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TOWARDS PARTNERSHIP AND MULTI-SECTOR ENGAGEMENT FOR HEALTH RELATED RESPONSES IN TANZANIA: WHERE DOES ONE HEALTH APPROACH STAND?

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ABSTRACT

Partnership and multisector engagement involving professionals from humans, animals, and environmental health and knowledge on the associated consequences from the interactions of humans, animals and environment on health is vital towards attainment of optimal health. This is due to the fact that health-related challenges that require One Health approach (OHA) to manage, have grown in frequency, dynamics and manifestation to the extent of requiring strengthened efforts to address emerging and re-emerging zoonotic diseases. The need for multi-disciplinary approaches to effectively manage these risks requires stronger partnerships at the community level and government engagement. Having realised this, the Government of Tanzania formulated One Health Strategic Plan (2015–2020), with an intention of enhancing knowledge, awareness, attitudes, and practices (KAPs) under OHA. Little is empirically known on how effective this plan has been towards facilitating partnership and multi-sector engagement (P&MSE) for outbreak responses. Data were collected in Morogoro region using a questionnaire from 1440 respondents recruited through multistage sampling procedure, 80 Focus Group Discussion participants and 16 key informant interviewees. IBM-SPSS v.20 analyzed quantitative data while qualitative data were organized into themes on specific objectives. Results revealed that only 3.8% (CI:95%, 2.8 to 4.8) identified P&MSE in the study area, 30% (22.9 to 35.8) of the respondents indicated that the reported PMSEs to be effective in outbreak responses. The study further revealed that 32.3% (95% CI:30.3 to 35.3) had adequate OH knowledge. Only 5% (95% CI:4.0 to 6.1) were aware of OHA related practices and 2.5% (CI 95%, CI:1.7 to 3.4) correctly described OHA. Despite the efforts in the OH Strategic Plan to promote OHA, little has been observed on P&MSE for outbreak responses. Though both low awareness and insignificant PMSE have been observed, 39.2% confirmed the relevance of OHA towards PMSE. Schools, hospitals and non-governmental organizations were identified to facilitate P&MSE for outbreak responses. This indicates that efforts established through the plan have not significantly reflected at the community level. This study recommends strengthening efforts towards the execution of OH Strategic Plan focusing on creation of effective P&MSE for outbreak responses.

Keywords: *Partnership and Multi-Sector Engagement, Outbreak Response, Community and government engagement, OH Strategic Plan (2015–2020), One Health Approach*

1. INTRODUCTION

Quality population is a parameter for economic development (URT, 2007a; URT, 2007b). *Inter alia,* health determines the quality of a population (URT, 2003b; URT, 2007a; Lutz, 2014; Muhanga, 2019a). Evidently, partnership and multi sector engagement (P&MSE) between humans, animals, and environmental health professionals stand as a necessary attribute towards attainment of optimal health for humans, animals, and the environment. Together with this, there is an obvious need for community members to understand the consequences that the interactions of humans, animals and environment is likely to have on health. To that effect, then, the need for multi-disciplinary approaches to effectively manage these risks requires stronger partnerships at the community level and government engagement.

