Regulatory Performance of Tourist Hunting and Legal Game Meat Trade in Tanzania

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Abstract: Recently, the government of Tanzania has legalized the sale of game meat under special rules namely the Wildlife Conservation (Game Meat Selling) Regulations of 2020 as an effort to curb illegal hunting. The regulations mention tourist hunting as one of the sources of commercial game meat. Other sources include resident hunting; wildlife farms/ranches/zoos; and culling, cropping, and control of problem animals. In this paper we examine the performance of tourist hunting, legal game meat in the country, and its regulatory framework from the perspectives of key stakeholders, including both public and private or non-state stakeholders. We use a variant of Likert's methods of summated ratings and the cumulative ordinal regression model to analyse and compare the opinions of stakeholders. We found that there are still challenges, especially related to sources of wild animals. Operators of game meat facilities find it difficult to source game meat from tourist hunting companies and the latter are not willing to offer the meat to licensed operators of game meat shops. Our results support the hypothesis that authorization of the game meat trade can serve as one of the boldest conservation tools to mitigate illegal poaching if well-planned and regulated. The results of the cumulative ordinal regression model predict an improvement of 42% in the performance of regulatory framework per unit improvement in the procedures for application and registration of game meat selling facilities ($p = 0.010$). The paper recommends leveraging stakeholders' active engagement and strengthening cooperation between game meat value chain actors and law-enforcement authorities. An innovative participatory model for enforcing game meat sanitary and safety regulations is also recommended to avoid potential health risks to consumers. It underscores the importance of institutional capacity building, awareness creation, and adequate funding in the fight against illegal hunting and game meat trade. In order for the country to be able to achieve sustainable game meat trade in the country, the challenge of limited wild animal sources has to be addressed, possibly by supporting the establishment of privately owned wild animal farms, ranches, and zoos, this also has its own challenges that need to be addressed too.

Keywords: Tourist hunting, Game meat trade, Regulatory framework, Poaching, Hunting legislations

1. Introduction

Many countries that are endowed with wildlife are struggling to combat the problem of poaching. Still, the demand for wildlife products and the use of sophisticated poaching methods continue to threaten the security, economy, and biodiversity in these countries (USAID, 2023). In fact, poaching and selling of illegal wildlife products not only targets local demands but transcends regional boundaries to meet demands in other countries and continents (Chaber et al., 2010). This makes the problem of poaching even more complex, especially in countries where the tourism industry depends heavily on wildlife and protected areas. In East Africa, for example, the available information indicates that before the COVID-19 pandemic, the tourist industry brought over $6 billion to the region each year (USAID, 2023). This has attracted many governments to review their wildlife policies and regulatory framework to address the problem of wildlife poaching. This has generally taken two main pathways. The first requires the adoption of more stringent regulations, including the imposition of bans and moratoria in wildlife trade. The second advocates the use of market-based instruments, such as the authorization of trade in game meat, to mitigate poaching and achieve efficiency and equity in the utilisation and management of wildlife resources.

The role of market-based instruments in achieving efficiency and equity in managing natural resources is widely discussed in the literature (see Kaine et al., 2017 for details). Most important in the context of game meat trade is perhaps the argument that command and control approaches, such as; the banning of game meat trade in this case, can also be problematic and can produce adverse conservation outcomes (Biggs et al., 2013). It can discourage sustainable harvesting, and it can also exacerbate poaching or lead to food insecurities and economic shocks (Booth et al., 2021). As such, some countries, notably Tanzania and many scholars have subscribed to the authorisation of game meat trade as a means to mitigate poaching and help redistribute the benefits accruing from wildlife management (Fukushima et al., 2021; Koh et al., 2021; Chaves et al., 2018). Some scholars have even gone further and argued that when hunting is banned; poaching drastically increases (Naidoo et al., 2016).

