and how they have contributed to each of the internship objectives.***
- ***Include both ecological and social sciences outputs and explain them separately in different paragraphs. Include the species and/or habitat areas that your internship has contributed toward conserving.***
- ***For quantifiable outputs, summarize the data in the report and include raw data, tables and graphs in the Appendix.***

Outputs

1. List of contacts with potentially useful information on the topic complied in Ms Excel datasheet
2. A technical report on the number and species affected, reasons for the practices and methods used in IKB- data compiled and analysed in Ms Excel and presented as tables and charts.
3. Summary of relevant national legislation and legislation gaps identified- compiled in Ms Word
4. A report with more detailed information at the country level as well as the key findings from the online search developed
5. A list of suspected or confirmed worst locations of illegal killing and taking of birds in the region developed
6. A summary description of illegal trade flows in Sub-Saharan Africa developed
7. A summary description of what governments and other stakeholders have done or doing to address or inform on the IKB threat
8. Text drafted to develop a poster summarizing research findings on the subject

9. A draft questionnaire for rolling out to collect additional information from BirdLife Partners and others who are knowledgeable about the subject

Achievements and impacts (max 500 words)

- ***Please discuss the long and short term impacts the internship has brought (or will bring) to conservation and/or to advancing the sponsoring organisation's mission.***
- ***Please provide details for any impacts related to:***
    - ***data contributed to IUCN specialist groups;***
    - ***improved species or site status, impact on species or site management plan/strategy;***
    - ***new NGO, species discovered or rediscovered;***
    - ***site designated as important for biodiversity;***
    - ***site legally protected; or***
    - ***changes in stakeholder behaviour***
- ***Describe how these impacts relate to the overall objective of the internship.***
- ***Describe how the internship has helped advance your career. Please be as concise as possible***.

Illegal killing, taking and trading of birds is prevalent in Sub-Saharan Africa region, despite existing laws that protects birds from the vice. This literature review on IKB studies or cases in Sub-Saharan Africa shows that 43 families of bird are affected. Millions of birds are illegally killed, taken or traded for various reasons, trade, food and traditional medicine being the main reasons. Some of the illegal trade goes on unrecorded, due to wrong reporting on the number of birds supposedly traded legally, enabling trade of more birds than those allowed in specific trade quotas (Outhwaite & Brown, 2018). Thousands of Grey Parrots (Psittacidae family) die during the process of trapping, transportation, trading and domestication (S. Tamungang, 2016). Large birds especially from Accipitridae family are the main target for the traditional medicine trade. Local trade of birds in some countries in West Africa and Southern

Africa is practiced openly in markets in major cities, mainly for belief-based purposes. Illegal trade of birds also is done online at websites[1].

Bird hunting for food is a major reason for IKB in Sub-Saharan Africa. In Sub-Saharan Africa region, rate of illegal hunting increases in areas with poor record of enforcement of anti-poaching laws and regulations, in areas where wildlife gather in large numbers, areas that are routes for migratory wildlife, and periods of food shortage (P. Lindsey et al., 2012). The consumption, coupled with the trade of bush-meat to increase the household income is a threat to bird biodiversity and population throughout sub-Sahara Africa (Archer et al., 2018; Magige et al., 2009).

Deliberate use of pesticide for hunting for consumption or trade for food has led to death of many birds. Poachers hunting large mammals also deliberately lace carcasses with poison to kill vultures, because large flocks may give away the location of poaching activity, attracting the attention of law enforcers (Salisbury, 2013). Deliberate poisoning of predators or animals that compete for resources and territory with the human leads to birds especially vulture (Accipitridae family) succumbing to unintentional or secondary poisoning (Ryu, 2009; Waita, 2020). Common trapping methods used include glue and sticks, nets, thread and sticks, climbing trees and felling trees to remove chicks from their nests, use of anaesthesia and tranquillizers, use of pepper, catapults, guns and hand held explosives are also commonly used (S. Tamungang, 2016). Use of hand held explosives is a common method used to kill parrots that gather in large numbers (in hundreds) at feeding sites especially in Cameroon (S. A. Tamungang et al., 2014).

The results from the literature show that a conclusive scientific research on illegal killing, taking and trading of birds in Sub-Saharan Africa is of utmost and urgent need. The research on birds will lead to well informed conservation and management actions in the region and globally. The publication of the first article on the topic, which prompted a lot of positive and informative responses, motivated and gave me a stronger zeal to work on the IKB subject and

[1] https://jiji.ng/search?query=birds; https://www.nairaland.com/search?q=parrots&board=0

conservation field. The review was an eye-opener to me on the extent to which birds are illegally killed, taken and traded and the need to protect them from extinction.

