FACTORS AFFECTING MULTISECTORAL COLLABORATION RESPONSE TO RIFT VALLEY FEVER OUTBREAK IN KONGWA DISTRICT

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By

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A Dissertation submitted in Partial Fulfilment of the Requirement for the Degree of Master of Arts in Health Policy and Management of Muhimbili University of Health and Allied Sciences

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November, 2013.

CERTIFICATION

The undersigned certify that l have read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled, *"Factors Affecting Multisectoral Collaboration Response to Rift Valley Fever Outbreak in Kongwa District"* in fulfillment of the requirements for the Award of Degree of Master of Arts in Health Policy and Management of Muhimbili University of Health and Allied Sciences.

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Date ...../...../.....

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DEDICATION:

I dedicate this thesis work to my lovely daughter Sasha Mayunga, Siblings Careen Msaki, Dixion Msaki, Glory Msaki, Lucy Wahome and Imelda Mongu for their patience in my absence during my study period.

To my father in faith Bishop Mulilege Mkombo and brother and sisters in faith of House of Prayers Shield of Faith Mission whose strong will, prayers, encouragements and support have motivated me throughout the period of my studies and well appreciated.

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ABSTRACT

Background: Rift Valley Fever (RVF) is a viral haemorrhagic, viral infection, with fatal effects to animals and human beings as well resulting to significant mortality and economic loss. A strategic approach for effective RVF outbreaks preparedness and response is through combined participatory approach in Multisectoral collaboration.

Objectives: The aim to examine factors affecting multi-sectoral collaboration response to Rift Valley Fever outbreak among the District and Ward officials in Kongwa District.

Methods and materials: A qualitative study that applied phenomenological approach was conducted among the representatives in the Disaster Management Unit in the Prime Minister's Office, the Emergency Preparedness and Response section in the Ministry of Health and Social Welfare and the Ministry of Livestock and Fisheries Development, the Dodoma region, district, ward and farmers' association representatives in Kongwa district in April, 2013. A total of 15 representatives were purposively recruited in the study, 13 male and 2 female key informants. An interview guide was used to collect data. Purposive sampling was used to select representatives with technical knowhow, knowledge and experience in relation with Rift Valley Fever outbreak. Interview transcripts were subjected to thematic content analysis.

Results: This study examined several factors facilitating weak and uncoordinated multisectoral collaboration to include lack of emergency funds, inadequate resources, lack of awareness of health and vertinary departments on the existing plans and guidelines on Rift Valley Fever. Lack of sectoral recognition and poor preparedness and response infrastructure in Tanzania.

Conclusion: The study findings indicate several challenges limiting multisectoral collaboration in Kongwa district. Nevertheless, the zoonotic nature of RVF calls for a multisectoral collaboration in disease surveillance, detection, reporting and timely response.

Keywords: Rift Valley Fever, Response, Multisectoral collaboration, outbreak, Kongwa

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ABBREVIATIONS

CDC	Center of Disease Control
CMT	Councilors Management Team
DIDMAC	District Disaster Management Committees
EAC	East Africa Community
EPR	Emergency Preparedness and Response
FAO	Food and Agriculture Organization
IDSR	National Integrated Disease Surveillance and Response
KEMRI	Kenya Medical Research Institute
MNRT	Ministry of Natural Resources and Tourism
MoLFD	Ministry of Livestock and Fisheries Development
MoHSW	Ministry of Health and Social Welfare
NRVF EPRP	National RVF Emergency Preparedness and Response Plan
NOG	National Operational Guidelines for Disaster Management
PCR - ELISA	PCR-enzyme-linked immunosorbent assay
PMO-RALG	Prime Minister's Office- Regional Administration and Local Government
PPE	Personal Protective Equipment
REDMAC	Regional Disaster Management Committees
RISDP	Regional Indicative Strategic Development Plan
RVF	Rift Valley Fever
SADC	Southern Africa Development Community
TANDREC	Tanzania Disaster Relief Committee
TEPRP	Tanzania Emergency Preparedness and Response Plan
VIDMAC	Village Disaster Management Committees
WHO	World Health Organization

DEFINITION OF TERMS

Collaboration: Process where two or more organizations or sectors work together to realize shared goals, it portrays a deep, collective, determination to reach an identical objective in preparedness, response, prevention, control and mitigation of Rift Valley Fever outbreak.

Epidemic: an outbreak of a contagious disease that spreads rapidly and widely beyond what would normally be expected during a period of time in a particular region.

Epizootic: This is a disease that appears as new cases in a given animal population, during a given period, at a rate that substantially exceeds what is "expected" based on recent experience (i.e. a sharp elevation in the incidence rate).

Multisectoral: Involvement of multiple sectors in preparedness, response, prevention, control and mitigation of rift valley fever outbreak

Outbreak Preparedness: The organization, education, and training of the population and all relevant institutions to facilitate effective control, early warning, evacuation, rescue, relief and assistance operations in the event of a Rift Valley Fever outbreak.

Outbreak Management: Comprehensive approach and activities to reduce the adverse impacts of rift valley fever outbreaks

Outbreak Mitigation: A set of measures to reduce or neutralize the impact of rift valley fever outbreak by reducing social, functional, or physical vulnerability to Rift Valley Fever virus.

Outbreak Prevention: The elimination or reduction of the likelihood that rift valley fever (Virus) may endanger human beings, their goods, their social assets, or their environment.

Outbreak Recovery: Those activities necessary to provide a rapid return to normalcy both for the affected community and for those involved with the response.

Outbreak Response: A sum of decisions and actions taken during and after an outbreak, including immediate relief, rehabilitation, and reconstruction.

Priority Diseases: Are diseases/conditions that have been identified to be of important/major public health concern such as rift valley fever.

Zoonoses: Animal diseases transmissible to humans (SARS, Ebola), including human diseases emerged from animal diseases (HIV/AIDS, smallpox).

CHAPTER ONE

1.1 Background

Rift Valley Fever (RVF) is a neglected, emerging disease caused by a rift valley fever virus belonging to *Bunyaviridae* family, genus *Phlebovirus*. First isolated in 1913. Rift valley fever affects human and animals alike. The mode of transmission of the rift valley fever virus (RVFV) within the human – animal interface is through mosquitoes bites especially *Aedes* mosquito in animals, and exposure to blood, blood products, body fluids or tissues of infected animals in human (Mohamed et al, 2010). Presently, no human to human transmission has being documented.

The Rift Valley province of Kenya was first to experience a Rift Valley Fever outbreak, in the year 1931. Henceforth, the virus has manifested itself in several Sub Saharan African countries. The recent epizootic being 2006/07 with devastating impact reported in Tanzania, Kenya, Sudan and Somalia. Severe outbreaks have also been reported outside Sub-Saharan Africa, in Mauritania, Senegal, South Africa, Madagascar, Saudi Arabia and Yemen in the years between 1987/88, and 2008 (Tariq et al, 2003).

Climate change has played a major role to influence unexpected adverse climatic conditions. These conditions been characterized by episodes of heavy rainfall or prolonged drought that has being associated with increased insect vectors, prolonged vector – host - environment transmission cycles and increase the new habitats for vectors or animal reservoirs (Neelam et al, 2010).

In Africa, Saudi Arabia and Yemen the RVF outbreaks are closely associated with periods of above average precipitation. However in East Africa are closely associated with the heavy rainfall that occurs during the warm phase of the El Niño/Southern Oscillation (ENSO) phenomenon. (Lunthicum et al, 1999). Consequently, in East Africa the outbreak occurred following heavy rains that preceded the 2005/06 prolonged droughts.

Rift Valley Fever infection in animal results in causing acute hepatitis, abortion, and increased neonatal mortality in sheep and cattle. In human, it causes fatal

haemorrhagic fever, encephalitis, and retinitis with blindness, in addition to causing economic losses associates with meat and meat products production and market, time loss due to illness. These have contributed to poor economic advances in rural areas as RVF is rare in urban localities.

The use of vaccine in animals is the common applied method of diseases prevention; unfortunately the vaccines are inadequate and not commercially available. The vaccine has been used experimentally to protect veterinary and laboratory personnel at high risk of exposure to RVF but not to the general public. During an outbreak it is thus unadvisable to use vaccine as it runs the risk of intensifying the outbreak through the use of multi-dose vials and the re-use of needles and syringes.

Forecasting predicts climatic conditions that are recurrently associated with increasing risks of RVF outbreaks and improved disease prevention and control. Hence, development of a forecasting model and early warning systems to RVF using satellite images and weather forecast data. A RVF forecasting model was put in place in 2006. This model is identified as one of the most robust model for forecasting and early warning systems based on near-real-time climatic data available at the continental level. In addition, the forecasting model has proved to be efficient in raising the alert before the onset of an RVF epidemic and the early warning systems could also detect animal cases at an early stage. The use of these information could enable authorities to implement measures to avert the trend of an impending outbreaks. Unfortunately, is difficult for various reasons for developing nations to put to use such information to improve the level of preparedness and capacity for early response to RVF outbreaks in respective East African countries (ILRI/FAO, 2009).

In the mid-March, 2007 it was reported to the veterinary office high rate of abortions among the livestock and high mortality rates were reported in cattle, sheep and goats. The central veterinary laboratory in Tanzania conducted competitive ELISA test (Janusz et al, 2004) to confirm, further test antigen ELISA (Janusz et al, 2004) and PCR was done in the CDC KEMRI laboratory in Nairobi to confirm the RVF. RVF was then confirmed in Arusha, Manyara, Kilimanjaro, Tanga, Morogoro, Dodoma, Iringa, Mbeya and Singida regions (Mohamed et al, 2010, Esron et al, 2011).