Despite significant research on poaching and sale of illegal wildlife products undertaken so far, empirical evidence to support the use of market-based instruments to control poaching is lacking, at least in the context

of the game meat trade. This research gap limits our understanding of how tourist hunting, combined together with the authorisation of game meat trade can optimise wildlife conservation efforts. Therefore, this paper attempts to fill this gap by examining the performance of the recently instituted game meat regulatory framework in Tanzania using the opinions gathered from different stakeholders, including both public and private or non-state stakeholders. The paper is motivated by the fact that of recent, the regulatory framework that governs wildlife conservation in the country has substantially changed from being more restrictive and exclusive in the early 1960s through the mid-1970s to being less restraining and increasingly welcoming private participation and community-based initiatives in the late 1970s to early 2020s. Substantial reforms have occurred in early 2020 when the establishment of game meat selling facilities and the sale of game meat was officially authorised by the government under special rules stipulated in the Wildlife Conservation (Game Meat Selling) Regulations 2020 (URT, 2020). This came as part of an effort to combat poaching.

This research was deemed important because the prevalence of poaching and illicit game meat trade is a problem of growing concern among conservation agencies in many countries. Despite the effort to curb it through market-based regulatory approaches, there are indications that many challenges still remain. Thus, the problem this paper addresses is the lack of a thorough understanding of the nature of the problem and the very factors that influence the performance of the new market-based wildlife regulatory frameworks. We understand the veracity that having legislation in place is one thing but guaranteeing its performance can be something else. Thus, the overall objective of the study was to investigate the question of whether the new game meat legislation in Tanzania has worked as expected. The specific objectives were to evaluate whether a) the new legislation has reduced poaching or not, b) the hunting of wild animals for game meat in areas designated for hunting continued as expected or not, c) the operationalization of game meat butcheries continued well or not, and d) the actors in the game meat value chain complied with the conditions and requirement specified in the new regulatory framework or not. State differently, the author wanted to investigate what has worked and what has not worked during the initial implementation of the new legal framework for the game meat trade in the country. The lessons generated from this study are useful in informing future policy and regulatory reforms not only in Tanzania but also in other countries with similar contexts and challenges.

2. Literature Review

2.1 Legal Game Meat Trade or Bans?

Overall, the literature on wildlife utilization and management is quite polarized, especially regarding the debate on whether imposing stringent controls and regulations against illegal hunting and bushmeat trade would be a better approach to control poaching or not. On the one hand, there are viewpoints that wildlife management authorities should impose strict bans and moratoria for several reasons. First, poaching leads to the overexploitation of some wild animal species and drastically affects ecosystem health, diversity, and stability. Secondly, poaching and bushmeat trade can quickly spread diseases and pathogens and cause serious health issues (He and Li, 2021; Subramanian, 2012). Examples of health-related issues include incidences of swine fever, as well as HIV transmitted to humans through hunting and slaughtering of bushmeat. According to Worobey (2021), COVID-19, caused by the SARS-CoV-2 virus, is believed to have originated from (potentially illegal) wildlife trade. Thirdly, poaching also directly affects tourism, making the bushmeat trade a financial threat to many protected areas, especially national parks (OCTA, 2011). Governments may lose revenues due to illegal wildlife trade, hence burdening the socio-economic development of a country because the loss from taxes cannot be invested in public services (ibid).

On the other hand, there are viewpoints that regulations and bans are not only insufficient, but they are also problematic (Koh et al., 2021; Veríssimo and Wan, 2019). They are expensive to impose and enforce, and thus, ensuring the quality of these instruments is challenging. Many scholars have already acknowledged that achieving regulatory quality is becoming difficult and one of the major obstacles to sustainable management and utilization of wildlife resources (Coad et al., 2021; Ingram et al., 2021; Fukushima et al., 2021). This latter viewpoint believes that poaching can be controlled through market mechanisms such as the commodification of game meat trade in Namibia (MITSMED, 2019) and Tanzania (URT, 2020).

2.2 Legal Game Meat Trade in Tanzania

As already mentioned, the year 2020 has realized substantial wildlife management reforms in Tanzania notably the establishment of game meat selling facilities and the sale of game meat. This was officially allowed by the

government under special rules stipulated in the Wildlife Conservation (Game Meat Selling) Regulations 2020 as part of the effort to curb poaching (URT, 2020). By this new legislation, the Minister of Natural Resources and Tourism in Tanzania is given the mandate to designate certain areas in the country or vehicles to be used as game meat selling facilities (URT, 2020). In addition, the Tanzania Wildlife Management Authority (TAWA) is mandated to provide support to help people begin their private wild animal farms, zoos, and ranches. TAWA for example is required to supply these people with heifers and young animals so that they can later harvest wild animals for commercial purposes (URT, 2020).

