# ASSESSMENT OF IMPLEMENTATION OF INTERNATIONAL HEALTH REGULATIONS (2005) ON PREVENTING INFECTIOUS DISEASES: A CASE STUDY OF JULIUS NYERERE INTERNATIONAL AIRPORT, DAR ES SALAAM.

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**MA (Health Policy and Management) Dissertation**

**Muhimbili University of Health and Allied Sciences**

**November, 2012**

# ASSESSMENT OF IMPLEMENTATION OF INTERNATIONAL HEALTH REGULATIONS (2005) ON PREVENTING INFECTIOUS DISEASES: A CASE STUDY OF JULIUS NYERERE INTERNATIONAL AIRPORT, DAR ES SALAAM.

**By**

**Edith Bakari**

**A Dissertation Submitted in a Partial Fulfillment of Requirements for the award of the Degree of Masters of Arts in Health Policy and Management of the Muhimbili University of Health and Allied Sciences.**

**Muhimbili University of Health and Allied Sciences**

**November, 2012**

## CERTIFICATION

The undersigned certifies that he has read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled: **Assessment of implementation of International Health Regulations (2005) on preventing infectious diseases; case study of Julius Nyerere International Airport, Dar es Salaam,** in partial fulfillment of the requirements for the award of the Degree of Master of Arts in Health Policy and Management of Muhimbili University of Health and Allied Sciences.

_____

Dr. Gasto Frumence

(Supervisor)

Date: _____

## DECLARATION AND COPYRIGHT

I, **Edith Bakari**, declare that this dissertation is my own work and has not been presented for the award of the degree in any other university/ institution for similar or any other degree award.

Signature…….…… Date…….....

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## DEDICATION

To my beloved son Evans, my nieces Leah and Jenitha and my nephew Deogratias whose sufferance in my absence was hurdle, but it may hasten your efforts academically. May your life be sincerely and honestly managed.

## ABSTRACT

**Background:** The International Health Regulations (IHR) (2005) is a legal instrument binds all World Health Organization (WHO) Member States in order to prevent and control the Public Health Emergencies of International Concern (PHEIC). In this connection, the points of entry (POE) have been identified to be potential areas for effective interventions. In the 58th World Health Assembly (WHA) held in Geneva, Switzerland in 2005 WHO Member States agreed to strengthen the identified core capacities including those needed at POE towards the implementation of IHR (2005). Therefore this study intended to assess the implementation status towards the IHR (2005) requirements at Julius Nyerere International Airport (JNIA), Dar es Salaam.

**Objectives:** To assess the implementation of the International Health Regulations (2005) in prevention and control of infectious diseases.

**Methods:** A cross sectional descriptive study using the qualitative approach conducted at the Ministry of Health and Social Welfare (MoHSW), WHO and JNIA. In-depth interviews, focus group discussion (FGD) and documentary reviews were used to obtain the information. Respondents were purposively enrolled. Thematic analysis was used to generate the report.
**Results:** There was correct understanding of the IHR (2005) to some of key decision makers at the MoHSW. Officials at the MoHSW and JNIA were aware of the existing national acts and guidelines used to regulate health issues. Nevertheless they lack mechanisms for information sharing. Tanzania has a total of 42 POE, none of them has been designated to implement IHR (2005). The IHR (2005) implementation at the POE was under various departments uncoordinated. There were clear communication channels at JNIA, which enhanced reliable risk communication. Emergence preparedness and response to public health events at JNIA was far away to be realized since most of crucial issues were not in place.
**Conclusion and Recommendation:** Harmonised public health policies, legislations, guidelines and practice could improve international travel and trade. JNIA was proposed as designated POE to implement IHR (2005).