The 2006/07 outbreak was the first documented rift valley fever outbreak, because it was the most severe outbreak ever experienced in Tanzania. It affected human and livestock in 11 out of 21 regions of Tanzania mainland. Total mortalities of 16,973 cattle, 20,193 goats and 12,124 sheep were recorded, with several abortions reported in 15,726 cattle, 19,199 goats and 11,085 sheep. Moreover, 309 human cases were reported out of which 144 people died from the Rift Valley Fever. (URT (2011)

Emerging and re-emerging disease of zoonotic nature, presently are of public health importance that calls for collaborative actions that entails multi-sectoral approaches and will deal with all aspects of control and prevention (Hassan et al, 2011, Maged and Bernadette, 2011). Subsequently, after the 2006/07 RVF outbreak in Tanzania efforts have been put together to ensure that the multisectoral collaboration is put in place to harmonize coordinated activities in preparedness, prevention, control, response and recovery between ministries and relevant national and international stakeholders (Esron et al, 2011). By May 2007, it was recognised that inter-sectoral collaboration between ministries in Tanzania resulted to as successful containment of the RVF outbreak (Esron *et al.*, 2011).

To ensure collaborative action and support in resources allocation, coordination and technical knowhow collective measures for prevention and control or containment of RVF at source in the event of an outbreak and also to operationalize previous contingency plans and supplements other actions taken by the Government previously to prevent RVF. Henceforth, the government through the Prime minister's office, together with Ministry of livestock and fisheries development and the Ministry of health and social welfare has prepared a National Rift Valley Fever Emergency Preparedness and Response Plan of 2011. In addition to several guidelines are in place with focus on collaborative action toward prevention and control of rift valley fever outbreak. They include Tanzania Emergency Preparedness and Response Plan of 2012, National Operational Guidelines for Disaster Management of 2003, Emergency Measures for Control of Rift Valley Fever in Tanzania of 2007 and the National Integrated Disease Surveillance and Response (IDSR) Guidelines, 2nd Edition of 2011. Tanzanian government, since 1990 enacted Disaster relief coordination ACT that later led to the establishment of the inter-ministerial task force, Tanzania Disaster Relief Committee (TANDREC) at the

national level, with the sole responsibility to oversee and coordinate all activities stipulated in the committees' plans and policy. Similar committees are established at district and village level, such approaches recognizes the importance of harmonizing multi – sectoral approach at national and international level to address the all concept of RVF preparedness, prevention, response and recovery as a whole and not only confined to outbreak control only (Fyumagwa et al 2011).

1.2 Statement of the Problem

The existence of the emerging and re-emerging diseases such as Rift Valley Fever virus has greatly contributed to overburdening in the Ministry of Health and Social Welfare. This is already handling priority diseases in particular HIV/AIDS, malaria and Tuberculosis. In addition, inequality within the communities has produced different level of diseases burden (Butcher et al, 2012).

The risks factors exuberating rift valley fever outbreaks are associated with climate change, land use, scare resources, inherent ecosystem characteristic as well as poverty (Mbugi et al, 2012). Rift valley fever have severe social – economic, health and environmental impact, consequently, Africa and Asia are lagging behind to effectively control rift valley fever (Mbugi et al, 2012). (Fyumagwa et al, 2011) has observed, since 1912 Rift Valley Fever outbreak has repeated in North and East African countries displaying similar characteristics in the same localities yet, these countries are always found unprepared in control and management of Rift Valley Fever outbreaks (Butcher et al, 2012).

Several contributing factors were put in place to include as non-existence of management guidelines, sectoral strategic plans, local and regional agreements, with few mechanism of surveillance on preparedness, prevention and control of the disease (Butcher et al, 2012), also other associated factors includes lack of emergency plans, poor risk communication and inadequate information flow, inadequate collaboration between the sectors and lack of emergency fund (Karimuribo et al, 2012). (Mbugi et al, 2012) includes additional factors like lack of multisectoral participatory health and livestock policies and lack of mutual preparation for outbreaks.

The potential of zoonotic diseases as many infectious diseases is not recognised by the vertinary personnel let alone the health care personnel. The limiting factors for both the health and vertinary departments are the extremely limited resources,

shortage of qualified personnel. This has lead to lack of time to deal with both routine daily challenges and huge burden of diseases. Hence zoonosis diseases are not part of routine differential diagnosis in Tanzania (Mbugi et al, 2012).

Accordingly, lack of attention to otherwise preventable diseases has in result in under reporting and lack of proper treatment to both human beings and livestock affected (Mbugi et al, 2012).

The need for an effective integration between human and animal surveillance has been repeatedly identified as a key to successful surveillances of emerging and re – emerging infectious diseases like RVF. Regrettably, inadequate communication between vertinary and health care officials in approaching these issues thus the limited data on zoonosis diseases in Tanzania. This is also a factor constraining timely diagnosis and controls of such infections. The lack of emphasis of zoonotic diseases trainings to both the vertinary and the health professionals.

An efficient multi – sectoral collaboration needs to be strengthened with focus towards effectiveness in control and management of outbreak. To raise awareness through facilitating communication and inter – displinary collaboration in research, information sharing, to enable them to understand the dynamics of infectious diseases in their complex multi – host community, their threats to public health, livestock, economies and wildlife. The adaption of the core concept of one health approach in addressing Tran's boundary infectious diseases affecting both human and animals such as RVF that spreads over different climatic zones and effect of global climatic changes. The study henceforth, will explore the factors affecting multisectoral collaboration in response and preparedness to RVF outbreaks that will affect performance both national and internationally.

1.3 Purpose and rationale of the study

1.3.1 Purpose of the study

The study intents to identify factors affecting multi-sectoral collaboration response to rift valley fever outbreak in Kongwa District.

1.3.2 Rationale

The study was conducted so as to identify factors affecting multisectoral collaboration response to rift valley fever outbreak in Kongwa district to explore the existing plans/procedures/guidelines strength and weakness and the aspect of resource mobilisation and allocation in relation to response to RVF outbreaks. The finding from the study will help feed into the existing multisectoral collaboration plan, procedures and policy. Particularly focus in emergency response and preparedness on imminent RVF outbreak in Kongwa district and beyond**.**

1.4 Research Questions

Main Question

What are factors that affect multi sectoral collaboration response to RVF outbreak?

Sub – Questions

1. What is the contribution of RVF preparedness plans in facilitating timely response to RVF outbreaks?
2. What is role of sectoral policies in facilitating collaboration in response to RVF outbreaks?

1.5 Objectives

1.5.1. Broad Objective

To identify factors affecting multi-sectoral collaboration response to rift valley fever outbreak in Kongwa District.

1.5.2. Specific Objectives

1. To assess the role of RVF preparedness plans in response to RVF outbreak in Kongwa district
2. To explore the national policy factors affecting sectoral collaboration in managing response to RVF outbreak
3. To analyse the effect of resources mobilization, allocation and sustainability plans/procedures on multi – sectoral collaboration in coordination and management of RVF outbreak
4. To evaluate the effect of existing sectoral isolation between the livestock and the health ministries in response to RVF outbreak
5. To assess the intersectoral flow of information and communication strategies in place in relation to response to RVF outbreak
6. To examine the strength and weakness on the existing Disaster Management Policy and National RVF Emergency Preparedness and Respond Plan (2011) as defined in inter-ministerial collaboration in response to RVF outbreak

CHAPTER TWO

2.0 Literature Review

Rift Valley Fever outbreaks occur as epizootic in both domestic animals like cattle and sheep and wild animals. Causing severe abortion and high neonatal mortalities. The epizootic period persist for 1 – 3 years, often recurs at an interval of 5 to 15years (Tariq et al, 2003). Always associated with heavy rainfall proceeding long period of drought. This episodically nature of the disease and the rapid evolution of the outbreak creates a challenge in RVF outbreak mitigation and control (Davis and Martin, 2003), especially in developing countries who are already burdened with infectious diseases like HIV/AIDS, Malaria, and Tuberculosis. These long periods are characterised by sharp decrease in community awareness, decline in collective memory and resources reallocation to more impending and prioritized issues (Martin et al 2008) thus occurrence of the next outbreak always finds countries unprepared and uncoordinated for timely response.

A safe and more effective RVF vaccine needs to be developed that will offer protection to both human beings and ruminants from RVF during outbreaks. In view of the possibility that RVF virus ability to survive in long term in mosquito populations, an effective vaccination should prompt long-term protective immunity, both in human and animals to prevent further spread of RVF. However, available vaccines that are in use have a short shelf life of four (4) years. With regards to 10 to 15 years inter- epidemic period coupled with limited resources surrounding, RVF outbreaks has proven challenges to the veterinarians and manufacturers (Fyumagwa et al 2011) to manufacture vaccine stocks in fear of loss as associated with expiration of the vaccine.

Early RVF outbreak detection is always difficult in many countries especially low income countries. For newly emerging zoonotic diseases like RVF, solely depending on the veterinarians. If they do not detect it promptly, the disease remains silent, giving it time to mature within human and animal interface (Martine et al, 2008)

RVF outbreaks as experienced by East African countries share similar characteristics in aspects of impact, severity, and lack of capacity to containment as portrayed in the 2006/07 outbreak. Additional similarities portrayed during the outbreak include

delay in recognizing the risk factors associated with rift valley fever virus, major ones been resistance and ability to survive inter – epidemic periods. High risks of infections in both, animal and human. Low capacity to sustain early detection and reporting. Low level of preparedness and response. Lack of public awareness as the public is not properly informed or given wrong information that led to unnecessary public scare. Lack of emergency plans and inadequate pre - allocated funds target for the RVF outbreaks.

In September, 2011 the Prime Minister's Office recognised the multisectoral and multi-displinary approach in control and prevention of RVF, henceforth formulated the National Rift Valley Fever Emergency Preparedness and Response Plan. Aim to reduce the public health threat and risk of exposure to RVF. This plan recognises and is in line with the livestock policy and MKUKUTA II. In addition, the plan has recognised and harmonised its strategies with the East Africa Community, Southern Africa Development Community (SADC) and Regional Indicative Strategic Development Plan (RISDP). An aftermath of the 2006/07 RVF outbreak, NRVF EPRP is in place to strengthen future actions on emergency preparedness and response to RVF outbreak. The Prime Minister Office, coordinates all activities on emergency preparedness. The PMO is mandated to ensure that multisectoral collaboration is recognised from control, prevention, preparedness and response. Particularly in defining the roles and responsibility of different ministries in combined efforts towards a particular emergency. For example, the ministry of health and social welfare, the ministry of livestock and fisheries development and the ministry of natural resources and tourism have worked together during the RVF outbreak in Tanzania.