3. Research Approach and Methodology

3.1 Sampling Procedure and Data Collection

This paper is based on a game meat survey that was conducted in early to mid-2022 to evaluate the opinions of key stakeholders regarding the new regulatory framework for the game meat trade in the country and its performance. Depending on the characteristics of the actor populations, both the "probability" and "non-probability" sampling methods were used to select the respondents. Specifically, purposive sampling" and snowball sampling were used as "non-probability" sampling methods. Few participants were initially selected, keeping in mind the purpose of our study (Glen, 2015). Purposive sampling was preferred because it is somewhat less costly, more readily accessible, and more convenient, and selects only those relevant to the research design (Cambell et al., 2020). The study districts were selected using the purposive sampling procedure based on a criterion of whether wild animal hunting and selling of game meat were practiced in the districts. This was followed by a "stratified random sampling" to classify or separate stakeholders into strata as summarized in Figure 1. The representatives of animal hunters, owners of game meat butcheries, wild animal farms, zoos, and ranches, as well as, the sellers of game meat were randomly selected from the registers of key actors and members of the Tanzania Wildlife Farmers and Game Meat Suppliers Association (TAWIFAGAMSA) which were obtained from the leaders of the Association and the District Game Offices; and from the registers of customers kept by operators of game meat selling facilities or game meat shops, respectively. Our sample also included the representatives of communities residing close to hunting areas or blocks. These representatives were selected from the village registers using the systematic random sampling method. In total, 145 stakeholders from 40 districts within 17 regions in Tanzania were selected and interviewed using a semi-structured questionnaire.

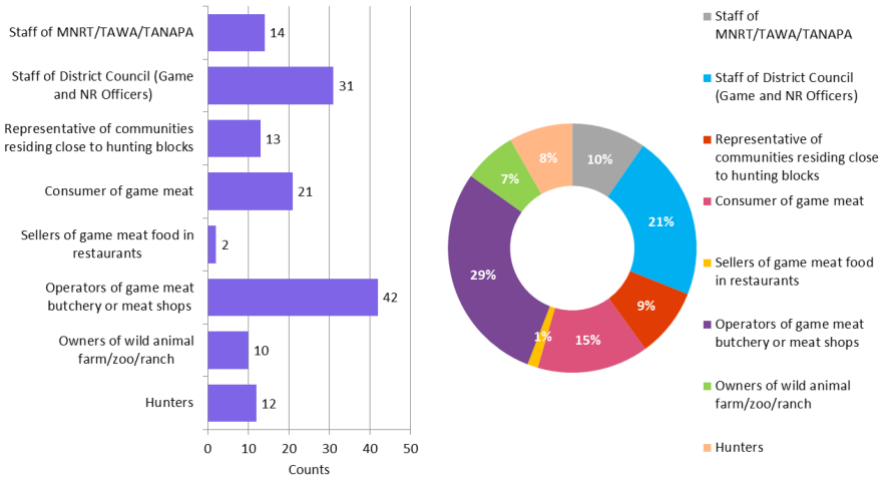

Figure 1: Sample size and proportions of interviewees by stakeholder categories

3.2 Data Analysis

The analysis of stakeholders' perceptions used a standard scaling technique notably the variant of summative construction of the Likert scale (Likert, 1932) dubbed by Krosnick et al. (2005) as the "Likert's method of summated ratings." The technique uses a standard scaling procedure or method that attributes numerical values to responses (Clason and Dormody, 1994). Individual statements about game meat trade in Tanzania were extracted from the recent Wildlife Conservation (Game Meat Selling) Regulations 2020 (URT, 2020). These were grouped into the following three sets of statements or indicators:

a. The performance of regulatory framework governing game meat trade in the country (PERFORM);

b. The appropriateness of procedures for application and registration of game meat selling facilities (PARGMF); and

c. The appropriateness of the management and operation of game meat selling facilities as well as the fairness of offenses and penalties for the person to whom the certificate is issued when convicted of an offense under the Act or contravenes any of the terms or conditions under which the certificate was issued (MOGMSOP) - as required by Regulation 13(1) of the Wildlife Conservation (Game Meat Selling) Regulations (URT, 2020).