External influences and changes to internship (max 200 words)

- ***Describe any factors which may have changed and affected the internship (if any).***

The internship went well. The fact that this was a desk-based research project meant that most of the work was done online which was a favourable in the wake of COVID 19 which restricted people's movements here in Kenya. However, as part of the internship, there was a plan to conduct a visit to a site affected by IKB. I hoped to gain first-hand experience on the IKB activities. But due to COVID 19 it was no possible to conduct the visit.

Section 3:

Conclusion (max 250 words)

- ***Provide accurate, detailed and specific conclusions, avoiding general inferences and interpretations.***
- ***Please describe if/how the internship projects will continue after the formal internship period is over.***
- ***Describe if/how you plan to apply internship skills gained to future career paths. If you have confirmed the next step in your career, please describe what this will be.***

1. Bird families most affected by illegal killing, taking and trading of birds, in terms of cases reported are Accipitridae and Psittacidae.
2. Large numbers of family Psittacidae birds are affected by illegal killing, taking and trading of birds.
3. Trade is the main reason for illegal killing, taking and trading of birds.
4. Poisoning is the most common method used in IKB
5. Key hotspot areas where illegal killing, taking and trading of birds are most reported are Cameroon in Central Africa, Nigeria in West Africa, South Africa in Southern Africa, Tanzania in Eastern Africa and Madagascar in Indian Ocean Islands.

6. Although laws protecting birds from illegal killing, taking and trading of birds exist, their enforcement needs to be encouraged.

After the internship, publication of review results in a journal will be pursued and a poster developed summarising. A regional webinar will be organised to share the results. Effort are being made to raise funds for conducting a full scientific study on the topic in Sub-saharan Africa to supplement a similar review done for North Africa. The skills gained from the internship are a great foundation to guide on my future career path.

Acknowledgements

- ***Thank those who have helped and contributed to the project***

I am grateful for the support offered to me by Alex Ngari, Paul Kariuki and Eresha from Birdlife International, to make the internship a success. I also appreciate the efforts of the communication team at Birdlife International, Lewis and Elena, for editing and publishing the web article on IKB. This internship would not have been possible without the kind support from CLP to whom BirdLife and I are most grateful.

Section 4:

Appendices

Please include important additional information not required in the main text along with:

- ***Raw field data: if large amounts of data were generated, include them here and summarise results using tables and statistics in the main text.***
- ***Copies of any newspaper/magazine articles relating to the internship.***
- ***Papers published or manuscripts proposed based on internship data.***
- ***Photos with captions. By submitting a photo in the final report, you authorise CLP to reuse the photo for promotional purposes.***

632 cited cases of IKB were recorded from 346 literature sources covering 41 countries. No cases were cited for Djibouti, Eritrea, Gambia, Mauritius, Sudan and South Sudan and only a few cases (<10) were cited for Angola, Ghana, Somalia, Benin, Guinea Bissau, Rwanda, Liberia, Republic of Congo, Seychelles, Togo, Burundi, Chad and Central African Republic. Only in 263 of the cited cases were numbers of specimens affected indicated.

Families of birds affected by Illegal killing, taking and trading of birds in Sub-Saharan Africa

From the 632 cases captured in literature, 43 families of birds are affected by Illegal killing, taking and trade of birds in Sub-Saharan Africa (APPENDIX 1). Accipitridae and Psittacidae families were the most cited with 188 cases (31%) and 133 case (22%) respectively (Figure 1). The largest number of cases cited of IKB involving Accipitridae were from the Southern Africa sub-region with 77 cases (41%) (Figure 2), South Africa being the country leading (35%) in the number of cited cases in that sub-region. West Africa followed with 70 cases (37%) (Figure 2), Nigeria having the largest number of cases (34%) affecting Accipitridae. Psittacidae were largely cited in Central Africa sub region with 57 cases (43%) (Figure 2), Cameroon being the country with the most cited cases 56% in that sub-region. West Africa sub region followed with 43 cases (32%) (Figure 2), Nigeria leading in number of cases cited 23%.