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## ACRONYMS

| | |
|---|---|
| CHMT | Council Health Management Teams |
| DC | District Commissioner |
| DED | District Executive Director |
| DMO | District Medical Officer |
| EAC | East African Community |
| EPR | Epidemic Preparedness and Response |
| FGD | Focus Group Discussion |
| HIV | Human Immunodefiency Virus |
| IDSR | Integrated Disease Surveillance and Response |
| IHR | International Health Regulations |
| JKIA | Jomo Kenyatta International Airport |
| JNIA | Julius Nyerere International Airport |
| KIA | Kilimanjaro International Airport |
| MNH | Muhimbili National Hospital |
| MOF | Ministry of Finance |
| MoHSW | Ministry of Health and Social Welfare |
| MSD | Medical Store Department |
| MUHAS | Muhimbili University of Health Allied Sciences |
| NFP | National Focal Point |
| NIMR | National Institute for Medical Research |
| NOMA | Norwegian Masters |
| PHEIC | Public Health Emergencies of International Concern |
| PMO | Prime Ministers' Office |
| POE | Points of Entry |
| PPE | Personal Protective Equipment |
| RAS | Regional Administrative Secretary |
| RC | Regional Commissioner |
| RHMT | Regional Health Management Teams |

| | |
|---|---|
| RMO | Regional Medical Officer |
| SARS | Severe Acute Respiratory Syndrome |
| SEAR | South East Asia Region |
| SEARO | WHO Regional Office for South-East Asia |
| SOP | Standard Operating Procedures |
| TAA | Tanzania Airport Authority |
| TB | Tuberculosis |
| UK | United Kingdom |
| UN | United Nations |
| WHA | World Health Assembly |
| WHO | World Health Organisation |
| WHO AFRO | World Health Organization Regional Office for Africa |

## OPERATIONAL DEFINITION OF TERMS:

**Aircraft** is a plane making an international voyage.

**Airport** is a place where international flights arrive or depart.

**Competent authority** means an authority responsible for the implementation and application of health measures.

**Core capacity**: The International Health Regulations (IHR) 2005 define core capacity requirements for each of the 194 countries that are party to the IHR to ensure that all countries have the ability to detect and respond appropriately to any potential public health emergency of international concern (PHEIC). There are eight core capacity requirements, namely; 1) National legislation, policy and financing, 2) Coordination and national focal point (NFP) communication, 3) Surveillance, 4) Response, 5) Preparedness, 6) Risk communication, 7) Human Resources and 8) Laboratory

**Crews** are persons on aircraft, ship, train, road vehicle or other means of transport who are not passengers.

**Event** is a manifestation of disease or an occurrence that creates a potential for disease.

**Infection** is the entry and development or multiplication of an infectious agent in the body of humans and animals that may constitute a public health risk.

**Inspection** is the examination, by the competent authority or under its supervision, of areas, baggage, containers, conveyances, facilities, goods or postal parcels, including relevant data and documentation, to determine if a public health risk exists.

**International traffic** is the movement of persons, baggage, cargo, containers, conveyances, goods or postal parcels across an international border, including international trade.

**Isolation** is the process of separation of ill or contaminated persons or affected baggage, containers, conveyances, goods or postal parcels from others in such a manner as to prevent the spread of infection or contamination.

**Medical examination** is the preliminary assessment of a person by an authorized health worker to determine the person's health status and potential public health risk to others, and may include the scrutiny of health documents, and a physical examination when justified by the circumstances of the individual case.

**National IHR Focal Point** means the national centre, designated by each country, which is accessible at all times for communications with WHO IHR Contact Points.

**Point of entry** is a passage for international entry or exit of travelers, baggage, cargo, containers, conveyances, goods and postal parcels as well as agencies and areas providing services to them on entry or exit.

**Port** means a seaport or a port on an inland body of water where ships on an international voyage arrive or depart.

**Preparedness** is a set of activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.

**Prevention** means measures aimed at stopping a event from occurring and/or preventing such occurrence having harmful effects on communities (or groups of individuals) such as vaccination programmes by the health sector.

**Public health emergency of international concern** is an extraordinary event which is determined, as provided in International Health Regulations (2005) to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response.

**Public health surveillance** is a systematic collection, analysis and interpretation of data and information about diseases and exposure to environmental hazards for use in planning, implementing and evaluating the public health trends.

**The International Health Regulations (IHR 2005)** means an agreed code of conduct to ensure global public health safety, communication, collaboration, information sharing, surveillance and response to protect against the international spread of serious risks to public health and minimize unnecessary restrictions in traffic and trade. This was adopted in 1969 and revised in 2005 to broaden its application and reflect the current alert and response.