In realization of this, among others, the government in Tanzania has put numerous initiatives to in improvising delivery of health services and educating people to become health literate. Despite these efforts, there has been notable health impairing behaviours (HIBs) (URT, 2007a; URT, 2007b), some resulting in zoonotic diseases (Cleaveland *et al.,* 2002; Minja, 2002), and varying preferences among Tanzanians in terms of health-seeking sources (McCombie, 2002; URT, 2003b; Muhanga and Mapoma, 2019; Muhanga, 2020; Muhanga and Malungo, 2020). Several cases of interaction between humans and animals which have been resulting into diseases which are reported and some undetected, unreported and underreported (Kambarage *et al*, 2003). Scholz *et al*., (2008), among other factors, partly attribute the undetected, underreported and unreported cases /incidences to low awareness. Low awareness in itself connotes in a way lack of limited information concerning both the interaction of animals, humans and the environment also its limited knowledge of impacts on health in the society. The need for valid, timely and complete health and related information is an important aspect towards public health surveillance and early detection of outbreaks (Vandersmissen and Welburn, 2012). Absence of a holistic systems approach towards understanding certain health aspects cutting across various species, failure to recognize that there is extricable link between human, environment and animal health (Schwabe, 1984; Rweyemamu *et al.,* 2012) are reported to have a proportionate influence to the incidences. Lack of collaborative working involving physicians and veterinarians (Rweyemamu *et al.,* 2013) is reported among others to have its contribution on the same. A study by Karimuribo *et al.,* (2007) also report on the occurrences of brucellosis (human) in northern part of Tanzania. The concern of the study is on the need for the creation of health information awareness to the public to arrest the existing situation, *inter alia*, also it recommended for an exigent need to establish programs on public health education, together with enhancement of capacities on diseases diagnostic. Obviously, a gap on awareness on human, animals and the environment interaction including its consequences on health, inadequate public health education together with limited working cooperation between physicians and veterinarians have been observed in the study. These are aspects of P&MSE. There is an obvious indication that despite the efforts there are challenges towards attainment of good health (Ratzan and Parker, 2000; Byrne, 2004; Mamdani and Bangser, 2004; Kaseje, 2006; Sanders and Chopra, 2006; Kaale and Muhanga, 2017; Muhanga and Malungo, 2018a, b; 2019a; Muhanga, 2019b).

Undeniably, health-related challenges that require One Health approach (OHA) to manage have grown in frequency, dynamics and manifestation globally. This has then necessitated the need for strengthened efforts to address emerging and re-emerging zoonotic diseases. The need for multi-disciplinary approaches to effectively manage these risks requires stronger partnerships at the community level and government engagement (Kambarage *et al*., 2003). To optimize full advantage of OHA, definitely, higher level of consultation and support from numerous sectors and various industries which have significant input in governing health, which has to include inputs from the environment sector is emphasized. It is

against this background that, the Government in Tanzania had to introduce One Health Strategic Plan (2015–2020), a plan that outlines very well operations and activities involving multitude stakeholders in dealing with health related aspects. It also emphasizes collaborative working across the sectors in prevention and control of diseases of zoonotic nature. The plan also aims to guarantee the presence of appropriate preparedness, consistent and coordinated response in case of a zoonotic event (URT-PMO, 2015). Muhanga *et al*., (2019) have observed the extent to which the plan has assisted on the enhancement of knowledge, awareness, attitudes, and practices (KAPs) under OHA significantly. One Health offers prospects for institutions and individuals to work across sectors and networks, hence creation of PMSE, resulting into stronger systems at national level for addressing emerging diseases also regional bonds. OH Strategic Plan (2015–2020) has been expected to facilitate this.

However, little is empirically known on how effective this plan has been towards facilitating partnership and multi-sector engagement (P&MSE) for outbreak responses in Tanzania. Existing literature has scantly documented on related studies in Tanzania. The evidence is inexistence in the literature on having community engagement and partnerships towards effectively managing these risks researched and documented adequately in Tanzania. It is against this background that this study investigated on the effectiveness of OH Strategic plan towards facilitating P&MSE for outbreak responses in selected wards in Morogoro, Tanzania. Definitely, the core causes of poor health and well-being will not significantly be dealt without focusing on their basic determinants. For sure, most of the identified determinants have been observed to cut across sectors beyond the health sector, in the view of that, to address them necessitates close working and partnerships with various sectors. Intersectoral and multisectoral action remains vital towards dealing with plenty of today's persistent challenges, generally on well-being and health. This study reflects on the Health 2020 Policy Framework which underlines the significance of intersectoral and multisectoral action, focusing on the whole-of-government and whole-of-society approaches, in tackling challenges on health (WHO, 2013; WHO, 2018).