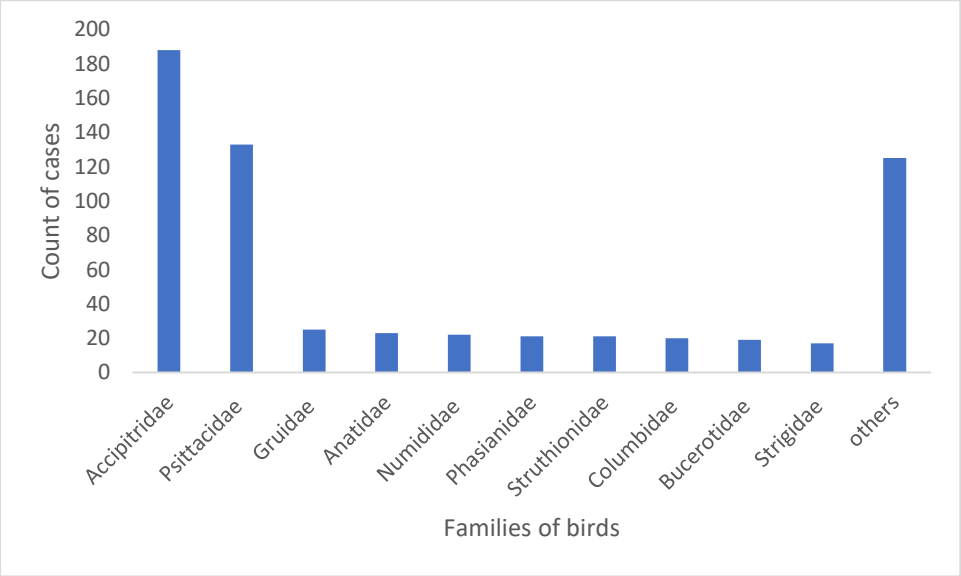

Figure 1. Families of birds affected by illegal killing, taking and trading of birds in Sub-Saharan Africa

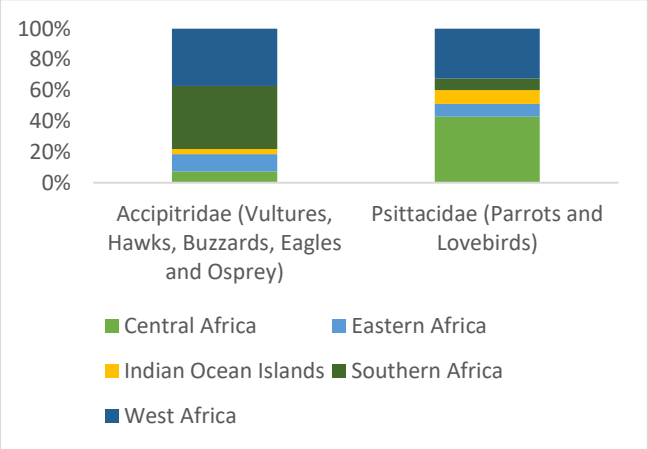

Figure 2. Cases of illegal killing, taking and trade of Accipitridae and Psittacidae families in different sub regions.

Number of birds affected by illegal killing, taking and trading of birds in Sub-Saharan Africa

The numbers for the birds affected included numbers recorded for individual birds, chicks, eggs, specimens and body parts (heads, legs, beaks). Numbers for the birds affected were not given for 16 families out of 41 cases cited for these birds. From the 573 cases documented and whose numbers were given, the biggest number was Psittacidae (Parrots and Lovebirds) family at 96% (484,982 birds) followed by family Accipitridae (Vultures, Hawks, Buzzards, Eagles and Osprey) at 3% (12,949 birds) (Table 1).West Africa sub region had the biggest number of family Psittacidae (57%) affected by IKB, followed by Central Africa (34%) (Figure 3). Countries in these sub regions that had the highest cited numbers were Senegal (West Africa) (72%) and DRC (Central Africa) (77%). The largest number cited of family Accipitridae birds were recorded in Southern Africa sub-region at 70% (Figure 3), Botswana 34% and Zambia 32% being the countries in that region with the largest cited numbers.

In some cases, however, the numbers were given for a certain period of time. For example, as in a study done in Senegal, 25 million birds are estimated to be kept in captivity every year (Elphick, 2007). Similarly, an estimate of 176 000 to 470 000 gamebirds in South Africa are illegally poisoned annually, vultures being the targeted species (Berruti et al., 2005). 500 tons of vultures (family Accipitridae) are trafficked every month (Oduah, 2019). An estimated 1.2 million waterbirds are trapped annually by at least 460 trappers bushmeat in Lake Chilwa in

Malawi, a RAMSAR site (Waterland et al., 2015). The ostrich, in particular, (Struthio camelus) is hunted for its eggs (more than 1,000 eggs are sold each year to tourists), which are given as wedding gifts or function as hearth or mosque decorations (USAID, 2008). An estimate of 300 seabirds, most of which are vulnerable sea birds, per year are killed in the Namibian longline fisheries (Da Rocha et al., 2021). In Angola, 250 vulnerable seabirds may be killed per year in Angola (Petersen et al., 2006).