Specifically, the interviewees were asked to indicate whether they agreed or disagreed with each of the individual statements in the three sets provided and indicate the extent to which they agreed or disagreed (Table 1). A five-point Likert scale was used based on the following response alternatives: strongly disagree (1), disagree (2), undecided (3), agree (4), and strongly agree (5). In addition, a "cumulative ordinal model", sometimes dubbed the "graded response model" (Samejima, 1997), was used to assess the determinant of the performance of the regulatory framework governing game meat trade in the country using the three sets of individual statements or indicators (PERFORM, PARGMF, and MOGMSOP).

Table 1: The variables and indicators used in the perception survey

Variables	Code	Statement
PERFORM	QN-B1-1	Authorisation of the sale of game meat has reduced poaching and encroachment in wildlife-protected areas.
	QN-B1-2	Allowing individuals to own wildlife farms will not decrease the demand for beef, goat, and sheep meat.
	QN-B1-3	The operationalization of game meat butcheries has continued well.
	QN-B1-4	The hunting of wild animals for game meat has continued as expected.
	QN-B1-5	The number of customers of raw and grilled game meat has increased.
	QN-B1-6	Registered places for slaughtering wild animals and selling game meat were regularly inspected.
	QN-B1-7	Operators who did not have certificates of ivory possession surrendered it.
	QN-B1-8	Operators slaughtered animals in approved slaughterhouses/slabs.
PARGMF	QN-B2-1	Procedures for application and registration of game meat selling facilities were appropriate.
	QN-B2-2	Qualifications required for registration of facilities were appropriate.
	QN-B2-3	Duration for making decisions on the applications was appropriate.
	QN-B2-4	The conditions for operating game meat facilities are appropriate.
MOGMSOP	QN-B2-5	Condition to apply for trophy dealer's license is appropriate.
	QN-B2-6	Legislation for revoking, cancelling, or suspending certificate of legislation is appropriate.
	QN-B2-7	Implementation of the M&E system of game meat selling facilities was appropriate.
	QN-B2-8	Penalty for contraveners of provisions of these Regulations was appropriate

4. Study Findings

The study findings suggested that legal hunting and sale of game meat could be one of the strongest conservation approaches to mitigate poaching and bushmeat trade in the country. Many of the respondents (Appendices 1 to 3) felt that the authorization of the game meat trade has helped reduce poaching and encroachment in protected areas and that, the customers of raw and grilled game meat were increasing day by day. However, it should be noted that the authorization of the game meat trade has also not completely solved the problem of poaching in Tanzania. The problem still persists. As Twining-Ward and Chapman, (2020) argue "controlling poaching and game meat trade is immensely challenging…" It is argued further that the extent to which a legally controlled game meat trade can contribute to reducing poaching will depend on the complexity of the limiting factors, including the capacity to supply sustainably harvested wild animals and domesticated wild animals (UNEP, 2017). It will also depend on the level of law enforcement efforts and the ability to create awareness among value chain actors (Subramanian, 2012).

In Tanzania, the Government Notes (GN) 84 of the Wildlife Conservation Act (CAP. 283), published on 7th February 2020, recognizes four sources of game meat: resident hunting, tourist hunting, wildlife farms/ranches/zoos, as well as, culling/cropping, and control of problem animals (Regulation 4, 2020). However, one of the key issues that have emerged from the survey is the inadequate supply of wild animals for butchering. Many stakeholders perceived that the resident hunting blocks allocated for commercial game meat supply were having fewer animals than the ones allocated to tourist hunting. It should be noted here that the government diversified the modalities of allocating hunting blocks since October 2017 by adopting an electronic (e)-auction system (TAWA, 2018). This was partly due to the general perspective about e-auctions that they are not only enhancing good governance but also optimizing the socio-economic potential of the country's hunting industry, and responding to market forces in a more transparent manner (TAWA, 2018). As such, e-auctions are becoming very popular across the world and are considered more transparent than the conventional approaches because of the advantages they offer, especially that of allowing global participation or attracting a large audience from around the globe (Medius, 2019).