2. THEORETICAL FRAMEWORK

Health 2020 Health Policy Framework

This is European health policy framework which targets at supporting actions involving governments and societies to: "significantly improve the health and well-being of populations, reduce health inequalities, strengthen public health and ensure people-centred health systems that are universal, equitable, sustainable and of high quality". It provides details on the ways through which good health can benefit each and every one in a society. The framework views good health as vital aspect for social and economic development, also it supports economic recovery (WHO, 2013; WHO, 2018). Formulated in European Region, Health 2020 has placed its interest on the value of intersectoral and multisectoral action, using whole-of-government and whole-of-society approaches, in dealing with most pressing health challenges in the regions (WHO; 2013). Theoretically, the Health 2020 policy framework focuses on improvement of health governance, which connotes "to steer communities, whole countries or even groups of countries in the pursuit of health as integral to well-being through both whole-of-government and whole-of-society approaches" (WHO; 2013). The "whole-of-government approach" means "the diffusion of governance vertically across levels of government and arenas of governance and horizontally throughout sectors" (WHO; 2013). The "whole-of-society approach extends the sphere beyond the traditional governmental decision-making by calling for increased engagement of the private sector, civil society, communities and individuals in health-related actions". In this study, this framework has been used to reflect on how communities and individuals have been involved in actions related to health. The study has focused on how OH Strategic Plan (URT-PMO, 2015) as a government initiative has influenced the communities also individuals to take actions on health issues.

3. METHODOLOGY

A cross-sectional study was conducted in Morogoro municipality and Mvomero districts in Morogoro, Tanzania, out of which both quantitative and qualitative data were collected. The area where this study was conducted is reported by Tanzania-NBS (2013) to be inhabited by 315,866 (Morogoro municipality) and 312,109 (Mvomero districts) people respectively. Data collection involved a structured questionnaire guide using a Computer Assisted Personal Interviewing (CAPI) electronic platform which included households keeping livestock species. It also included environmental, medical, and veterinary officers at Mvomero district. In Morogoro district, the study involved all the households and medical, veterinary and environmental officers in the study area.

The multi-stage sampling procedure was employed in selecting study units, four (4) stages (in choosing districts, wards, villages/streets, and households). Purposive sampling was used to identify districts, wards and villages/streets for this study. In order to recruit respondents to participate in the study, simple random sampling was employed. The wards selected at Mvomero were those mostly occupied by pastoralists, and the identified households were those having keeping animals and selling livestock products to Morogoro urban. For the case of Morogoro, the study involved wards where products from Mvomero districts were sold, and particularly these products were meat (*offals; utumbo* in *Kiswahili)* and milk by Maasai from Mvomero district has been taking place[1]. Four wards were purposively included in the study, two from each district after meeting the criterion, Doma and Melela wards (Mvomero districts) also Mazimbu and Kihonda Maghorofani (Morogoro municipality). This was followed by purposive selection of two villages/streets from the four wards hence a total of eight villages/streets. Through reconnaissance visits these vendors were mostly identified in Reli and Mazimbu Darajani streets (Mazimbu ward) also at Msamvu B and Maghorofani (Kihonda Maghorofani). Patton (2002: 230) posits that "The logic and power of purposeful sampling lies in selecting information-rich cases for study in-depth, which have the potential to yield insights and in-depth understanding rather than empirical generalizations. This form of participant selection focuses on selecting information-rich cases whose study will clarify the questions under study."In order to estimate size of the sample, a 95% confidence interval (CI), a margin of error of 5%, and a design effect of 1.5 were assumed. Since this study employed multistage sampling method then design effect was used. The statistical estimation method by Kelsey *et al.* (1996) was used to calculate a minimum adequate sample size. A total of 1440 respondents were obtained by employing the formulae:-

$$s = X^2 NP(1-P) \div d^2(N-1) + X^2 P(1-P).$$

Where:

s = sample size required

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = size of the population

P = the proportion of the population (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

The sample size was calculated from the total population of each 2 purposive selected streets/ villages from a ward. After obtaining the total sample for each ward, the proportions of each street/village from the total sample was calculated. The sample size was then distributed in the identified study streets/ villages. In this study, the sample size allocated for each village/ street was considered adequate. Bailey

[1] These traders are popular in the area as *Wang'ombe* and *Baba Yeyo*

(1994) and Field (2009) argue that where a statistical data analysis has to be conducted bare minimum of 30 respondents is the requirement, whatsoever the population size. In preparation of sampling frame for the study, the local leaders had to be involved. IBM-SPSS v20 was employed to compute frequencies, percentages, mean, minimum and maximum scores.