Emergency preparedness and response to RVF outbreak in Tanzania has been collective incorporated and work in line with the three major national policies to they are the Livestock Policy of 2004, the Health Policy of 2007 and the Disaster Management Policy of 2004. All policies recognise the importance of multisectoral and multi-displinary approaches in preparedness, response and control of RVF outbreaks in Tanzania. Though these policies existed way before the 2007 RVF outbreaks still multisectoral collaboration was weak and uncoordinated, hence the severity of the 2007 RVF outbreak. It is noted that the Disaster Management Policy

since, 2004, had directed the formulation of disaster management committees from the regional level (REDMAC), District level (DIDMAC), Village level (VIDMAC) and household level. The disaster management policy has stipulated role and responsibilities based on activities such as early warning sign, hazard and risk mapping, preparedness, control, prevention, response and resource allocation for these committees from the regional, district and village. The policy also recognises the contribution of NGOs, Media groups, international and UN agencies and the Tanzania Red Cross Society. There are still unrecognised factors that affect and contributes to poor sectoral collaboration in managing response to RVF outbreak that needs to be explored and investigated.

The prime minister's office is responsible for resource mobilization and allocation. The PMO is mandated to collect resources from the government, national and international stakeholders (URT, 2003). In times of outbreaks or epidemics, depending on the magnitude of the outbreak and the capacity of the region or district to contain the outbreak is when the PMO gives hand to support (URT, 2003). In Tanzania, though not yet in practice, regions and districts do not have budgets set aside to cater for emergencies in time of outbreaks, all of them rely on the PMO to provide assistance in such instances. These practices have facilitated delay in response to RVF outbreaks and poor coordination among stakeholders in control and management of RVF outbreak from the village to the regional level. Presently, several plans and procedures have being put in place like the Emergency Measures to Control Rift Valley Fever in Tanzania of 2007, Integrated Diseases Surveillance and Response guidelines of 2011, Tanzania Emergency Preparedness and Response Plan of 2012 and National Rift Valley Fever Emergency Preparedness and Response Plan of 2011. These guidelines communicate RVF control, preparedness and response of all sectors involved from the national to the household level. The effort to communicate these plans, procedures and guidelines needs to be investigated, these documents are developed as late as 2012. They all focus to preparedness to imminent reoccurrence of RVF outbreak in Tanzania.

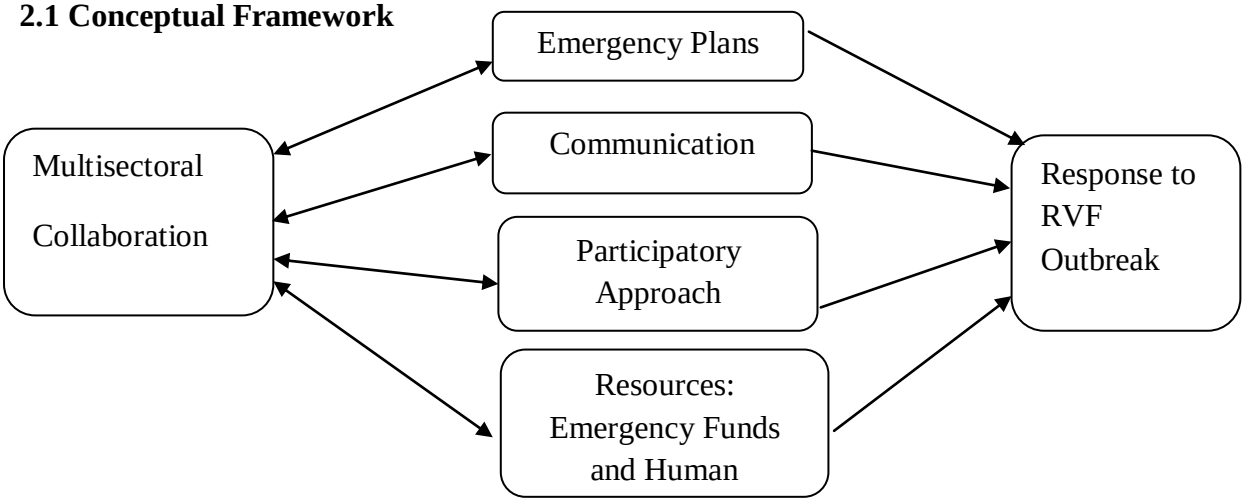
Despite the fact that the existing plans and guidelines specifies the importance of multisectoral approaches, still it is a challenge in managing and coordinating intersectoral roles and responsibilities in harmony. The Ministry of Health and Social

Welfare and Ministry of Livestock and Fisheries Development always work apart. Until the occurrence of an RVF outbreak is when forces are brought together. This often creates sectoral division and inadequate corporation as prior strategies did not exist. The fact that only selected top officials are involved in top meetings and new developments, noting that these top officials are also multi task. This hampers the top – down flow of information in the respective departments. This has contributed to the miscommunication and inadequate cooperation between departments.

Flow of information upon onset of RVF outbreak depends on sectors involved and community based strategies in place. This flow of information from the sectors to the communities depends on the form of communication and the quality of information to be delivered. The main form recognised is the use of both print and electronic media groups in Tanzania. The 2006/07 RVF outbreak received a lot of media attention, unfortunately, the media triggered unnecessary public scare because of misinformation. Consequently, lack of public awareness has fuelled lack of community participation and recognition in support of reducing the impact of RVF outbreak. During the onset of 2006/07 RVF outbreak, the community did not get access to relevant, adequate and correct information on the processes of identification of sick animals, reporting to relevant authorities and community practice on protection against infection from the household level (URT, 2007). It is Important for Ministry of Health and Social Welfare and Ministry of Livestock and Fisheries Development to collaborate and formulate communication strategies and develop public consumer messages. To develop posters and brochures that will deliver correct information to the public on RVF early detection, prevention, control, preparedness and response in case of RVF outbreaks (URT, 2011).

The TEPRP of 2012 and the NRVF EPRP of 2011 were developed all too due to the recognition to 2006/07 RVF outbreak, as an emerging infectious disease of public health importance. These plans have not yet being researched, to assess their implementation in the relevant sectors to examine their strength and weakness as defined in inter-ministerial collaboration in response to future reoccurrence RVF outbreak (URT 2011, URT 2012).

2.1 Conceptual Framework



The conceptual framework presenting factors affecting multisectoral collaboration, they include emergency plans, communication, participatory approach and resources in particular emergency funds and human. The conceptual framework shows a cumulative approach of the factors have a direct effect in the overall outcome of multisectoral response in relation to multisectoral respond to Rift Valley Fever outbreak.

CHAPTER THREE

3.0 Methodology

3.1 Study Design

A qualitative study design applying phenomenological approach was conducted between April and July 2013. This approach was applied because it best uses the technical expertise and experience of the participants to the various aspects RVF outbreak and aftermath. In this study, primary data collected through in-depth interview. The study was designed to explore their experiences, technical skill and knowledge and practice in preparedness, prevention and control of rift valley fever.

3.2 Study Area

The study was conducted in Kongwa District and Dodoma Region. Dodoma Region lies at 4^o to 7^o latitude South and 35^o – 37^o longitude east. It is a region centrally positioned in Tanzania and is bordered by four regions namely: Manyara in the North, Morogoro in the East, Iringa in the South and Singida in the West. Much of the region is a plateau rising gradually from some 830 metres in Bahi Swamps to 2000 metres above sea level in the highlands north of Kondoa. The region covers an area of 41,310 km² and has 2,083,588 inhabitants of which 1,014,974 male and 1,068,614 female (URT, 2012).

Kongwa district is among of the six districts of Dodoma region. It lies between 5^0 30 and 6 to the South and longitude 36 and 15^0 36 East of Greenwich merlin Depth Interview an. The district covers an area of 4,041 km2 and had a population size of 301,566, of which 132,838 male and 162, 357 female (URT, 2012). Livestock keeping and small scale farming are major economic activities in the district. Selection of the district is based on the large number of livestock – dependent population and also it represent one of the district mostly affected during the latest RVF outbreak in Dodoma (Sindato, et al, 2011).

3.3 Study Population

The respondents were representatives from Region, District, Ward and Farmers association of Kongwa District and Dodoma Region. The sectors involved in the study included the veterinary, health, policy and planning sectors. At national level representatives from the Prime Minister Office, Disaster Management unit, the

Ministry of Health, Emergency Unit and Ministry of Livestock and Fisheries Development, the veterinary unit.

3.4 Sample Size

The respondents were purposively recruited to participate in in-depth interview. A sample of fifteen (15) officials of which thirteen (13) male and two (2) female participated in the study.

3.5 Sampling Technique

Purposive sampling was done to recruit key informants for in-depth interview, which was based on their occupational and professional experience, views and understanding in relation to the 2006/07 RVF outbreak.

3.6 Pre testing

A total of seven (7) local government representatives were involved in pre testing before the commencement of data collection. Pre testing of interview guide was conducted at Morogoro Municipality, which was chosen because of its similarity in impact of the 2006/07 Rift Valley Fever Outbreak. The pre-test was done to check questions validity in depth interview and to gauge how the questions were understood by different individuals. The modifications were made in the interview guide as a result of the pre-test.

3.7 Data Collection

An qualitative interview guide was used to collect information among the key informants from health department, veterinary department, policy planning departments and the farmers associations representatives from Kongwa District, Dodoma region, MoHSW and MoLDF. The key informants were purposively selected on the basis of their direct experience with animals or human RVF effects during the RVF in the 2006/07 outbreak. Furthermore they have the responsibility of reporting any event of suspected outbreak in their settings. Appointments were sought from key informants before the date of interview. Interview sessions were audio recorded after obtaining permission form study participants and interviews lasted for an average of 30 minutes.

3.8 Data collection instruments

The main instruments for data collection included structured key informant interview guide and desk review of literature. The interview guide was divided into two (2) sub sections aimed at describing the level of administration, specific department, and sex of the informant and duration of service in the department. In subsection B, is consisted of the general Rift valley fever outbreak overview; Preparedness, response, prevention & mitigation and recovery to rift valley fever sections. Resources allocation to Rift Valley Fever section, and multisectoral collaboration in response to rift valley fever outbreak section. The interview guide was administered by the principal researcher.