Table 1. Families of birds affected by illegal, killing, taking and trading of birds in Sub-Saharan Africa

Bird families	Numbers	Cases
Psittacidae	484982	133
Accipitridae	12949	188
Procellariidae (Petrels, Shearwaters)	8000	11
Phasianidae	3774	21
Bucerotidae	2202	19
(water birds)	1000	4
Gruidae	457	25
Columbidae	148	20
Scolopacidae (Sandpipers, Snipes, Phalaropes)	126	2
Others	725	191

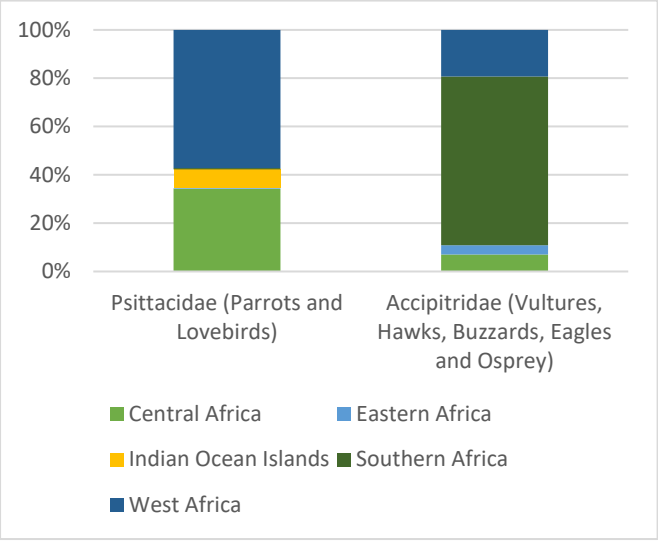

Figure 3. Numbers of birds from family Psittacidae and Accipitridae affected by illegal killing, taking and trading of birds in Sub-Saharan Africa.

Reasons for the illegal killing and taking of birds in Sub-Saharan Africa

Trade (42%), food (29%) and traditional medicine (14%) were the main reasons for illegal killing, taking and trade of birds in the region from the cases cited (Figure 4). In most cases where trade was given as the reason for IKB, the reason for trade was unspecified (56%), while trade for traditional medicine was second (26%) (Figure 5).

In West Africa, Central Africa and Eastern Africa, trade was the most common reason of IKB being recorded in most cases (68%, 52% and 49% respectively), while traditional medicine was the most common reason for IKB in Southern Africa (37%) (Figure 6). Out of the three most common reason for IKB, food for subsistence was the only reason from the cases in Indian Ocean Islands. Birds are illegally killed, taken and traded for various reasons. Comparing the three most common reason for IKB (trade, food and traditional medicine), trade was the highest recorded reason for illegal killing or taking of birds from family Accipitridae (Vultures, Hawks, Buzzards, Eagles and Osprey) (50%) and 85%) for Psittacidae (Parrots and Lovebirds) family (Figure 7). For the family Accipitridae (Vultures, Hawks, Buzzards, Eagles and Osprey) traditional medicine was second at 38% (Figure 7).

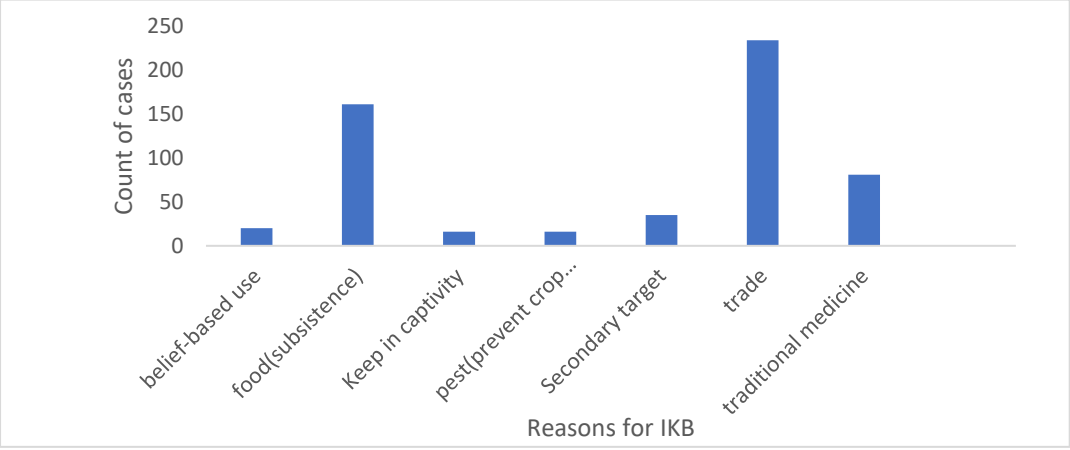

Figure 4. Reasons for illegal killing, taking and trading of birds in Sub-Saharan Africa