4. FINDINGS AND DISCUSSIONS

4.1 Socio-demographic profile of the respondents

The profile of the study participants is presented in Table 1. Results show that 29.2% (95% CI: 23.3% to 35.0%) were aged 30 to 39 years and 3.8% (95% CI: 1.7% to 6.2%) were 70 years and above. The mean age was 43.7 years (95% CI: 42.1 to 45.3 years), where the highest and lowest age being 72 years and 21 years respectively. Results indicate that men were 47.9% (95% CI: 41.3% to 53.7%) and women being 52.1 % (95% CI: 46.3% to 58.8%). Slightly more than one-third (39.2%; 95% CI: 32.9% to 44.6%) had no formal education, and 30.0% (95% CI: 25.0% to 36.2%) completed primary school education. Of the interviewed respondents, the majority 57.5% (95% CI: 50.9% to 63.8%) of the respondents were married. The average household size was 5 (95% CI: 4.9% to 5.4%) members, a household with the lowest size (minimum) was found to have 1 member and a household with 10 members was the one with the highest size (maximum). About 62.9% of the interviewed households had 1 to 5 members.

Table 1: Socio-Demographic Profile of the study participants (n=1440)

Variables	Categories	Percent (%)
Age in Years	21-39	42.1
	40-49	26.3
	50-59	17.1
	60-69	10.7
	>70	3.8
Level of Education	Not gone to school at all	39.2
	Universal adult education	2.5
	Primary school	30.0
	Secondary school	8.8
	Post-secondary /vocational	10.4
	University	9.2
Sex	Male	47.9
	Female	52.1
Marital Status	Never married/Single	30.4
	Married	57.5
	Separated	1.7
	Widow	5.4
	Widower	2.5
	Cohabitating	0.8
	Too young to marry	1.7
Household Size	1-3	21.7
	4-7	65.9
	>8	12.4

4.2 Partnership and Multi-Sector Engagement (P&MSE) for outbreak responses in the Study Area

This study identified and assessed partnership and multi-sector engagement (P&MSE) for outbreak responses existing amongst various professionals including health professionals from the health, from both medical and veterinary sectors, environmental, economic, social, agricultural, wildlife, and other interested parties towards attainment of optimal health for people, animals and the environment. The

results in Table 2 reveal that only 3.8% (CI 95%, 2.8 to 4.8) identified PMSE, with majority of the respondents (91.3%: CI 95%, 89.7 to 92.7) were not aware on the ways in which these professionals collaborated in the study area, other 5.0% (CI 95%, 3.9 to 6.2) claimed that there were no any collaborations observed within the specified period of time.

Table 2: Partnership and Multi-Sector Engagement (P&MSE) for outbreak responses (n=1440)

Responses	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
No PMSE	72	5.0	3.9	6.2
Identified PMSE	54	3.8	2.8	4.8
Unaware of PMSE	1314	91.3	89.7	92.7
Total	1440	100.0		

Table 2 indicates that very few participants to the study managed to identify PMSE involving various professionals towards attainment of optimal health. The results are in line with what 'the whole-of-government approach' has been propagating under the Health 2020 Policy Framework. This is an indication that there is "the diffusion of governance vertically across levels of government and arenas of governance and horizontally throughout sectors" (WHO; 2013). The little of PMSE that is reported in Table 1 conforms with what was found in a study by Mwinyi *et al.,* (2015: 30) who similarly observed that "One Health in terms of collaboration, particularly between human and animal health sectors to prevent and control zoonoses has been low while the sectors have a lot of things in common".

During KII, it was observed that there has been a feeling that has sometimes made it difficult for effective collaboration between medical and veterinary professionals, as one participant claims:

> *"It is just the way human health professionals have their views /perceptions on animals health professionals that has always been a hindrance towards effective collaboration. Our colleagues have always been considering themselves superior to us …..That has had a lot of negative influences on collaboration ….."*

In presence of such views /perceptions, it will always be difficult to willingly accommodate these collaborations if they have not been institutionalized. OH Strategic Plan is very important as it sets a formal/institutionalized entry towards creating and maintaining active collaboration which are formed from PMSE.