**Response** means all activities taken during or right after an event that addresses the immediate and short-term effects of an emergency. Response includes immediate actions to save lives, protect property, and to meet basic human needs. [1]

# CHAPTER ONE: INTRODUCTION

## 1.1 Background Information

### 1.1.1 International Health Regulation (2005)

In 1800s the global community was recognised to focus on selected diseases particularly cholera, plague and yellow fever. Quarantine was used to prevent the spread of these diseases across international borders. This was built on the first International Sanitary Convention of 1892 which later became the International Sanitary Regulations. The convention was adopted by WHO Member States in 1951. The regulations were revised and renamed the International Health Regulations in 1969 [2].

Later on, these regulations underwent several transformations which resulted into amendments of the Regulations in 1973 and 1981. The revised IHR (2005) has broadened its application to reflect the global disease surveillance, alert and response. It is a global legal instrument that binds all 194 Member States of World Health Organization (WHO). The regulations focused on preventing, protecting against, control and provide public health response to international spread of diseases that are corresponding with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade [1,3].

Part IV of IHR (2005) is all about the issues related to points of entry (POE). The state has to identify competent authorities at each designated POE to embark on the following tasks:

- To determine control measures to prevent local and international spread,
- To conduct laboratory analysis and logistical assistance e.g. equipment, supplies and transport;
- To provide direct link with other key players;
- To communicate, inform available health facilities, POE and other key operational areas for dissemination of information and recommendations from WHO and in other countries;
- To establish, operate and maintain a national public health emergency response of multi-disciplinary and multi-sectoral on public health event of international concern;

- To provide 24 hours 7 days (24/7) health services at each point of entry.

The core capacities in the revised IHR (2005) include the national legislation, policy and financing, coordination and national focal point (NFP) communication, surveillance, response, preparedness, risk communication, human resources and laboratory. The designated POE should have the stated core capacities all the time for controlling and responding to events of the public health emergency of international concern (PHEIC) [1, 4].

### 1.1.2 Emerging and Re-emerging Diseases

The emergence and re-emergence of infections formerly thought to be controlled have changed the face of public health across the world. It was clearly demonstrated by emergence of Severe Acute Respiratory Syndrome (SARS) and pandemic influenza (H1N1) 2009 [4]. Due to changes in human, animal, and vector behaviours as well as environmental pressures, the world is experiencing new health risks while others including smallpox have been eradicated worldwide [5]. The existing threat of great international concern are emerging of new diseases such as SARS, pandemic influenza, Ebola; and re-emerging of old diseases such as tuberculosis (TB), anthrax, foot and mouth disease, rabies and so on. The rapid increase in travel has reversed the importance of traditional quarantine measures which served the world so well, but effective surveillance systems at the POE remains crucial [6]. Therefore, the emerging and re-emerging diseases worldwide demand critical attention on risk assessment, preparedness and response of each country to prevent and control the spread of diseases.

### 1.1.3 Points of Entry

The POE are challenging places to work as they involve the variety of transportation of items, people from different areas of the world with their different cultures. This movement demand the health related services all the time (day and night) and in all type of the weather. Therefore, appropriate health and safety measures to manage the associated risks need to be instituted at any POE [7].

Airport authorities and other POE should closely collaborate with health authorities in public health surveillance in order to identify health related issues and trace the causes in order to

control and prevent. To identify sources of infections among air travellers can be challenging as it can be scattered quickly upon arrival. It is necessary to strengthen the surveillance system at the POE [8]. Health services at POE do monitor and evaluate range of items and people entering or leaving the country. It controls and prevents infectious diseases transmitted through passengers, vessels, cargoes as well as water and foodstuff [9].

Kenya has been prepared to prevent and control infectious diseases at the Jomo Kenyatta International Airport (JKIA). Assessments of suspect or sick passengers are undertaken at the isolation space at airport. History is taken, medical examination and other appropriate health services are provided. The conveyance is treated against sources of infection and contamination, and according to source of infection, the conveyance may be denied entry. [10]. In Nigeria, health officers at POE have among others, the responsibility of taking a control measures over the infected or suspected ships arriving from foreign port or outgoing ships [11].