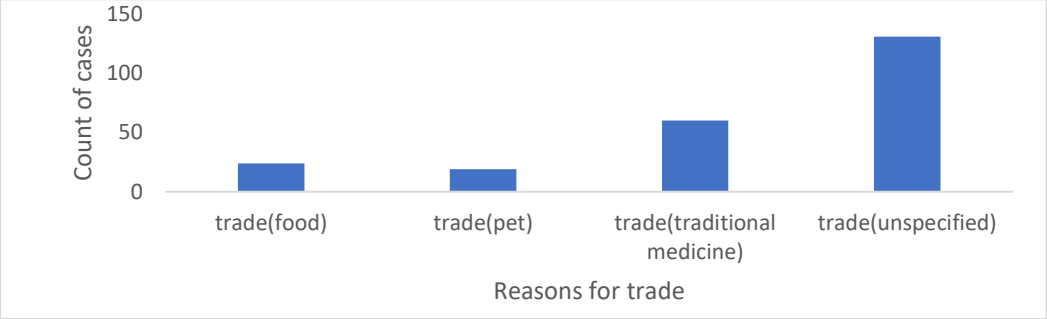

Figure 5. Reasons for trade of birds in Sub-Saharan Africa

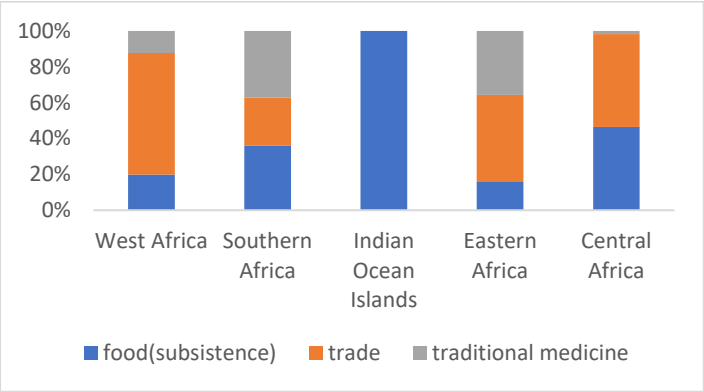

Figure 6. Proportions of reasons of illegal killing, taking and trading of birds in different sub regions of Sub-Saharan Africa

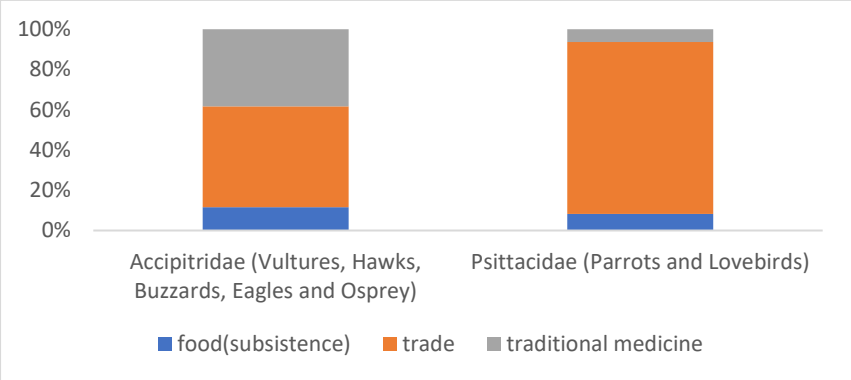

Figure 7. Reasons for illegal killing, taking, and trading of family Accipitridae and Psittacidae birds in Sub-Saharan Africa

Methods used in illegal killing, taking and trading of birds in Sub-Saharan Africa

In 71% of the cases cited, the hunting or poaching was unspecified. However, for the cases of which the hunting and poaching methods were specified, 67% was poisoning (Figure 8). Highest number of poisoning cases were intentional (52%) (Figure 9). In Southern Africa, Eastern Africa and West Africa, hunting by poisoning was the method of IKB cited in majority of the case (90%, 60% and 50% respectively) (Figure 10). Trapping was the second most cited method of IKB in West Africa (39%), Eastern Africa at (38%) and Southern Africa (8%). From the cases cited hunting by poisoning was the most common method of IKB (94%) affecting of Accipitridae while trapping was recorded in 56% of cases where Psittacidae were affected (Figure 11).