3.9 Data management, Processing and analysis

Data collected from in-depth interviews was audio recorded. The interviews were transcribed in full text. The transcribed text was coded and thematically analysed manually accordingly. All tapes were stored safely in such a way that were only accessed by investigators and planned to be destroyed 24 months after the dissertation submission.

3.10 Ethical issues

Participation for this study was voluntary, written informed consent was obtained from each individual participant before the commencement of face to face in-depth interview. The study sought ethical clearance from Muhimbili University of Health and Allied Sciences Institution Review Board. Also, the study sought permission to be conducted in Kongwa district, Dodoma Region and Ministries directly at the Kongwa District authorities, Dodoma Regional Authorities and the Ministries of Health and social welfare and Ministry of Livestock and Fisheries Development.

3.11 Limitation, validity and reliability of the study

The study was conducted only in one district among the districts that experienced RVF outbreak and was carried out four years after the outbreak. The results may not be generalized to districts which did not experience the epidemic; also recall time was too long and might introduce recall bias. It was also discovered that there was no post referred to as the disaster management focal person either at the ward, district or the region as stipulated in the emergency preparedness plan. In addition, it was observed that the disaster management team at the regional office in Dodoma region

are the same team working in the national office. Consequently, their participation and contribution in research was inadequate as they had return to the national Prime Ministers' Office in Dar es Salaam.

CHAPTER FOUR

4.0 Results

A total of fifteen (15) representatives from public office were involved, of which two (2) were females and fourteen were male (13). The participants represented the Health Department, Vertinary Department, Policy and Planning Department, Ward Executive Officer of Kibaigwa Ward in Kongwa District and Health Department, Vertinary Department, Policy and Planning Department of Dodoma Regional office, and representatives from Chinangali Farmers Associations. At national level representatives from the Prime Minister Office, Disaster Management unit, the Ministry of Health, Emergency Unit and Ministry of Livestock and Fisheries Development, the vertinary unit. The key informants had being in office for three (3) to seven (7) years in the particular department of work.

Overview of RVF 2006/07 outbreak in Kongwa District

The key informants were aware of Rift Valley Fever as a zoonotic disease which affects animals and humans as well, as narrated:-

> ...."the disease that can also infect human and domestic animals, mostly the diseases spread depending on the climatic condition and most of the time when there is heavy rainfall" (KIV, Kongwa)

Participants were able to recount the sign and symptoms of RVF in animals and human altogether especially through witnessing them during the RVF outbreak in 2006/07 as follows:-

> ...."Signs and symptoms to humans are dizziness, high fever, diahhorea, discharge of mucus mixed with blood from ears in some instances" (KIH, Kongwa)

> ...."To me and fellow farmers witnessed one cattle who displayed sign of dizziness and discharge blood just as explained by the experts"(KIF, Kongwa)

It is interesting to note that medical professionals were also aware of the signs of RVF as one of them narrated here:-

> ...."Is a viral infection found along the Rift Valley, Dodoma we are in the area of the rift valley, it got some epidemic some 4 – 5 years back we had patient's admitted in our hospitals with presentation of fever. Patients had history of consuming dead animals. Actually this is a zoonotic diseases, symptoms is fever and wasting" (KIH, Dodoma)

The transmission of the RVF virus from infected animals to human is one of the contributing factors to human infections:-

> ...."How the virus is transfer to human through touching dead animals with lesions for workers in abattoirs without personal protective equipment. Communities get infection through eating meat of dead or drinking milk of animals presumed infected with RFV" (KIH, Kongwa)

> ...."RVF outbreak occurred here in Dodoma in 2006/07 that affected the animals first then went to human. Human beings were infected because they ate meat from animals infected with RVF" (KIP, Dodoma)

While participants appeared to be aware of the signs and mode of transmission as indicated above. There was some confusion in the climatic condition favouring occurrence and the spread of RVF outbreak as relate:-

> ...."RVF is caused by bad climatic condition, there is nothing but bad air, during this period there people affected and others are not same applies in cattle. In my opinion bad air is what brought this problem. It started from neighbouring country then came to us" (KIF, Kongwa)

The risk factors such as the social cultural factors facilitating the spread of rift valley fever were also noted. In interviews conducted, participants explained:-

> ...."the community is not well educated concerning RVF and there are no experts to sensitize the community to know how RVF is spread, and conditions favouring it" (KIH, Kongwa)

> ...."The risk factors favouring spread of RVF is the culture of people of eating meat of dead animals without knowing the cause of the animal death, the low education level of the people, poor economic status, present of the animals as host and the presence of the virus itself" (KIH, Dodoma)

Early signs of detection of a Rift valley fever outbreak in the use of either traditional or national surveillance. The study indicated that use information gathered from the weather forecast was mostly dependent upon by the vertinary office. Otherwise other sectors got the information from the electronic and print media stations on the existence of the RVF outbreak in the neighbouring country (Kenya) and later on in Tanzania. In the interviews conducted, participants explained:-

> ...."It depends on identified suspicious symptoms in animals or the weather forecast" (KIV, Kongwa)

....“We heard from neighbouring country of RVF outbreak, then we heard from the media that RVF had entered Tanzania so we started to take precautions” (KIH, Kongwa)

....“We received information from the media and our neighbours about the effect of the outbreak” (KILL, Kongwa)

The role of emergency plans

The unavailability of a National RVF Preparedness and Response Plan at the region, district and ward offices was not anticipated. The officials related to have an idea of its existence yet they have not seen nor read them. Without knowing the issues addressed in it was difficult to correlate with the study. Following are the participants’ narration to the matter:-

....“I have heard about RVF Preparedness plan but l have not seen it” (KIH, Kongwa)

....“The NRVF plan is there though l haven’t seen it. All l know is that the government, annually issues vaccines to animals especially the new borns, to reduce the vulnerability” (KIV, Dodoma)

The acknowledgement of the existence of district based plans is recognised as one of the preventive and preparedness measure for possible future occurrence of RVF outbreak in Kongwa District. It appears that this information was also available to officials at the ward level as one of them described it here:-

....“If the plan is exists then it is in the department concerned. But for us at the ward level, what l know vaccination is the prevention measure that we practise. This process is progressive” (KILL, Kongwa)

....“I know the preparedness plan is available at national level but at district level we prepare these plans by ourselves for an impending RVF outbreak” (KIV, Kongwa)

RVF prevention and preparedness strategic plans available at the district vertinary offices, an aftermath of the 2006/07 outbreak several steps have been put in practices as narrated:-

....“Strategic plans are being prepared each year and that each district ensures to allocated budget for vaccine each year. Health education is continuous. Animal slaughtering is done in modernised abattoirs and meat is sold in modern butchers” (KIV, Dodoma)

....“Every year we conduct a vaccination exercise to all animals to prevent RVF and other diseases from attacking the animals. Up to now we have vaccinated Chinangali and today we are in Ndurungombe” (KILL, Kongwa)

National policy factors affecting sectoral collaboration in managing response to RVF outbreak

In Kongwa district, the officials recounted that the district was not affected with the 2006/07 RVF outbreak. The officials accounted to hear of the RVF and its effects in the neighbouring districts. However, without the National RVF Plan in place, the district employed preventive measures to include restriction of animal movement, quarantine, sending of alert messages, health education, prevention animal slaughtering in public gathering. The participants shared as follows:-

> ...."Alert messages are sending to the village officials and livestock farmers. We distribute brochures on information on RVF and to report any unusual animal behaviour" (KIV, Kongwa)

> ...."Upon RVF entering Dodoma Region and spreading to our neighbouring villages in Kiteto, as the health department, we quarantined and restricted animal movement and prevented animal slaughtering in public areas where there large human gatherings like Mbande and in animal auction markets" (KIH, Kongwa)

Prevention and mitigation measures in place in Kongwa District include; excluded grazing areas for livestock keepers, annual vaccination, availability of animal dip for pest control, use of modernised abattoirs and butchers, as reported by the participants as quoted:-

> ...."Preventive measures taken were cattle dipping and annual vaccination" (KIV, Kongwa)

At ward level, several prevention and mitigation practices are in place for RVF outbreak prevention and preparedness:-

> ...."Action taken by the ward is that we have demarcated areas of animal grazing away from residential areas, all livestock farmers stay in one allocated area. They also got vaccination, we also have medicate animals dips for pest control and abattoirs are modernised so prevention is high we advise the farmers not to have a lot of animals so that prevention can be easy" (KILL, Kongwa)

In addition to the above mentioned efforts, the district has formulated a risk management policy to strengthen the Kongwa District prevention and preparedness strategies for future RVF outbreak as told:-

> ...."In my office there is a risk management policy and this policy is being implemented since two years ago. Every district is advised to prepare a strategic plan on risks such as

emergencies and diseases outbreaks according to the district situation and environment" (KIP Kongwa)

During the 2006/07 RVF outbreak, health education to health care workers was mandated. Also recognised as an important aspect was the contribution of politicians in the area of community sensitization:-

...."Health providers especially the clinician and nurses were sensitized on the signs and symptoms of RVF. Health education was given to the community on the signs and symptoms and advised to report immediately to health care centres." (KIH. Dodoma)

Recovery entails all those activities necessary to provide a rapid return to normalcy both for the affected community and for those involved with the response. In this case recovery was not given consideration as the outbreak cleared out. The region, district and local official went about their daily official routine only alerts were sent to declare the end of the outbreak. As narrated by the participants:-

...."after a period of two months when there were no new cases it was declared the disease was no longer there" (KIH, Dodoma)

...."I remember only one meeting ever conducted between the health and the livestock department during the outbreak. I remember during the RVF outbreak there were meetings where the District Commissioner was the chairman, the secretary was either the health or vertinary personnel where the meetings were held once a week, then once a month then after three months then it went silent as the outbreak was cleared out"(KIV, Kongwa)

There exist several national policies and plans in relation to preparedness and response to Rift valley fever. Unfortunately, several participants reported not to have seen nor read the policies neither did they have hard copies in the offices:-

...."Am not sure if we have the policy addressing Rift Valley Fever. Although, livestock policy is available" (KIV, Kongwa)

...."I haven't heard, seen nor read the Disaster management policy" (KIH, Kongwa)