However, e-auctions have their own drawbacks too (Barnier and Velasquez, 2022). Under imperfect market conditions, competitive advantage may tend to shift to those who have a relative advantage, in terms of their capacity to bid (Barnier and Velasquez, 2022). Thus, monopolistic or oligopolistic behaviour is likely to occur, and barriers to entry can be high as weaker players are driven out of the bid (Barnier and Velasquez, 2022). The informal discussions with resident hunters in the study districts indicated that there were already concerns amongst the stakeholders regarding equity issues due to the inability of local outfitters and hunting companies to compete with foreign bidders. The award of e-auction is based solely on the ranking of bids, such that the hunting block is allocated to the highest bidder (TAWA, 2018). The highest bidder is then billed and required to pay 25% of his/her bid price within twelve working hours following the conclusion of the auction (TAWA, 2018). The remaining money (75%) had to be paid within fourteen days from the date of auction closure and failure would lead to the cancellation of the offer and a penalty of 25% of the fee paid (TAWA, 2018).

More than half of both the government officials (51%) and non-state stakeholders (54.3%) were undecided about whether the operators of game meat butcheries who did not have certificates of possession of ivory were surrendering the ivory products to the government as required by the regulations or not. Quite a lot of respondents (35.3% and 34.0% of the government officials and non-state stakeholders respectively) were also uncertain whether operators of game meat butcheries were slaughtering wild animals in approved slaughterhouses or slabs. This sends an alarm that this piece of the new legislation requires much attention on the side of law enforcers to address these issues. However, one of the key lessons that are learned from the Tanzanian case and from many other previous studies, such as the studies by Ariffi (2015), and Challender and MacMillan (2014) is that law enforcement by itself cannot address the problem of poaching. Policymakers have to think out of the box and effectively engage the different stakeholders to win their support (Challender and MacMillan, 2014). It is argued elsewhere in the literature that, the formalization of the game meat trade, without ensuring effective control mechanisms and law enforcement, will simply legitimize the present poaching activities, and unsustainable game meat trade (Andimile, et al., 2021). In essence, authorizing the game meat trade is generally multifarious and must be understood in light of its complexity (ibid).

It was also interesting to observe a polarised standpoint between government officials and non-state stakeholders about the role of the procedures for the application and registration of game meat selling facilities (PARGMF) on the performance of the new regulatory framework (PERFORM). From the viewpoint of the government officials, PARGMF was a non-significant driver of performance (PERFORM) (p = 0.648) while the

non-state stakeholders perceived it to be significantly influencing PERFORM (p = 0.005). This is worth noting because cumbersome business pre-approval procedures, which create rent-seeking opportunities, are not only unique to the game meat industry. It is a common phenomenon in many other industries of the economy of the country, including the health, mining, construction, transportation, and logistics sectors (URT, 2017). The most important lesson from these contradicting perspectives is perhaps that, the development of an effective regulatory framework would require active engagement of a broad range of stakeholders and ideas. Without listening to different stakes, the process can be too disappointing. Governments should be able to listen and answer questions from those who are regulated, especially regarding the scope and effectiveness of their regulatory policy, and how they measure its success (OECD, 2010).

Another important area of focus would be compliance with regulations that aim to avoid potential health risks to consumers. Quite a lot of respondents were uncertain whether licensed and registered places or amenities for slaughtering wild animals and selling game meat were regularly inspected by the responsible Ministry Committee of experts or not (43.1% versus 35.1% for government officials and non-state stakeholders respectively). The fact that both the government officials and non-state stakeholders were also almost equally undecided (35.3% and 34.0% respectively) about whether operators of game meat butcheries were slaughtering wild animals in approved slaughterhouses or slabs, needs attention too. One would generally argue that there is limited knowledge and awareness about the potential health risks of selling and consuming uninspected game meat. A recent study by Foya et al. (2023) found that more than half (57%) of the people residing adjacent to Western Nyerere National Park in Tanzania were not aware of the potential health risks of consuming illegal bushmeat. In Sierra Leone, the study by Subramanian (2012), who investigated hunting practices and awareness of zoonotic disease risk associated with bushmeat trade, found that only 24% had knowledge of disease transmission from animals to humans.