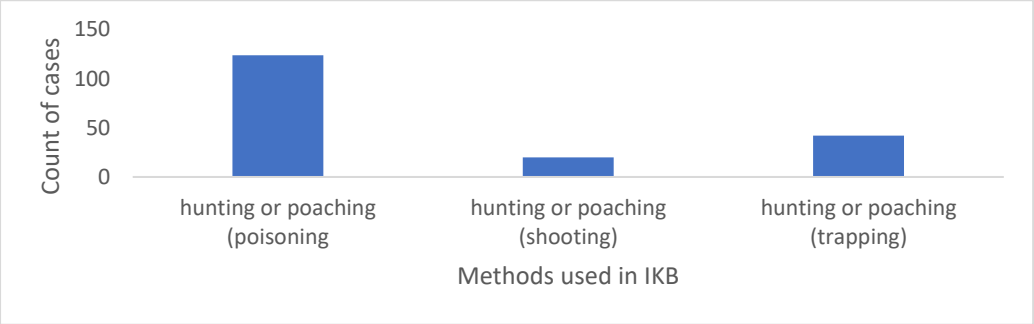

Figure 8. Methods used in illegal killing, taking and trading of birds in Sub-Saharan Africa

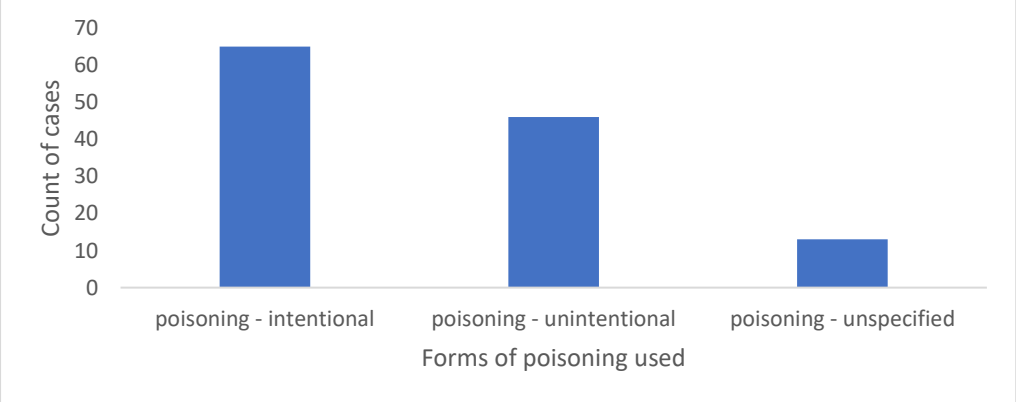

Figure 9. Different forms of poisoning used in illegal killing, taking and trade of birds in Sub-Saharan Africa

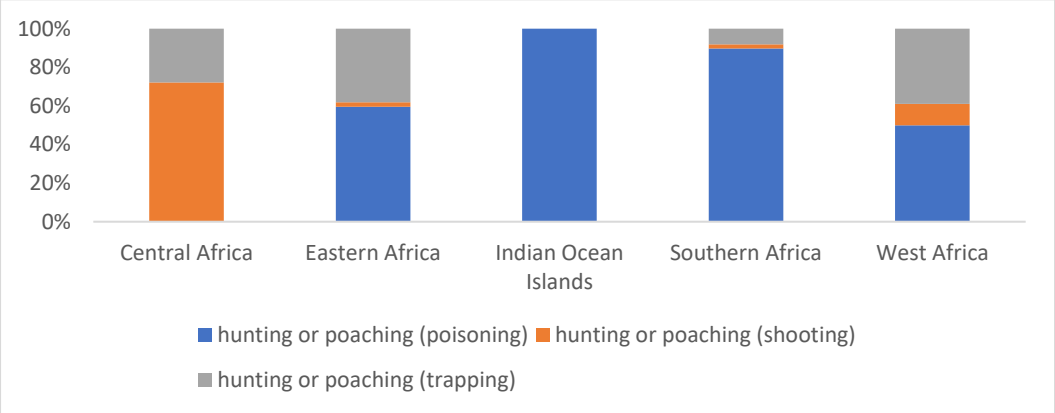

Figure 10. Proportions of methods used in illegal killing, taking and trading of birds in different sub regions of Sub-Saharan Africa

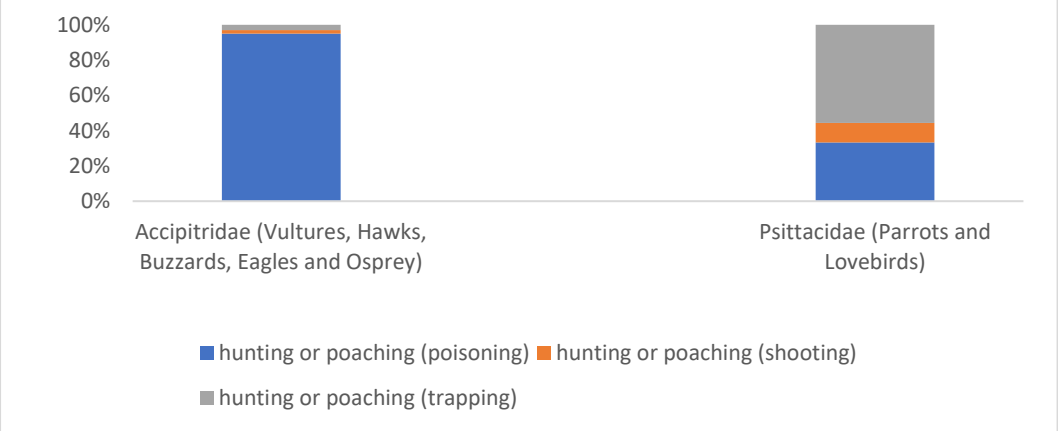

Figure 11. Proportions of different methods used in illegal killing, taking and trading of family Accipitridae an Psittacidae birds in Sub-Saharan Africa