...."I haven't seen, read nor have the National RVF preparedness and response plans in my office" (KIP, Kongwa)

Nevertheless, few of the respondents gave an account to have seen and read the disaster management policy:-

...."During the preparation of the District Risk Management policy we referred to the Disaster Management Policy. The disaster management policy is good."(KIP, Kongwa)

> ...."The risk management policy is about to be launched in the district, we target to approach it from the village level." (KIP, Kongwa)

In facilitating participatory approach at district, the respondents reported that there were no such committees as the disaster management committees. Neither are these committees established at the region, district nor village level in case of an outbreak in Kongwa district:-

> ...."the disaster management committees are not established, we never heard of it, nor are there is no such plan of their establishment" (KIH, Kongwa)

In the overall aspect of policy translation, respondent narrated that policies are translated not as a whole but only in subsections depending with the situation at hand and what policy says about the situation:-

> ...."Our work as the regional secretariat is to translate policies when policy reaches to us we take them to the districts and we follow up implementation of the policy" (KIP, Dodoma)

> ...."The disaster management policy is multisectoral it required a lot of sectors to contribute in, our main responsibility as the region is to translate the policy reflecting the policy at that particular time as no one cannot translate the whole document, not that kind of translation"(KIP, Dodoma)

Several health related activities implemented in the district are a reflection of the National Health Policy. Translation of the policy incorporates subsections of the policy statement concern in place:-

> ...."regional health strategies are prepared with reflection of what is mandated in the national policy in concerned. These strategies and plans cannot go beyond the policies requirements." (KIP, Dodoma)

> ...."the national health policy addresses the steps to follow to control and prevent emerging diseases like RVF. The region, have experienced several gaps to include; inadequate personnel, insufficient reagent and medicine, inadequate diagnostics equipment. However the health policy as policy is good" (KIH, Dodoma)

Resource mobilization, allocation and sustainability

The aspect of resources be it human, financial, equipment and reagents is still a challenge. Respondents from Kongwa Districts recount the ability of the district to collect financial support and human resource by redirecting all departments to focus

on the problem at hand. It is also advised by the regional representatives for districts to set aside budgets for emergency though these are not in practice as anticipated.

> ...."District Council is an independent entity meaning it can deploy financial, experts, vehicles to start with the preparation upon an outbreak. To say we can contain it as a district alone, we cannot" (KIV, Kongwa)

> ...."There is no specific budget for RVF outbreak. Though the district upon an outbreak, has its own financial resources that could be reallocated to give a head start to control the situation." (KIV, Kongwa)

Time as a resource is not considered in relation to apt response. A response to an outbreak takes a period elapses until there is devastating effects takes place. With reflection of the 2006/07 outbreak, it was until increased rate of infection and mortality that efforts and resources were directed to curb the situation:-

> ...."Time is short, for information to reach the site is by phone, on education we usually apply school based information or through the brochures issued" (KIH, Kongwa)

> ...."Guideline are always delayed to reach the district. The district use health guidelines that are not updated" (KIH, Kongwa)

Human resource is a continued challenge, emphasis to multisectoral collaboration helps to narrow down the gap:-

> ...."As a ward we are not fully capacitated as for human resource" (KILL, Kongwa)

> ...."Human resources are available though there are shortcomings here and there, in the case of an outbreak all resources are focused to the problem at hand." (KIP, Kongwa)

Setting aside a budget for emergencies or outbreak is quite impossible to achieve from the district and the region level as well hence resource sustainability is hard to predict as it does not exist:-

> ...."To budget for something unpredictable as emergencies is always difficult. As a district to set an emergency budget, it is difficult to account for unused allocated funds. Consequently, when an outbreak occurs we request for assistance from different private stakeholders and the disaster management office in the Prime Minister's Office" (KIP, Dodoma)

Unfortunately the region was not adequately prepared as they lack laboratory equipment, reagents and expertise, using Kenya's laboratory and mobilizing experts was time consuming:-

> ...."we are somehow equipped but we are lacking some of the diagnostic equipment. During the 2006/07 RVF outbreak, diagnosis RVF was difficult as the reagents was not available. We had to send specimen to Kenya for Elisa test to confirm it was RFV virus. In addition, we did not have experts for RVF diagnosis; we had to request assistance from the Ministry of Health. We could not detect quickly RVF in time because the knowledge, skills and expertise and diagnostic part the region was not well equipped" (KIH, Dodoma)

As explained by the respondents, RVF is a disease of public importance yet it is challenging to be incorporated in the Council Comprehensive Health Plan.

> ...."It is hard for the RVF to be included in the Council Comprehensive Health Plan. As RVF is referred as a zoonotic disease, it is more of a vertinary department concern than the health department." (KIH, Kongwa)

> ...."In CCHP there are no training apart from reading the guidelines and prepare oneself before the outbreak occurs" (KIH, Kongwa)

Most study participants were of the view that the disease had serious consequences. However, incorporating RVF into priority list of diseases had practical challenge. One of the challenges mentioned was the unpredictability of its occurrence as described below:-

> ...."It is possible to incorporate RVF in the CCHP a disease of priority so as to be able to do early preparations before the diseases occur. Presently it is not possible because of its uncertainty in reoccurrence and its effects are extreme" (KIP, Kongwa)

Sectoral roles division in response to RVF

Some of the officials expressed concern on multisectoral collaboration in addressing Rift valley fever outbreak by looking into intersectoral recognition, technical support and defined role and responsibilities. However the existence of multisectoral collaboration is not strong and reliable. The officials' concomitant existence of multisectoral collaboration with onset of RVF outbreak:-

> ...."multisectoral collaboration brings together different sectors to take part, may it be research, curative, preventive, media, each sector know what they do"(KIV, Kongwa)

Intersectoral isolation exists in the region as well as the district, not until there is an outbreak:-

> ...."Collaboration between departments in the district council is not there only when an outbreak occurs" (KIH, Kongwa)

....“Ministries understand and collaborate though down to the district departments do not have such a relationship. There is a need for orientating departments to see the importance of preventing RVF outbreaks” (KIH, Kongwa)

Same applies in private and community based organisations:-

....“Our collaboration with the district is to report or notify about any changes in animals. As farmers we raise the cattle and if we see any changes we are not supposed to do anything until we notify the experts” (KIF, Kongwa)

For RVF outbreak the vertinary department plays a vital role, in which other sectors depend upon their initial response to the outbreak:-

....“The vertinary department is in the centre of this outbreak, doing it alone is impossible, the department need other sectors like the health to help reach the community on health education and awareness” (KILL, Kongwa)

....“Multisectoral collaboration is there but not strong. Such relation are observed at the output of such collaboration. It is hard when participatory approach is applied in this sector. Unfortunately we lack adequate resources to ensure success. ” (KIP, Kongwa)

Otherwise it is important that multisectoral collaboration exists to establish common goal to RVF outbreak prevention, response, control and mitigation in the future:-

....“ I don’t know how strong ministerial collaboration are but otherwise it good to have such collaboration, as no ministry can be self – sufficient in case of outbreaks” (KIH, Dodoma)

Some related benefits and challenges associated with multisectoral collaboration in response to Rift Valley Fever outbreak:-

....“The good thing with collaboration is that work is efficient compared to sectors working in isolation. The advantage is in sharing of expertise and learning from each sectors expands in knowledge and knowhow” (KIV, Kongwa)

....“for association, collaboration with the vertinary department is through issue of vaccines to livestock, health education and trainings on livestock diseases and regular flow of information between the association and the vertinary department.” (KIF, Kongwa)

Yet trust in intersectoral collaboration is minimal:-

....“in the public office, trust between sectors is minimum, as multisectoral collaboration is low. As observed, multisectoral collaboration is only recognised during outbreaks and when

> called upon is when they respond it is not through self-motivation as a sector to work together all through" (KILL, Kongwa)

Lack of financial resources was further reiterated by local leaders as exemplified by one of them below:-

> ...."Budget is not set aside for RVF outbreak. During an outbreak, financial aid is sought after increased case fatality in animals as well as human is experienced. Financial aid is always aimed from the central government budget and private stakeholders. This is always time consuming and the effect becomes devastating" (KILL, Kongwa)

Intersectoral flow of information and communication

Flow of information on Rift valley fever outbreak from alert to response to end of an outbreak is the major component in both intra and intersectoral aspect of multisectoral collaboration. The initial flow of information begins with an early warning alert message received from an international forecast and surveillance system on an expected outbreak to the Ministry of Livestock and Fisheries Development. Whom then convey the alert to the regions at risk on an impending RVF outbreak:-

> ...."Communications starts with the weather forecast information from the weather people to the vertinary office on anticipated weather condition so as to prepare for an outbreak if it occurred we are prepared, if it doesn't will be ready too"(KIV, Kongwa)

Flow of information administratively is the major form of line of communication from the regional to the ward to ensure elaborate multisectoral collaboration in RVF outbreaks:-

> ...."Intercommunication between sectors is through administrative letters, faxes and telephones" (KIH, Kongwa)

> ...."Information flow through the Health Sector administration through the District Commissioner and the District Executive Director. Information goes to the Regional Administrative Secretary then to the Regional Commissioner then the District Commissioner and finally the Ward Executive Officers." (KIH, Dodoma)

The contribution of NGO, farmers association, private institutions and stakeholders in outbreak communication is very highly recognised, despite the contradictions as how much each sector profits from such relation:-

....“What we do as the association leaders is to inform farmers of any information given to us or alert them in any situation and collaborate with the experts on diseases associated with cattle” (KIF , Kongwa)

Role of political/local leaders

Involvement of politicians in overall multisectoral collaboration in the preparedness and response to RVF outbreaks seems to have beneficial attributes as the participants aired out their opinions on the matter:-

....“Politicians participate fully as they say they are the people representatives. Politicians deliver information, to stress on the importance and sensitize. They reach to a much wider crowd through public meetings” (KIV, Kongwa)

....“Politicians influence all people around through sensitization, they visit the patients to see how the progress and ask if there is any problem. They influence impact of public office response to outbreaks by giving a back support to the health providers and the people they tell how best to combat the disease. It is not that effective but it happens, it is good approach on how to combat when you collaborate you achieve much when you don’t collaborate you lose more” (KIH, Dodoma)