4.3 Effectiveness of PMSE in Building Public Health Capacity, and Empowering People to Manage their Health under OHA

The results in Tables 3 indicate that the lowest and highest scores were 14 and 18 respectively with a mean of 17.32 and a Standard deviation of 1.15 on the effectiveness of the PMSE' initiatives in building public health capacity.

Table 3: Scores on Perceived Effectiveness of PMSE in Building Public Health Capacity (n=1440)

Scores	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
14.00	72	5.0	2.5	7.9
15.00	36	2.5	.4	4.6
16.00	252	17.5	12.5	22.1
17.00	72	5.0	2.5	7.9
18.00	1008	70.0	64.6	75.4
Total	1440	100.0		

The results in Table 4 further reveal that 30% (95% CI: 22.9 to 35.8) of the respondents perceived the PMSE' initiatives in building public health capacity, and empowering people to manage their health to be effective while 70% (95% CI: 64.2 to 77.1) perceived it being ineffective.

Table 4: Perceptions on Effectiveness of the PMSE in Building Public Health Capacity (n=1440)

	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Effective	432	30.0	22.9	35.8
Ineffective	1008	70.0	64.2	77.1
Total	1440	100.0		

It can be observed that perceptions on PMSE effectiveness in building public health capacity, and empowering people to manage their health were found to be very ineffective by the majority of the respondents. The same was observed during the FGD, where one participant had this to say:

> *"…There could be a lot of initiatives that the government may be putting in place related to healthcare, promoting health and preventing diseases in our area. But it is very difficult to us to know them all. It is rarely that common people like us are involved in initiating or even executing such initiatives …"*

4.4 PMSE in Building Public Health Capacity on Human and Animals Health

The results in Table 5 reveal that 70 %(95% CI: 67.6 to 72.4) of the respondents identified hospitals, 27.5% (95% CI: 25.1 to 29.7) schools and 2.5% (95% CI: 1.7 to 3.4) NGOs as institutions which facilitate health initiatives in building public health capacity on human in the society.

Table 5: Institutions Facilitating Health Initiatives in Building Public Health Capacity (n=1440)

Institutions	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Schools	396	27.5	25.1	29.7
Hospitals	1008	70.0	67.6	72.4
NGOs	36	2.5	1.7	3.4
Total	1440	100.0		

Similarly, other studies (Mboera *et al.*, 2007; Rains and Ruppel, 2013) report the role played by health care facilities (hospitals) in building public health capacity through dissemination of health information in rural Tanzania. Schools have also been observed to significantly accommodate initiatives towards promotion of public health in various countries (Leger, 2001; Nutbeam, 2001).

4.5 Awareness on the Concept and Practices Related to OHA

The findings on Table 6 indicate that only 5% (CI 95%, 4.0 to 6.2) of the respondents who were interviewed were aware on the concept and the practice of OHE.

Table 6 Awareness on OHA Concept and practices

Response	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Not aware	1368	95.0	93.8	96.0
Aware	72	5.0	4.0	6.2
Total	1440	100.0		

In order to confirm individuals' awareness on OHA concept and practices, the respondents were asked what they know on OHA. The results in Table 7 indicate only 2.5% (CI 95%, 1.7 to 3.4) of the respondents managed to correctly describe OHA by saying it is a collaborative effort of multiple disciplines dealing with health issues.

Table 7: Knowledge on OHA (n=1440)

Responses	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Collaborative efforts of multiple disciplines dealing with health issues	36	2.5	1.7	3.4
N/A	1404	97.5	96.6	98.3
Total	1440	100.0		

The study Millerand Olea-Popelka, (2013) report that OHA to be at its infancy in many areas of the world, no wonder that people have little knowledge and awareness on the concept and practices as the results in Table 6 and 7 respectively reveal. Similarly, URT- Prime Minister's Office (2015) recognizes/acknowledges low awareness on OHA, as it is revealed in One Health Strategic Plan 2015 – 2020. Low awareness on OHA is also partly acknowledged by URT-MoHCDGEC (2017: 18) as it reports that: "…..there is limited coordination and collaboration between health sector and other sectors as well as participation of non-state actors in addressing emerging and re-emerging diseases". Low awareness can also be contributed to lack of transparency in the sector; as cited in URT (2017: 1), which claims that transparency and social accountability is amongst challenges facing Health sector in Tanzania.