Key hotspot areas where illegal killing and taking of birds is practiced in Sub-Saharan Africa

West African sub region is a key hotspot area for IKB in Sub-Saharan Africa region with (33%) of all cases reviewed (Figure 12). Southern Africa region followed with 24% of all cases, Central Africa 20%, Eastern Africa 15% and the sub region with the least number of cases reported was Indian Ocean Islands 8% of the cases (Figure 12). Key hotspot areas at the country level, that is countries with the greatest number of IKB cases, were Nigeria (22% of IKB cases in West African sub region), South Africa (20% of cases in the Southern Africa region), Cameroon (38% of cases in Central Africa), Tanzania (33% of cases in Eastern Africa) and Madagascar (66% of cases in the Indian ocean Islands) (Figure 13).

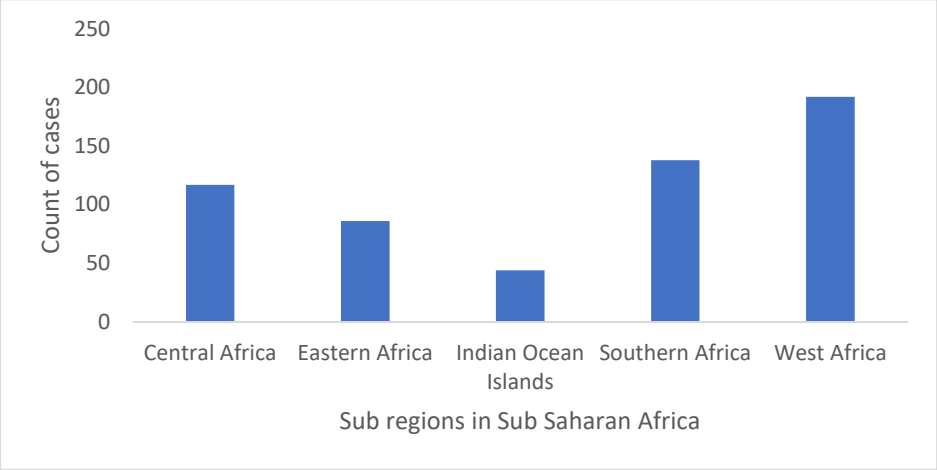

Figure 12. Cases of illegal killing, taking and trading of birds in different sub regions of Sub-Saharan Africa