Suggestions for improved outbreak management

Several aspects were put forward for the best intervention to ensure better management and control of RVF outbreaks as follows:-

....“Something that we saw in South Africa or Northern Africa today is in Tanzania we should not relax but be prepared all the time and if possible set aside a budget for outbreak”(KIV, Kongwa)

Health education is the best proposed intervention to reach out to the communities:-

....“Intervention through health education to create awareness to the community through brochure and local traditional music” (KIH, Kongwa)

The national emergency management and control of RVF clearly stipulates livestock vaccination, demarcation of grazing areas and restriction of animal movement as prevention measures:-

....“To have all important vaccine available in time we cannot get to extremes of losses as we will be able to prevent animals loss in time. We should not wait until a problem comes along as we will have experts without medicines” (KI F, Kongwa)

> ...."Intervention is to restrict animal movement from one place to the other, to Identify virus source and prevent it from spreading from the source. I advise clinic should be built to help people affected also health education to be given to farmers and information materials to be distributes up to household level" (KILL, Kongwa)

The Tanzania emergency preparedness and response plan has recognised the importance of improving and strengthening multisectoral collaboration in disaster management. The plan clearly stipulate specific role and responsibilities of ministries and committees formulated:-

> ...."Form a strong team at intersectoral approach when making disaster management and response teams to combat better these disasters should be of multisectoral. Not all the time all sectors will contribute the same one sector will play a major role upon the disaster at hand. Multisectoral approach is the best approach" (KIH, Dodoma)

The strength and weakness on the existing Disaster Management Policy and National RVF Emergency Preparedness and Response Plan (2011)

The study assessed specific aspects of the disaster management policy and RVF preparedness plan.

The national RVF emergency preparedness and response plan NRVF – EPRP (2011), was prepared in line and guided by the Disaster management policy (2004) with sole focus on prevention, preparedness, response and recovery from RVF since the disease has being declared a National disaster. The Government commitment to strengthen emergency preparedness and response against possible re-occurrence and spread of RVF articulates measures for prevention and control or containment of RVF at source in the event of an outbreak in Tanzania.

During RVF outbreak strong collaboration among lead Ministries including the Ministry of Livestock Development and Fisheries, Ministry of Health and Social Welfare and Ministry of Natural Resource and Tourism is important. Prime Minister's Office -Regional Administration and Local Government (PMO-RALG) has a role of monitoring preparedness and response at LGAs. The PMO-RALG in collaboration with DMD will also activate Disaster Management Committees as a form of line of communication at respective level and seek for emergency funds for control of RVF. Several committees from the Regional Disaster Management

Committee, District Disaster Management Committee, Ward Disaster Management Committee and Village Disaster Management Committee, who report directly to the Disaster Management Department, then to the TANDREC and finally information reach the Prime Minister's Office upon a disaster outbreak.

Where the MLDF, MoHSW, and the MNRT are the main ministries for the overall responsible for capacity building, awareness, coordination, early warning, surveillance, disease control and vector control on impending RVF outbreak.

CHAPTER FIVE

5.0 Discussion

This study aimed to describe factors affecting multi-sectoral collaboration response to rift valley fever outbreak in Kongwa District. The district representatives had basic knowledge on Rift Valley Fever as a zoonotic infection affecting humans and both domestic and wild animals (Métras et al, 2011). The participants were able to associate the occurrence of Rift Valley Fever outbreaks as episodes that happen after heavy precipitation, also that rift valley fever affected Dodoma region, as being located in the Rift valley hence the name of the disease. However, despite the RVF training given some respondent were not able to clearly associate the environmental conditions favouring outbreaks of Rift Valley Fever. The low knowledge among the private association indicates a gap in convey of information as related to rift valley fever in prevention, control and management between the public and the private entities for an effective collaboration to be set.

(Chevalier et al, 2010), identifies factors affecting the spread of RVF to include social cultural practices like consuming of dead animals without knowing the cause of death, low educational level of the livestock keeper and their families at risk, lack of awareness on the rift valley fever disease, presence of large number of animals susceptible to infection, (Chevalier et al, 2010) the present of the virus, presence of vectors for transmission and the geographical rift valley location of Kongwa district. This suggests that the study participants in the current study were more informed compared to the previous studies. This advice that interventions to address increasing sectoral collaboration in Kongwa District might benefit from high level of RVF awareness among professional as the current study shows.

Forecasting can predict climatic conditions that are frequently associated with an increased risk of outbreaks, and may improve disease control. In East Africa, Saudi Arabia and Yemen, RVF outbreaks are closely associated with periods of above-average rainfall. The several models in place like the response of vegetation to increased levels of rainfall can be easily measured and monitored by Remote Sensing Satellite Imagery. However, in Kongwa district the most applied form surveillance for the detection of Rift Valley Fever outbreak, as recounted is observation for suspicious symptoms in animals. Also referred to as passive surveillance. A

surveillance based on rumour investigations in both animals and humans. To apply both form of forecasting will enabled the successful development of forecasting models and early warning systems for RVF using satellite images and weather/climate forecasting data from national to the village level. A ground to use community participation and involvement. Early warning systems, such as these, could be used to detect animal cases at an early stage of an outbreak enabling authorities to implement measures to avert impending epidemics.

Prior to the 2006/07 Rift Valley Fever outbreak, weather forecast information of an impending heavy rainfall was provided. In addition, preparedness alert messages were sent through, in relation to expected RVF outbreak. However, as described the most reliable information on the 2006/07 RVF outbreak was from the media on the effects of RVF outbreak in Kenya (Munyua et al, 2010), though the district had minimal impact from the outbreak as only animals were affected, lack of an effective and concise surveillance system is still a great challenge as dependence on the information on suspicious animal behaviour is not reliable (Métras et al, 2011).

Since 2006, a robust model for forecasting and early warning systems based on the near real time climatic data was in place at global level. Alert messages from the forecasting and early warning system are sent to the relevant ministries for preparation. However, no such information was ever related by the district vertinary officers to have received any information from the ministry of livestock and fisheries development.

The impact of the 2006/07 Rift Valley Fever outbreak in Kongwa District was confusing with mixed information some related to have witnessed infected and even participated in the burial of some infected animals. While others narrated that Kongwa District was never affected because precautions were taken before the infection entered the district from neighbouring districts. For the reason that these districts were severely affected. Infection to human was not recorded nor witnessed by the official, though cases from neighbouring district come to be treated in Kongwa District. Because of the episodic nature of RVF, with outbreaks occurring on average at intervals of around a decade but sometimes twice as long, to deal with the disease is especially challenging. In the intervals between outbreaks, there is a

tendency for veterinary and the health departments' institutional memories to be lost: the people who fought the last outbreak are very often no longer in post for the next. Hence, recall bias in the total record of animals that were affected in Kongwa District played a greater role to the participants as the exact impact was not clearly indicated from the study.

The role of preparedness and response plans

Since 2000/07 outbreak, the Ministry of Health and Social Welfare together with the Ministry of Livestock and Fisheries have made a lot of efforts to ensure that the country coordinated on preparedness, prevention, control, response and recovery upon reoccurrence of a Rift Valley Fever outbreak. Developing an Emergency Measures for Control of Rift Valley Fever plan in 2007, which appoints the Prime Minister's Office (Disaster Management Department) as the overall coordinator.

To control RVF and formulation of the tasks force from the national up to the community level. Several plans were put in place since the 2006/07 to the present day. These plans show the government efforts to prepare, prevent, control and response to RVF outbreak in case of an outbreak. These formulates plans include Tanzania Emergency Preparedness and Response Plan in 2012, National Rift Valley Fever Emergency Preparedness and Response Plan in 2011, the National Integrated Disease Surveillance and Response Guidelines, 2nd edition in 2011. These plans emphasizes on the One Health Concept. A concept that strategies interdisciplinary, holistic and integrated approach to health problems and promote multisectoral integration and coordination in disease surveillance, outbreaks investigation and response to ensure strengthening of each sector and enhances multisectoral linkage to facilitate efficient utilization of limited resources, effective and prompt multisectoral capabilities for a better disease prevention and control (Busuulwa et al, 2011).

Unfortunately, in Kongwa District, it was reported that these plans are not available, most of the participants reported to have heard of the plans yet they have not seen nor read them. The study was focussed on the plan's contents. It was difficult to correlate with the issues to be addressed in the study. The district official reported not to have received any training with regards to RVF outbreak, in the verge of implementation several meetings were held and brochures on RVF were issued, otherwise basic information from expert information is always applied. Nor

existence of a disaster management task force at the district level let alone involvement of the communities as expected. Also observed during the study, neither did the disaster management focal person at the district level existed nor was such position known among the district officials.

The disaster focal person are responsible for identifying the situational risks, preparing plans and procedures on outbreaks, establishing response teams, mobilization financial and materials resources and formulation of the response team. However, lack of such posts as shared in the study has left the district unaware, uncoordinated and unprepared even in the future reoccurrence of RVF Outbreak.

National Policy factors affecting sectoral collaboration in managing response to RVF outbreak

The Kongwa District officials described that the district was not effected during the 2006/07 RVF outbreak. Upon hearing the outbreak has reached the neighbouring District of Kiteto. They started immediate precautions to include; restriction of animal movements especially among the pastoralists, quarantine and excluding grazing areas for livestock keepers, sending of alert messages and conduction of health education on the signs and symptoms related to RVF infection in animals and human beings and avoidance of animal slaughtering in public gathering like markets and long distance track stop in Mbande.

Also to include the availability of animal dip for pest control, use of modernised abattoirs and butchers, ensuring that vaccination to animals in the district and formulation of a risk management policy with full actualization of the Kongwa situational and environmental analysis (Sindato et al, 2011).

