



Project title: Assessing illegal bird bushmeat trade and methods used in capturing birds around Mkungunero- Swagaswaga ecosystem central Tanzania.

Illegal bird trade for bush-meat is a growing conservation problem for many bird species including lovebirds in north-central Tanzania. However, information on why this problem is more concentrated in this region than other parts of the country the key drivers of illegal bird trade, consumption and on the methods used in illegal capturing different of bird species remains unknown, risking species decline without our knowledge. The project aimed to bridge these knowledge gaps. We used questionnaire surveys together with Unmatched Count Technique (UCT) to understand factors associated with illegal bird trade and consumption. Also snowballing, field observation and key informant interview with elder people among the local community was used to understand the methods used in capturing the birds in five villages along the Dodoma-Babati highway in the Tarangire-Swagaswaga ecosystem in north central Tanzania. Specifically, the research addressed the following questions.

- i. What factors influence the bird trapping activities in the study area?
- ii. What bird species are commonly caught in the study areas?
- iii. How diverse the trapping methods are in mitigating the pest bird impacts in the study areas?

These data will provide a basis for the wildlife managers to make informed decisions on the appropriate conservation strategy for the bird communities in the study area.

Material and methods

Study area

The study was conducted in four villages; Chemba (in Chemba district), Paranga, Kelema and Ausia (in Konda district) along the Dodoma-Manyara highway within the Mkungunero (4°30.0S and 36°10.0E) and Swagaswaga (04°54'55.6056"S, 035°26'02.0220"E) ecosystem in north-central Tanzania. The local communities living in these villages are mainly crop farmers and agro-pastoralists. The ecosystem encompasses the Swagaswaga Game Reserve dominated by miombo woodland and thickets and also Mkungunero Game Reserve where savanna vegetation dominated by Acacia and Combretum tree species are characteristic.

Sampling method

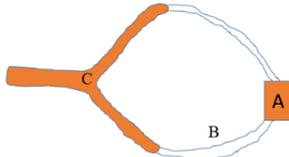
We used snowballing method (Newing, 2010) to get the people who are actually involved in trapping the birds in order to assess the methods they use. To collect the data, we asked each respondent various questions including what trapping method they use, how frequent they to the trapping per month, why do they trap birds, and whether the catches are consumed at their

household level or sold to other people for money. Other questions asked include, what species do they target mostly, whether they catch non-target bird species and what factors influence their trapping activities? Each interview lasted for about 50 minutes. Further, after each interview, we requested to see any trapping tools they have kept at their homes and for the traps, to show us how they set up the trap in the field when they go out in the field for bird hunting. Finally, we requested to accompany some trappers in the field to see how they do the actual trapping. In total we interviewed 79 trappers from four villages. Due to the nature of the data collected in this study, only simple descriptive analysis was conducted.

Brief findings

We found that consuming the problematic birds was popularly regarded by the villagers as an incentive for the losses inflicted by the birds on their farm crops. Birds were trapped using seven local methods that targeted various bird groups including granivores and raptors but trapping varied between seasons and local bird population fluctuations these methods are: .

i) *Catapults*



ii) *Use of glue or sticky sap to catch birds*

iii) *Baited woven round basket traps locally known as “tundu”*



iv) *Nets*



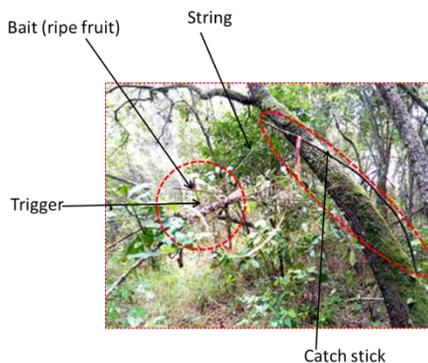
v) *Snap-shut stick trap*



vi) Poisoning (using agro-chemicals e.g. Diazinon)



vii) *Tree or ground loop trap*



The hunted birds were consumed locally, traded on highway and rural streets as well as exported to nearby cities, generating substantial financial benefits to the bushmeat traders. Although most bird trapping has long been believed to be targeting *Quelea quelea* to reduce its effects on the local farms, we found substantial number of other non-quelea bird species hunted with poisoning for the illegal bushmeat trade with potential dire consequences on the local populations of these species and the ecosystem services they provide in these landscapes. Conservation interventions to controlling unsustainable hunting methods on the bird biodiversity is an increasing priority in these changing rural landscapes.

Interpretation of results

We found bird trapping to reduce real and perceived negative impacts of pest birds being commonplace across the surveyed rural communities. Trapped birds were used for household food and sold for incomes with the bird trapping varying across the wet and dry seasons and according to temporal fluctuation of population of the target birds and trapper occupation. We also found seven methods presently used to catch the birds in the study area, each targeting a particular bird group involved in inflicting crop losses to the local communities.

Our finding that bird trapping patterns was driven by climate change-related stresses among the local communities was perhaps because of adopting bird trapping as a coping strategy to counter the effect of hunger associated with the shortage of food.

We found a suite of bird species ranging from smaller to larger size birds (including Village Weavers *Ploceus cucullatus*, doves, pigeons, helmeted guinea fowl and francolin) targeted for elimination as they are perceived as pests similar to the *Quelea quelea*. The use of such methods were applied mostly on newly-tilled and sown farms and at harvesting to improve local household incomes as an alternative avenue to compensate for the farm losses. Further, in the study area, the trapping methods were not used singly but in combination with each other and some methods appear to be bird size-specific and vary on their application across seasons. The trappers reported to use poison chemicals to kill birds of all sizes that feed to grains such as maize and ground nuts. Furthermore, with the exception of the sticky sap and poison chemicals, all other methods were reportedly being used more frequently both in dry and wet seasons.

Although conflict mitigation is often believed to be causing bird trapping, we found bushmeat trade as the main driver in these rural communities. Information from the trappers and own field observations confirms the perennial nature of the trapping to suppling the bird bushmeat probably in constant demand within and outside these rural communities.

Implications for bird conservation within human-dominated landscapes

Our study has revealed relevant information for bird conservation both in the study area and elsewhere in the region that may be facing similar bird exploitation due to the bushmeat trade. Catching the quelea birds to reducing their negative impacts in the rural landscapes is prudent. However, some non-selective trapping methods such as poisoning cast conservation concerns especially on some non- migratory local bird species. Conservation interventions that target to reduce poisoning and illegal trapping of other benign species in these areas will greatly improve the population of these bird species and are increasingly a priority in these biodiverse human-dominated landscapes.

Acknowledgements

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Budget

Activity	Cost (£)	TZ Shillings
i) Field transport	952	2,829,344.00
ii) Fuel cost	400	1,188,800.00
iii) Printing field data	70	208,040.00
iv) Field allowances for three people	960	2,853,120.0
v) Field accommodation and meals when conducting surveys	450	1,337,400.00
vi) Preparation of Project report and Dissemination	150	445,800.00
TOTAL	2982	8,862,504.00

Currency exchange rate as of today (27/10/2020) is £1 = 2,972 TZ Shillings