5. Conclusion

This paper is based on a stakeholder's perception survey conducted in Tanzania to investigate their opinions about the performance of the country's recently instituted regulatory framework for the game meat trade. Albeit its focus on one country, the study provides some important insights that other countries with similar challenges could learn from. In a nutshell, the following four key conclusions are made. Firstly, the problem of poaching and encroachment in protected areas seems to decline with the implementation of the new game meat regulations. Secondly, the hunting of wild animals for game meat in areas designated for hunting is not continuing as expected due to inadequate supply of wild animals for butchering. The resident hunting blocks have comparably fewer animals than the tourist hunting blocks. At the same time, local outfitters and hunting companies lack the capacity to compete with foreign bidders in the e-auction system. Thirdly, there are still issues of weak law enforcement on the side of regulators that need to be addressed. For example, regulators should ensure that all the operators of game meat butcheries slaughter their wild animals in approved slaughterhouses and slabs. They should also ensure that all operators of game meat butcheries who do not have certificates of possession of ivory surrender the ivory products to the government as required by the law. Lastly, but not least, the licensed and registered places or amenities for slaughtering wild animals and selling of game meat should regularly be inspected by the responsible experts.

All these not withholding, the evidence from the study supports the assertion that the authorisation of game meat trade can be one of the boldest conservation tools to mitigate poaching if well-planned and governed. It can have severe impacts on potential earnings from tourist hunting, the creation of jobs, and the production of game meat. However, the paper acknowledges the complexity and heterogeneity of game meat value chains and trade. These should be well-thought-out to ensure that a governance system that is geographically and politically relevant to the national specificities and agenda of the country in question is recommended. Prior to the actual implementation of new regulatory frameworks, it is important to adopt a multidisciplinary and participatory approach to collate and scrutinise the opinions of different stakeholders together as part of a long-term engagement for sustainable governance of the game meat industry. Accordingly, the following recommendations are drawn:

a. Leveraging of active engagement of key stakeholders in the governance of the game meat trade. In the Tanzania context, this requires developing a participatory model for enforcing game meat sanitary and safety requirements to avoid potential health risks to consumers;

b. Exploring the need for, the added value of, and the feasibility of new legislative and policy initiatives to ensure that government actions against poaching remain sufficiently strong and proportionate. This

should go hand in hand with the improvement of policies, regulations, an enabling environment for game meat trade, and awareness campaigns;

c. Building institutional capacities of both public and private stakeholders with a view to making proportionate game meat trade and discouraging poaching; and

d. Instituting an equitable e-auction model to ensure that both local (resident) hunters, as well as tourist and professional hunters, have equal access to vacant hunting blocks available for auction.