(Sindato et al, 2011) recounted the end to the 2006/07 outbreak when no more cases were reported. In the same way in Kongwa District; alerts were sent out to the communities and professionals. Being reported what is done during this silent period where there is no outbreak, the District Vertinary Office reported to continual process of health education through distribution of brochures, annual vaccination. Contradicting information on issue of RVF vaccine. Some respondent narrate that the vaccine is issued annually; others relate that the RVF vaccine was last issued during the 2006/07 RVF outbreak and the MoLFD do not have the vaccine in stock. This is

because the vaccines are only issued by development partners upon a special order from them. As reported by the DVO, RVF vaccine is inadequate and depends upon special order. The central government (MoLFD) orders it from abroad upon report of observation of RVF in animals, consequently, farmers complain of existences of experts without vaccine and they incur a lot of animal loss when disease attack. The situation of vaccine is not only a district challenge, but also a national one. RVF vaccine being inadequate with a short lifespan of four years given the episodically nature of the disease (De Boer et al., 2010).

The availability of policies, plans and guideline that focus on Rift Valley Fever and emphasizes on multisectoral collaboration are present but unfortunately the situation in Kongwa District was indifferent as most officials relate to have not heard or seen nor read the plans and policies mentioned to them, some relate to have read the disaster management policy but not to remember as after an event of outbreak, they go back to their daily official duties thus not easy to remember what had happened. Policy translation as stipulated with the regional official who oversee and supervise policy implementation in the districts, relates that policy is reflected upon the problem at hand and what the policy says on the issue. What the region does is to formulate strategies depending on the policy involved; they cannot go beyond the policy. However, unavailability of hard copies of policies and plans was unfortunate to ensure concise interpretation and analysis of policies in the study. In addition, it was explained that policies are not well communicated from the national, regional and district level as stipulated in the policies.

Resource mobilization, allocation and sustainability

As experienced in many government offices resources are limited. However, in Kongwa Districts the ability to collect financial support and human resource is possible through redirecting all departments and small financial budget to focus on the problem at hand, it is also advised by the regional representatives for districts to set aside budgets for emergency though these are not yet practical as anticipated. In the situation of time as a resource it is not actually observed as response to outbreak take time until there is devastating effects as for the 2006/07 outbreak it was until there was reported increase rate of infection and mortality that efforts and resources were directed to curb the situation unfortunately still the region was still not

adequately prepared as they lack laboratory equipment, reagents and expertise, using Kenya's laboratory and mobilizing experts was time consuming (Fyumagwa et al, 2011).

The Ministry of Health and Social Affairs to recognise decentralization, has empowered local government to support in prioritizing and planning their health and social welfare interventions based on priority needs. Yet as by the participants, RVF is a disease of public importance yet it is hard to be incorporated in the CCHP because of episodic nature. In addition to lack of certainty of its reoccurrence RVF is viewed more of a vertinary problem and it is the role of the vertinary departments to ensure its control and prevention and only the health department gets in when human are infected. However, the revised Integrated Diseases Surveillance and Respond second edition has Rift valley fever is listed among the remerging and emerging disease of public importance that were once neglected.

Intersectoral isolation between the Health and Livestock Ministries

Multisectoral collaboration in addressing Rift Valley Fever outbreak was addressed in different aspects of intersectoral recognition, technical support and defined roles and responsibilities, unfortunately, it was recounted that collaboration between the council departments is not recognised until there is an outbreak also that the collaboration is not strong due to lack of resources (Mbugi et al, 2012). In this study collaboration with the private stakeholders was also recognised in time of outbreaks. It was reported that this kind of relationship never existed in Kongwa before. Previous studies have highlighted advantages and disadvantages were mentioned from previous involvement in multisectoral collaboration, collaboration work is much faster compared if either the health or the vertinary department worked alone (Mandell & Flick, 2010), sharing of knowledge and expertise expands the technical knowhow. National RVF emergency preparedness plan proposed for the formation of disaster management teams located at the regions, district up to the community. However, contrarily to what is documented in the plan no such team existed. Political participation in multisectoral collaboration is quite important and much recognised by the district officials. All health intervention to be conducted, be budgeted upon must pass through the consent of the councillors Management Team same applies in the case of an outbreak councillors are involved from the initial stage of preparation

to implementation. Councillors are viewed as a vital tool to reach the communities as they have earned more of the community trust compare to the government officials, once councillors are fully informed it is a granted that the project will successfully reach the communities and be implemented. Councillors are recognised by the people and are very good in community sensitization and mobilization.

Several interventions were put in place for better strategic prevention of Rift Valley Fever outbreak in Kongwa District. Health education and awareness creations through the use of traditional folk music to reach to the communities, ensuring that the vaccine is available all the time not only during the outbreak but as a preventive measure before an outbreak take place and restriction of animals' movements. Multisectoral collaboration should be supported and teams be created and capacitated involving different sectors working towards a common goal (URT, 2012).

Intersectoral flow of information and communication

Top – down flow of communication administratively among the government offices is systematic to ensure that information is correct and well communicated within the different departments in the system. Participants related the existing form of communication strategies in place once an outbreak occurs. Outside the formalities of the administrative structure, information once communicated to the media it has no granted reliability or correctness if information.

The strength and weakness Disaster Management Policy and National RVF Emergency Preparedness and response Plan (2011)

There are several strengths associated with NRFV – EPRP and the Disaster Management policy. The existence of these plans and policies that are backed up by the government is an advantage to ensure successful implementation. It has shown the government recognition to the RVF as a disease of public importance and a national disaster. These plans have the advantage for an elaborated Government Institutional Structure from the national to the village level. Existence of a well instituted National Disaster Management Unit in the Prime Minister's Office that is supported by the efforts and multi sectoral collaboration of ministries such as the MLDF, MoHSW, and the MNRT, who are well advanced experts in the areas of

capacity building, awareness, coordination, early warning, surveillance, disease control and vector control right from the region, district, ward and the village.

Unfortunately, NRFV – EPRP and the Disaster Management policy has displayed weakness in the coordination, implementation and monitoring and evaluation, as mention in the study, the mention disaster management committees from the region up to the village do not exist, they are only documented nor do the official in the districts, ward and the region are aware of such make up. Resources are inadequate may it be trained human resources in the health and vertinary departments, inadequate equipment and infrastructures especially the laboratory in both the health and vertinary departments. Importantly, inadequate public awareness not only to the public service officials but the communities lack adequate information on RVF preparedness, prevention, control and recovery to enable them participate in the overall control of RVF outbreaks. In all that was related lack of budgets for emergencies in the district, has left district incapacitated to promptly act upon an emergencies as time is always wasted in resource reallocation and collection of the private stakeholders support. The use of inefficient and locally available surveillance systems for RVF early detection and forecast, also the vertinary department lack sufficient support and capacity to manage surveillance for early prevention of the RVF outbreak.

5.1 Conclusion

From the 2006/07 rift valley fever outbreak experience in Tanzania, a lot of amendments have being put in action. All in all, a great need for high-level recognition that animal and human health are inextricably linked and that the veterinary and public health sectors share the common goal of protecting, promoting and improving the health and well-being of human and animals as well.

For zoonotic diseases such as the RVF requires an efficient surveillance and control, that human and animal health issues be merged creating a collaboration in the public health agenda. These interactions are essential for implementing effective zoonosis control programmes. Although the benefits of multisectoral collaboration are recognized by all sectors involved in zoonosis surveillance and control, collaborative efforts to date have been weak due to technical and administrative obstacles, inadequate communication links, poor participatory approaches, hardly implementable plans and inadequate resources to put these emergency plans in action and creating an elaborate

preparedness and response infrastructure. However, multisectoral collaboration can be strengthened by establishing coordination structures that include technical and administrative support from the national to the districts and the village level. Which up to now they are left out or inadequately involved.

5.2 Policy Implication

The development of different plans and guidelines focused in preparedness and response to rift valley outbreaks has identified the sectors involved and outlining their role and responsibilities in RVF preparedness, response control and mitigation. Yet awareness and knowledge of their existence is not recognisable in the District. It is thus important that the Ministry of Health and Social Welfare and the Ministry of Livestock and Fisheries Development be in the frontline to ensure effective communication are in line and increased level of awareness, involvement and participation on RVF preparedness and response plans and guidelines among the regional officials, District officials and the communities.

5.3 Recommendations

- Rift valley fever outbreak preparedness and response plans and policies should be translated and implemented in the district up to the village level. The relevant ministries should not let much longer time to elapse before ensuring such documents are available and in action in the districts.
- Rift valley Fever should be recognised as a disease of public health importance despite its episodic nature, should be prioritised in the districts Council Comprehensive Health Plan and emergency budget be allocated.
- Several modernised RVF prediction and surveillance tools and technology are already available, district and ward official should be capacitated and be enabled to access these prediction tools to forecast RVF in their area that will make is quicker to act upon instead of the present dependency of Ministerial direction for action.
- As stipulated in the NRVF EPRP, on creation of focal people from the village level should be in practise rather than being documented only, strengthening capacity of district, wards and village workers in preparedness, response,

prevention and recovery of zoonotic diseases outbreaks for early outbreak detection and containing in case it occurs

- Multisectoral collaboration with private sector should not act during an outbreak but be strengthen through capacity building, so as to be recognised as useful resources in early recognition, detection and notification of RVF before an outbreak and health education should be given a priority to ensure even the community is full aware to enable them to participate. A grassroots approach to strengthen multisectoral collaboration

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APPENDICES

6.0 Informed Consent Form (English Version)

Inform Consent Form No……

Hello, my name is ……...….. On behalf of Muhimbili University of Health and Allied Sciences (MUHAS), we are doing research on factors affecting multisectoral collaboration response to rift valley fever outbreak in Kongwa District.

The aim of the study

The aim of this study is to find out factors affecting multi-sectoral collaboration response to rift valley fever outbreak in Kongwa District. At the end of this study, the findings will contribute to the existing knowledge enable suggestions for proper intervention measures for an effective plans ensuring coordinated multisectoral collaboration in responding to rift valley fever outbreaks in the future.

Procedure

I would like you to participate in this study. If you choose to participate in this study, an interviewer will ask you a series of questions about your background, your knowledge and awareness general information on 2006/07 Rift valley fever outbreak, your knowledge on RVF outbreak preparedness, response, prevention and mitigation and recovery, your office action on resource allocation and your opinion on multisectoral collaboration in regards to response to RVF outbreak in 2007. We will do a tape recording in the interview for raw material information. The in-depth interview will take about 30 minutes to finish.