During FGDs, it was apparent that individuals despite having little knowledge on OHA, but they were involving themselves with the practices related to OHA but didn't know it when it is being referred to as OHA. This was realized after the researcher had explained what it was meant by OHA:-

> *"…From the explanations you have given us we have really come to understand what is being regarded as One Health Approach. I can see opportunities that are obvious with the approach towards attainment of optimal health for humans, animals and the environment. This is very important aspect if good health has to be maintained in the society ……it is true that sometimes our animals have been a cause of our ill health, I have understood from the explanations you have also given us explanations on how we (human being) could affect animals health …….the environment quality and its effects on health for both humans and animals have been very obvious to me even before I attended this session with you here …"* (FGD participant at Doma, Mvomero).

4.6 Potential Hindrances towards Effective PMSE

The results in Table 8 indicate that 5% (CI: 95%, 3.9 to 6.2) of the respondents identified lack of good health policies, while 2.5% (CI 95%, 1.7 to 3.3) identified unavailability of veterinary services in their area, another 2.5% (CI 95%, 1.7 to 3.3) identified lack of government support and the remaining 90% (CI 95%, 88.4 to 91.6) were not aware on the factors that have been hindering collaboration between various professionals towards attainment of optimal health.

Table 8: Factors Hindering Effective Collaboration on Health Related Aspects (n=1440)

Responses	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Lack of good health policies	72	5.0	3.9	6.2
Unavailability of veterinary services in rural areas	36	2.5	1.7	3.3
Lack of government support	36	2.5	1.7	3.3
Don't know	1296	90.0	88.4	91.6
Total	1440	100.0		

Policy issues are also reported by Mbugi *et al.,* (2012) to attribute to low awareness on collaboration on diagnosis and surveillance of zoonotic or non-zoonotic diseases. Mbugi *et al.,* (2012) report absence of participatory health policy with a focus on multi-sectoral actions on One Health being a major hurdle, specifically in countries with poor resource base. During a KII, one informant claimed that:

> *"….In absence of directives, guidelines or policies on such collaboration it is not possible to expect much from such collaboration …… the government has to put in place such directives, guidelines or policies …."*

It is apparent that health policy (policy objectives 2.4.6) does not explicitly insist on the veterinarian's collaboration with human health professionals, despite underlining on promoting awareness amongst employees from the government and members of the community at large. The policy however insists that health related problems can adequately be solved by employing partnership and multisectoral engagement cutting across sectors such as agriculture, water, education, the private sector, NGOs, and civil society.. This also include other stakeholders such as central ministries "regional administration and local government, and community development, gender and children" (URT, 2003b). Mbugi (2012:2) claims that "despite advocating 'One Health' approaches in infectious disease surveillance in developing countries such as Tanzania, the concept may be challenged and compromised by the existing health policies in the country. The current health policy and the Tanzanian Veterinary Act (the tool that provides guidelines for veterinary practice activities) may not have a common point of intersection. This could be a result of parallel working organs that do not interact or a habitually conservative notion that 'a vet should be a vet' and 'a medic should be a medic". During KII, it was observed that there has been a feeling that has sometimes made it difficult for effective collaboration between medical and veterinary professionals, as one participant claims:-

> *"It is just the way human health professionals have their views /perceptions on animals health professionals that has always been a hindrance towards effective collaboration. Our colleagues have always been considering themselves superior than us …..That has had a lot of negative influence towards collaboration ..."*

Table 9: Relevance of Technical Collaboration between Professionals(n=1440)

	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Irrelevant	564	39.2	36.7	41.8
Relevant	876	60.8	58.2	63.3
Total	1440	100.0		

4.7 The relevance of OHA towards facilitating PMSE

The respondents who acknowledged the need for technical cooperation included, their reasons; that technical collaboration between medical professionals, veterinary and environmentalists help to save lives of both humans and animals (7.5%: CI 95%, 6.1 to 8.8), while 2.5 % (CI 95%, 1.7 to 3.3) of the respondents attributed the need for the collaboration to its potentiality to help to conserve environment. Table 10 presents the results.