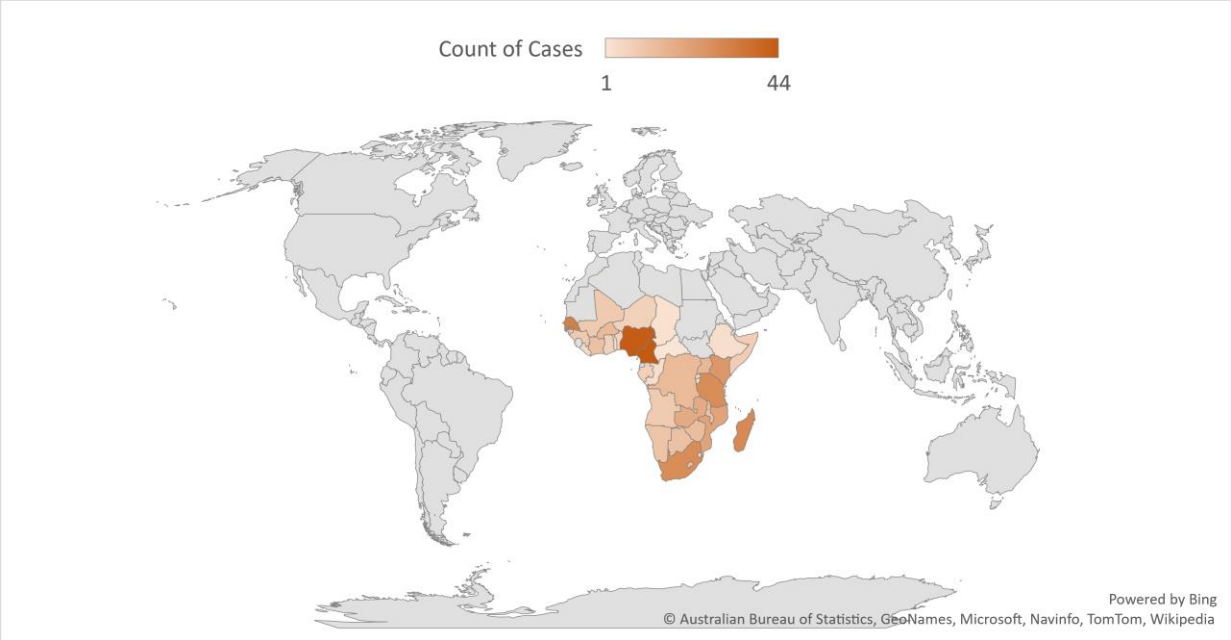

Figure 13. Map showing countries that are key hotspot areas for the illegal killing, taking, and trading of birds.

Overview of legislation in Sub-Saharan Africa

The 48 Sub-Saharan African countries offer different types of regulations with regards to hunting of birds. For example, some countries only offer bird hunting permits but do not permit the hunting of mammals because of their internal policies and regulations (Booth &

Chardonnet, 2015a). Each country has unique systems and approaches in the way that licenses and permits for the hunting of birds and other wildlife species are issued (Booth & Chardonnet, 2015b). Countries such as Cameroon, Central African Republic, Congo, Ethiopia, Liberia, Morocco, Mozambique, Namibia, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe permit trophy hunting to achieve their conservation goals (Semcer, 2019). However, illegal killing, taking and trading of birds is still present in large numbers especially in Tanzania, Cameroon and South Africa. Some countries do not offer regulated hunting for various reasons; e.g. Kenya's conservation laws and policies do not allow sport hunting while others like Angola lack institutional capacity (Semcer, 2019). Nevertheless, IKB cases have been reported in such countries. Countries that are signatories of CITES have implemented permit regulations in their national laws regarding importing and exporting species and a quota system for regulating killing or harvesting a species (Sheikh, 2019).

Bibliography

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APPENDICES

Bird families	Count of cases	Number of birds affected
1. Accipitridae (Vultures, Hawks, Buzzards, Eagles and Osprey)	188	12949
2. Psittacidae (Parrots and Lovebirds)	133	484982
3. Gruidae (Cranes)	25	457
4. Anatidae (Ducks, Geese, Swans)	23	88
5. Numididae (Guineafowls)	22	89

6. Phasianidae (Pheasants, Partridges, Turkeys, Grouse)	21	3774
7. Struthionidae (Ostriches)	21	25
8. Columbidae (Pigeons and Doves)	20	148
9. Bucerotidae (Hornbills)	19	2202
10. Strigidae (Typical Owls)	17	98
11. Threskiornithidae (Ibises, Spoonbills)	12	37
12. Procellariidae (Petrels, Shearwaters)	11	8000
13. Musophagidae (Turacos)	10	4
14. Ardeidae (Herons)	7	125
15. Ciconiidae (Storks)	7	106
16. Laridae (Gulls, Terns, Skimmers)	7	0
17. Otididae (Bustards)	6	0
18. Pelecanidae (Pelicans)	6	6
19. Phoenicopteridae (Flamingos)	6	35
20. Falconidae (Falcons, Caracaras)	5	0
21. (water birds)	4	1000
22. Ploceidae (Weavers and allies)	4	21
23. Sulidae (Gannets, Boobies)	4	0
24. (seabirds)	3	0
25. Balaenicipitidae (Shoebill)	3	0
26. Charadriidae (Plovers)	3	1
27. Estrildidae (Waxbills)	3	5
28. Rallidae (Rails, Gallinules, Coots)	3	4
29. Corvidae (Crows and jays)	2	43
30. Fringillidae (Seadeaters, Canaries and relatives)	2	2
31. Passerellidae (New World sparrows)	2	0
32. Phaethotidae (Tropicbirds)	2	0

33. Sagittariidae (Secretarybird)	2	0
34. Scolopacidae (Sandpipers, Snipes, Phalaropes)	2	126
35. Alcedinidae (Kingfishers)	1	1
36. Buphagidae (Oxpeckers)	1	0
37. Cacatuidae (Cockatoos)	1	0
38. Dicruridae (Drongos)	1	0
39. Motacillidae (Wagtails, Pipits and Longclaws)	1	0
40. Pteroclidae (Sandgrouse)	1	0
41. Pycnonotidae (Bulbuls)	1	0
42. Sturnidae (Starlings)	1	0
43. Tytonidae (Barn Owls)	1	35
Grand Total	632	567860

APPENDIX 1: Bird families affected by Illegal killing, taking and trade of birds in Sub-Saharan Africa