Confidentiality

All the information obtained from you will be kept private, only study staff will be able to see any information you give us. The information will be used for the purpose of the research study only and not for any other reason. Your name or anything else that might identify you will not appear in any reports, instead number will be used.

Right to refuse or withdraw

It is your choice to be in this study, you can skip any question you do not want to answer. You are free to drop out from the study whenever you feel like, the drop out will not affect the study. However, we would like you to participate in this study because your views are very important.

Benefit

Your participation in this study will provide useful information for us and other stakeholders.

Risks

We do not expect any harm to you or your family as a result of participation in this study

Whom to contact

In case of any inquiry please contact the principal investigator, Ms Eliaisa Riziki Rama. MUHAS, P. O. BOX 65001, Dar es Salaam, mobile number 0715-457948 or Dr. Ezekiel Mangi, MUHAS, P. O. BOX 65001, Dar es Salaam.

I ……... have read or been told about the contents of this form and understand. My questions have been answered. I agree to participate in this study.

Signature of participant……...

Signature of witness (if participant cannot write)……..…..

Date……..……..…

Signature of researcher/research assistant …….

6.1 Ridhaa ya kushiriki kwenye utafiti (Swahili)

Namba ya utambulisho: _____

Ridhaa ya kushiriki kwenye utafiti

Habari? Naitwa……., kwa niaba ya Chuo Kikuu cha Afya na Sayansi ya Tiba Muhimbili (MUHAS), ninakusanya takwimu kwa ajili ya utafiti kuhusu mambo yanayoathiri ushiriki wa sekta mbalimbali kuchukua hatua katika kudhibiti mlipuko wa homa bonde la ufa wilaya ya Kongwa.

Madhumuni ya Utafiti

Dhumuni kuu la utafiti huu ni kufahamu mambo na sababu ambazo zinaathiri ushiriki wa sekta mbalimbali katika kuchukua hatua na kudhiti mlipuko wa homa bonde la ufa, wilaya ya Kongwa. Mwisho wa utafiti huu, matokeo yake yatasaIn Depth Interview a kuchangia katika kuongeza uelewa wa mipango mbali mbali katika kuendeleza na kudumisha ushiriki bora wa sekta mbalimbali katika kudhibiti na kupunguza makali ya maafa yatokanayo na mlipuko wa homa bonde la ufa kwa siku za usoni.

Nini kinahitajika ili kushiriki

Tungependa kutambua ushiriki wako katika utafiti huu, kama utachagua kushiriki katika utafiti huu mtafiti au mtafiti msaIn Depth Interview zi atakuuliza mfululizo wa maswali kuhusu ufahamu, historian a elimu yako juu wa mlipuko wa homa bonde la ufa wa 2006/07. Ufahamu wako wa maandalizi, hatua zilizochukuliwa, kinga na udhibiti uliyotekelezwa na ofisi/kitengo chako katika mlipuko wa homa bonde la ufa wa 2006/07. Na maoni yako kuhusu ushiriki wa sekta mbali mbali katika kuchukua hatua na kudhibiti mlipuko wa homa bonde la ufa wa 2006/07. Katika mahojiano haya, mahojiano ya sauti yatarekodiwa. Mahojiano haya yatachukua muda wa dakika 30 kakamilifu.

Usiri

Taarifa zitakazokusanywa kupitia dodoso hili zitakuwa ni za siri ni Mtafiti mkuu na msaIn Depth Interview zi wake ndio watakuwa na ufahamu huu na hairuhusiwi mtu mwingine asiyehusika kuwa na taarifa hizi. Taarifa hizi zitatumika kwa madhumuni

wa utafiti huu na sio kwa sababu zingine. Fomu hii haitahitaji jina lako ila namba ya utambulisho wa fomu ndio zitatumika.

Haki ya kushiriki au kujitoa au vinginevyo

Ushiriki katika utafiti huu ni wa hiari, unaweza kuruka swali ambalo hutaki kulijibu au kuacha kushiriki katika utafiti huu hakutakuwa na adhabu yeyote na hutapoteza stahili zako, endapo utaona ni vema kufanya hivyo. Fahamu kuwa ushiriki wako katika tafiti hii ni jambo la muhimu.

Faida

Kama utakubali kushiriki katika utafiti huu, tunategemea kwamba taarifa tutakazozipata kutoka kwako zitakuwa na maana kwetu na kwa wadau wengine katika sekta mbali mbali zinazohuzika na kudumisha ushiriki wao katika mlipuko wa homa bonde la ufa kwa siku za usoni

Madhara

Hatutegemei ya kwamba utapata madhara yoyote kwa kushiriki kwako katika utafiti huu japo baadhi ya maswali utakayoulizwa ni ya binafsi zaIn Depth Interview.

Nani wa kuwasiliana naye

Endapo utakuwa na maswali kuhusiana na utafiti huu , unaweza kuwasiliana na Mtafiti mkuu wa utafiti huu **Ms Eliaisa Riziki Rama** wa Chuo Kikuu cha Afya na Sayansi ya Tiba Muhimbili, SLP 65001, Dar es salaam, simu ya kiganjani 0715 – 457948 au **Dr Ezekiel Mangi**, S.L.P 65001, Dar es salaam.

Sahihi: Je umekubali? Mshiriki amekubali ……. ..... Mshiriki hajakubali ……..

Mimi _____ nimesoma maelezo ya fomu hii.Maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu

Sahihi ya mshiriki……

Sahihi ya shahIn Depth Interview (Kama Mshiriki hawezi kusoma/kuandika)

Sahihi ya mtafiti msaidizi…….

Tarehe ya kutia sahihi ya Kushiriki……

6.2 Key informant Interview Guide (English)

Introduction component	Name of the interviewer:..... Date of interview:..... Key informant interview guide Number:.....
Section A.	National:.....Department:..... Region:.....Department:..... District:.....Department:..... Sex of the informant :..... Duration in office/ Department .....
Section B.	**General Rift valley fever outbreak overview** 1. What do you know about Rift Valley Fever? (**Probe**: causative agent, transmission, host susceptibility, clinical features, diagnosis) 2. What are the risk factors associated with RVF in your area? (**Probe:** for specific social, cultural, economic, geographic factors that might explain the spread in the district) 3. What are the condition associated with occurrence and mature of RVF? Why did different districts in Tanzania experienced different impact of RVF Outbreak?(**Probe**: climatic, geographical and ecological factors) 4. What were the sign were associated with early detection RVF in your area? (**Probe** for traditional and national surveillance methods in place for RVF early detection?) 5. Are you aware of how many people and animals were affected in your area? (**Probe** on the aspect of gender? Age? Occupation?) **Preparedness, response, prevention & mitigation and recovery to rift valley fever** 6. Do you have any RVF preparedness and response plan*? Ask for a hard copy? If they don't have one ask for explanation?* What are the key issues addressed in it?

	7. In absence of a plan, what strategies do you employ during outbreaks? Can you explain to me what specific actions you (your office) took during the 2007 outbreak to contain spread of outbreak in this area? 8. What intervention (s) in place for preparedness and response to an imminent RVF outbreak in your area? (**Probe**: in term of capacity, human resources, budget, modern machine, trainings, public involvement, private sector involvement) 9. What are the measures undertaken in prevention and mitigation of RVF outbreak in your area? (Probe locally based and scientific strategies in place?) 10. What strategies does your office/department/organisation take in relation to recovery from the Rift valley fever outbreak? 11. Is there any existing policy for the control and management of this disease? **Probe:** what does it say? • What does it say about the collaboration of different sectors in the control and management of this disease? • How do you measure its strengths in terms of its effectiveness as far as the cross-sectoral collaboration is concerned? • Are there any weaknesses in the existing policy? **Resources allocation to rift valley fever** 13 What is the capacity of nation/region/district/village in the containment of the imminent RVF outbreak?(**Probe:** human resource, finances/budgetary allocations, equipment, laboratory detections and vaccines) 14 In your opinion, what is time as a resource means in the aspect to response to rift valley fever outbreak? (**Probe**; time of preparation and containment of RVF outbreak?) 15 What is the aspect of resources sustainability as related to the nation/region/district/village in response to RVF outbreak? 16 To what extent is RVF integrated in CCHPs? Are there resources allocated to RVF response? Is RVF one of the priority diseases?(If NOT, why) 17 Are there any existing policies, guidelines, strategic plans associate with RVF in your area? How are these documents relevant in relation to response to RVF outbreak? How effective are they? How are they operationalized?

	Multisectoral collaboration in response to rift valley fever outbreak 18 In your own opinion, do you think multisectoral collaboration is being practiced in addressing rift valley fever outbreak in Tanzania? Yes/NO. If Yes, how? 19 In your own opinion, do you think there is intersectoral recognition in relation to these multisectoral collaboration? Yes /No. If yes, How? (**Probe**: in term of skills, technical support, resources, expertise) 20 What are the technical support contributed by your department/office/organisation in the multisectoral collaboration? 21 Are there defined roles and responsibilities stipulated in this multisectoral collaboration? (**Probe**: where are they being stipulate? Are the sectors aware?) 22 Based upon experiences from recent outbreak, what can you say about the collaboration among local population, medical/public health personnel and veterinarians in managing the recent RVF outbreak? 23 What are the opportunities and barriers that present themselves in multisectoral collaboration in response to rift valley fever outbreak? 24 How are the local NGO/Associations/private stakeholders involved in the overall response to RVF outbreak? How their efforts are recognises and participation appreciated? 25 How does information concerning Rift valley fever communicated in the intersectoral aspect? How effective are the communication strategies put in place? 26 How does information pertaining RVF from the offices (multisectoral) reach the communities? What are the strategies in place for the flow of information? (**Probe** for intersectoral and intersectoral communication?) 27 In your own opinion. How does political will affects the overall aspect of preparedness and response to RVF outbreaks?(**Probe**: financial support, community acceptance, community participation) 28 Do you think that political leaders' involvement in multisectoral collaboration in response to RVF outbreak will be effective?

	How? 29 If you were to suggest for an intervention targeting RVF, what would you suggest to be the main components to be addressed by the intervention? (**Probe** for a variety of interventions like case management related interventions; health education and vector control efforts) 30 What are your suggestions for better management and control of RVF outbreaks in this context? – **Probe** for best practices, how to overcome the barriers?)