Table 10: Relevance of Technical Collaboration between health and related professionals (n=1440)

	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Help to save lives of humans and animals	108	7.5	6.1	8.8
Help to conserve environment	36	2.5	1.7	3.3
Didn't understand whether there is a need	1296	90.0	88.5	91.6
Total	1440	100.0		

Despite having very few people identifying the relevance of technical collaboration between health and related professionals which could have been attributed to low awareness on the concept of OHA, the reasons advanced in Table 10 are supported by European Union (EU) (2011), which claims that OHA can serve purposes of improving ecosystems management, livelihoods, animal and human health.

4.8 Support for the Institutionalization of Technical Collaboration

The respondents were asked whether if they will support the technical collaboration between medical professionals, veterinarians and environmentalists when institutionalized. Table 12 reveals that 94.2% (95% CI, 93.1 to 95.3) of the study participants were in favour of such collaboration if institutionalized**.**

Table 12: Support for the Institutionalization of Technical Collaboration between Professionals (n=1440)

Response	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Not supporting	84	5.8	4.7	6.9
Supporting	1356	94.2	93.1	95.3
Total	1440	100.0		

Mwinyi *et al.,* (2015) in their study conducted in Zambia determined attitudes of the respondents towards One Health practice. The findings from this study revealed that almost all the respondents (98.5%) said that they would support it to a large extent and 1.5% said that they would just support institutionalization of One Health practice.

4.9 Bylaws, Local Policies and Directives on Health Promotion, Healthcare and Diseases Prevention

The results in Table 13 indicate bylaws, local policies and directives on health promotion, healthcare and diseases prevention that were identified by the respondents. It is indicated that10.0%(95% CI: 8.5 to 11.6) of the identified focused on restrictions on certain health behaviours, 12.5% focused on encouraging certain health behaviours, while 10.0% (95% CI: 8.5 to 11.5) were on meat inspection in their area, 27.5% (95% CI: 25.1 to 29.9) on environmental management practices near residential areas, 15.0% (95% CI: 13.1 to 16.9) on where and when pasture and selling outlets businesses can be located, 15.0% (95% CI: 13.2 to 16.9) on water sources use (which, for who, when) and 10.0% (95% CI: 8.5 to 11.7) on village control issues of livestock feed in the area nearby game reserve.

Table 13: Bylaws, Local Policies and Directives on Health Promotion, Healthcare and Diseases Prevention(n=1440)

	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Village control on issues of livestock feed in the area nearby the game reserve	144	10.0	8.5	11.7
Water sources use which for who when	216	15.0	13.2	16.9
Where and when pasture selling outlets and businesses can be located	216	15.0	13.1	16.9
Environmental mgt practices near residential areas	396	27.5	25.1	29.9
restrictions on certain health behaviours	144	10.0	8.5	11.6
Encouraging certain health behaviours	180	12.5	10.8	14.2
Meat inspection	144	10.0	8.5	11.5
Total	1440	100.0		

4.10 Local Government and Public Health

The results in Table 14 indicate the ways through which local government has been dealing with public health and related aspects through its capacity. The findings reveal that 8.8% (95% CI: 5.4 to 13.3) of the respondents identified LGAs involvement in public health through the services it commissions and delivers, whereas 67.4% (95% CI: 61.3 to 73.3) of the respondents identified LGAs involvement in public health through its regulatory powers, the other 8.8% (95% CI:5.4 to 12.9) of the respondents identified LGAs involvement in public health through community leadership and the remaining 15.0 % (95% CI: 10.0 to 20.0) were not in position to identify any ways through which LGAs involved itself in public health.