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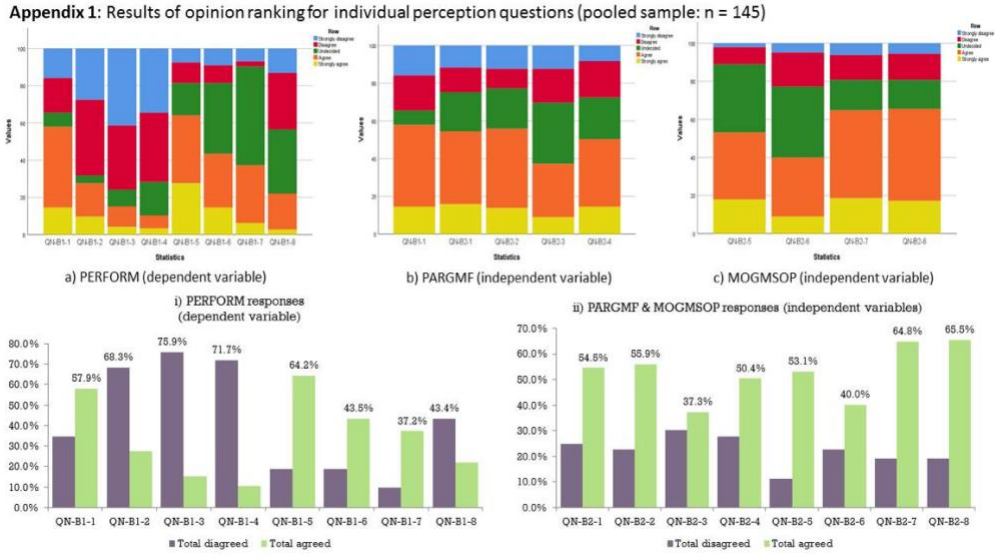
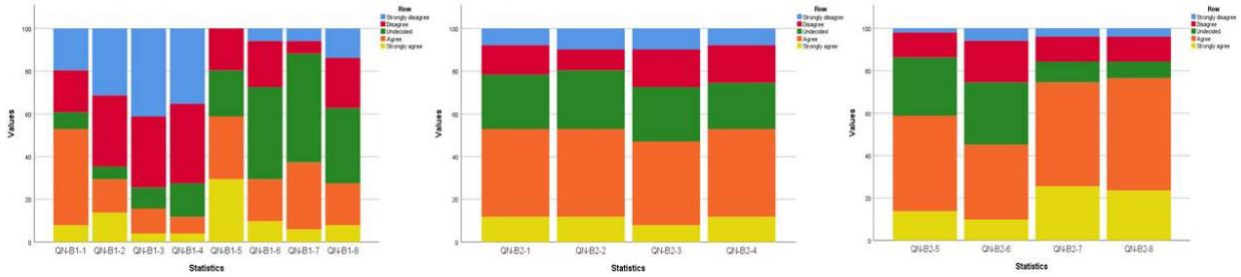
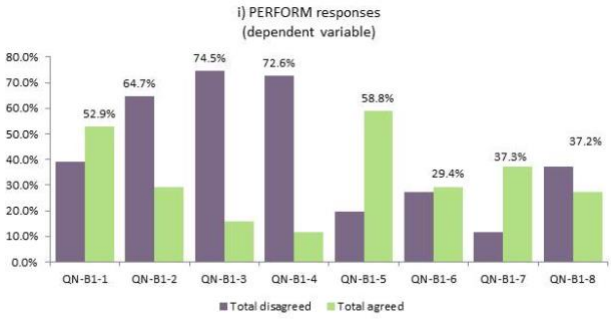
Appendix 1: Results of opinion ranking for individual perception questions (pooled sample: n = 145)

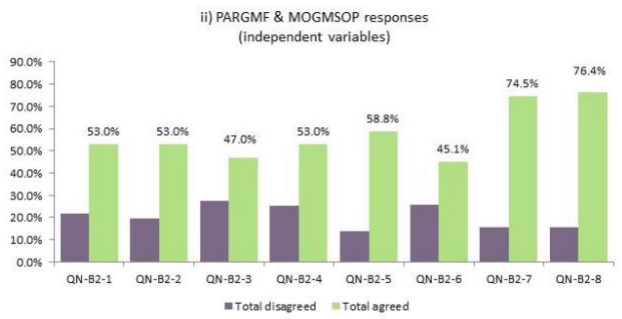


Appendix 2: Results of opinion ranking for individual perception questions (government officials n = 51)

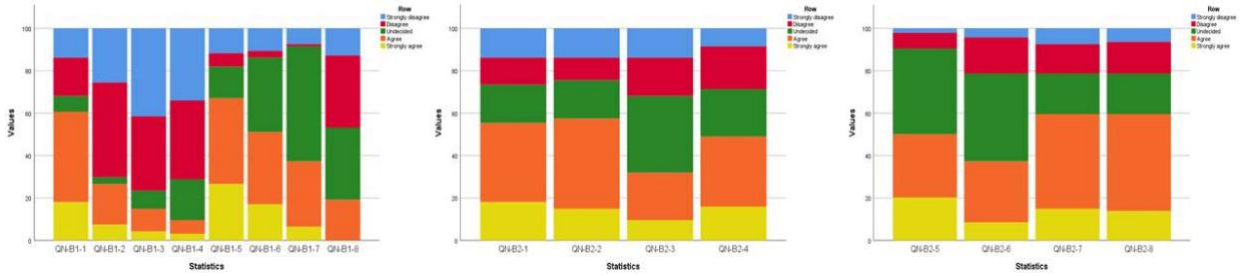


a) PERFORM (dependent variable) b) PARGMF (independent variable) c) MOGMSOP (independent variable)





Appendix 3: Results of opinion ranking for individual perception questions (non-state stakeholders: n = 94)



a) PERFORM (dependent variable) b) PARGMF (independent variable) c) MOGMSOP (independent variable)