Table 14: LGAs Involvement in Public Health through Its Capacity (n=1440)

Responses	Frequency	Percent	95% CI	
			Lower Bound	Upper Bound
Through the services it commissions and delivers	126	8.8	5.4	13.3
Through its regulatory powers	972	67.4	61.3	73.3
Through community leadership	126	8.8	5.4	12.9
Don't know LGAs involvement in Public health	216	15.0	10.0	20.0
Total	1440	100.0		

These findings indicate that LGAs have been involving themselves to ensure communities are take up their responsibility seriously in their healthcare as stipulated in the National Health policy (URT, 2003a)

despite low level of such initiatives. However, it should be noted that the low reported level of such involvement can also be emanating from a number of factors including lack of transparency in the health sector as reported in URT (2017: 1). It is reported by URT (2017: 1, 4) the country to have made impressive gains in various aspects in health sector despite the challenges. The results indicate that the government at the local level to have been engaging in health related activities, this conforms with the The whole-of-government approach means "the diffusion of governance vertically across levels of government and arenas of governance and horizontally throughout sectors" (WHO; 2013).

4.12 Focus of the Identified PMSEs on Health

Table 15 presents results on the focus of the identified government initiatives on health promotion, healthcare and diseases prevention in the study area.

Table 15: Focus of the Identified PMSE Initiatives on Health

Focus	Diseases prevention		Health promotion		Health care	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Seminars/Workshop	108	7.5	0	0	0	0
Public Announcements	792	55.0	36	2.5	0	0
Village/wards/street meetings	1368	95.0	36	2.5	0	0
Visits by Health Officials from the wards	720	50.0	0	0	0	0
Parents meetings at school	468	32.5	0	0	0	0
Leaflets distribution	792	55.0	0	0	0	0

The results indicate that 7.5% of the respondents identified seminars/workshops on diseases prevention, no seminars /workshops were identified for health promotion and health care. Of the identified public announcements, 55% focused on diseases prevention, whereas only 2.5 % of public announcements on health promotion were identified by the respondents and none on health care. Village/wards/street meetings on diseases prevention accounted for 95% of the identified village/wards/street meetings, and village/wards/street meetings were on health promotion 2.5 % and none were on health care. Visits by Health Officials from the wards on diseases prevention accounted for 50% of the identified visits by Health Officials from the wards, with none on health promotion and health care. For the case of parents meetings at school, 32.5% were on diseases prevention and none were on health promotion and health care. The findings further reveal that 55% of the leaflets distributed were on diseases prevention and none on health promotion and health care. Similarly, public meetings and print materials were the most frequently used channels of health information communication as reported by Mboera *et al.,* (2007). In a study by Rains and Ruppel (2013; 2016) it was found that in the cause of seeking health information among other sources also health care service providers and print media were utilized. Freer (2015:16) identifies dissemination of fact-based pamphlets and the placement of posters, among others as source of health information.

5. CONCLUSION

Despite all these drawbacks, in Tanzania, an enabling environment towards effective collaboration involving various professionals in attainment optimal health has been created. Tanzania's 5-year *One Health Strategic Plan* (2015–2020) is the first national OH strategic plan which has been developed by employing a multisectoral approach. This plan has made use of expertise from innumerable sectors which reflects a shared commitment in enhancing collaborative working amongst health and related sectors, including humans, animals, and wildlife health sectors to ease the burden from zoonotic diseases (URT- Prime Minister's Office, 2015). Through its capability to provide opportunities to various

individuals and also institutions to work across networks and sectors, which have always been expected to result into stronger systems at national level which have managed to combat emerging diseases and regional bonds, One Health, seems to have the potentiality of creating PMSE. It has been observed that through the implementation of OH, partnerships and platforms shall be created which require an obvious linkage between humans and animals' health, ecosystems and the environment, also between livelihoods and policy processes. Since this plan is aimed at summarizes operations and activities among stakeholders, it is important to establish best ways to reach a wider audience. This can be achieved through training, advocacy, and communication; research and development; surveillance; and, preparedness and response. Obviously, once people are aware and knowledgeable on OH issues the burden of zoonotic diseases will be reduced.

Despite the fact that Health 2020 Health Policy Framework has its origin in Europe, what has been found in this study connect to what this frame work had placed its interest through using *whole-of-government* and *whole-of-society* approaches, to deal with most pressing health challenges in the regions. This is the case where it was found in the study that there engagement of the private sector, civil society, communities and individuals in health-related actions.

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