In July 2009, the Chief Medical Officer in India instructed all Port Health Officers to screen all international passengers and crews coming to India; in case any passenger detected of having flu like illness should be isolated for further clinical medical examination. The measures were aiming to prevent the epidemic of Influenza A H1N1 [12]. Standard Operating Procedures (SOP) for POE insist the presence of authorities with adequate capacity to respond to public health, planning for emergency of international concerns and meet the health needs of travelers, both in coming and out going [13].

From unpublished report of Ministry of Health and Social Welfare (MoHSW)-Integrated Disease Surveillance and Response (IDSR), Tanzania has experienced several outbreaks and infectious diseases from within and neighborhood countries like measles, cholera, rift valley fever as well as influenza A (H1N1) due to interrelation and trade along the borders and also refugees due to civil and political instability in their country of origin [14].

Tanzania, like other WHO Member States, is bound by all international regulations and resolutions and is expected to adopt the new initiatives. There are 42 official points of entry

including airports, sea ports, lake ports and dry ports. These are the special areas that need to have good organization and coordination in the whole process of implementation of IHR (2005).

## 1.2 Problem Statement

Due to enhanced interaction in business and other developmental activities, there is a possibility of spread of diseases from one area to another if prevention and control measures are not well organized. The main worry in the history of epidemics has been the disease control in freely movement of people, trade and transportation [15]. Many countries are experiencing unwanted and poor quality of goods for human health like foods, drugs, chemicals and cosmetics entering into their countries. These cause occurrence of biological, chemical and radiation hazards [16].

The infectious diseases have no boundary; it is presumed that if not properly managed, can affect many people in many countries in the world. Emerging and re-emerging diseases have been reported in different places in the world. For example in Africa, Avian Influenza has occurred in Burkina Faso, Djibouti, Egypt, Ivory Coast, Niger, Nigeria and Sudan [17].

Tanzania is also a centre of international travel and it is very unsecured and vulnerable to many international diseases and other cross border health threats. All WHO Member States including Tanzania were required to start implementation of IHR (2005) within five years from June 2007. An emphasis was to strengthen and maintain the required core capacities [2]. The implementation of these regulations among the countries was at different stages. Among other shortcomings, lack of scientific knowledge and capacity to enforce public health measure hindered the prevention and control of outbreaks in most developing countries [15]. In Tanzania, the communicable diseases have been given a special attention in public health. The country has established routine surveillance system; Integrated Disease Surveillance and Response (IDSR) to monitor notifiable diseases such as cholera, plague, yellow fever, rift valley fever, Ebola and avian influenza [18]. The link between the public health surveillance systems and POE in preventing and control of infectious diseases has the potential impact among core capacities of IHR (2005).

The study attempt to assess the efforts made towards the implementation of revised IHR (2005) at the JNIA as one of points of entry in Tanzania.

### 1.3 Rationale of the Study

All 194 WHO Member States including Tanzania agreed to implement the IHR (2005) since it has came into effect on 15th June 2007 [3]. It was agreed to develop and strengthen core capacities at chosen international ports, airports and ground crossing by June 2012. This legal instrument contain rights and obligation for countries concerning prevention, surveillance and response health measures applied to international travelers at POE. Regarding the public health response, articles 5 and 13 of the IHR (2005) state that each country shall develop, strengthen and maintain as soon as possible but not later than five years from the entry into force of this regulations, the capacity to respond well and quickly to PHEIC as set out in the core capacity requirements for surveillance and response [3].

There was little documented on the implementation of IHR (2005) at POE, particularly at airports in Tanzania. Thus, the findings from this study have provided the understanding on the implementation status in relation to requirements of IHR (2005) at the JNIA in Dar es Salaam, Tanzania. It has shown the discrepancies between existing and desired situation towards the IHR (2005) requirements.

### 1.4 Research Questions

1. What is the implementation status at JNIA as far as IHR (2005) is concerned?
2. What are the capacities designed to detect, notify, report and respond to public health emergence of international concern at JNIA?

### 1.5 Research Objectives

#### 1.5.1 Broad Objective:

To assess the implementation of the International Health Regulations (2005) in prevention and control of infectious diseases at JNIA.

#### 1.5.2 Specific Objectives:

1. To assess the status of implementation of the IHR (2005) at JNIA.

2. To determine the capacity for detecting, notifying, reporting and responding to public health emergence of international concern at JNIA.

## 1.6 Conceptual framework

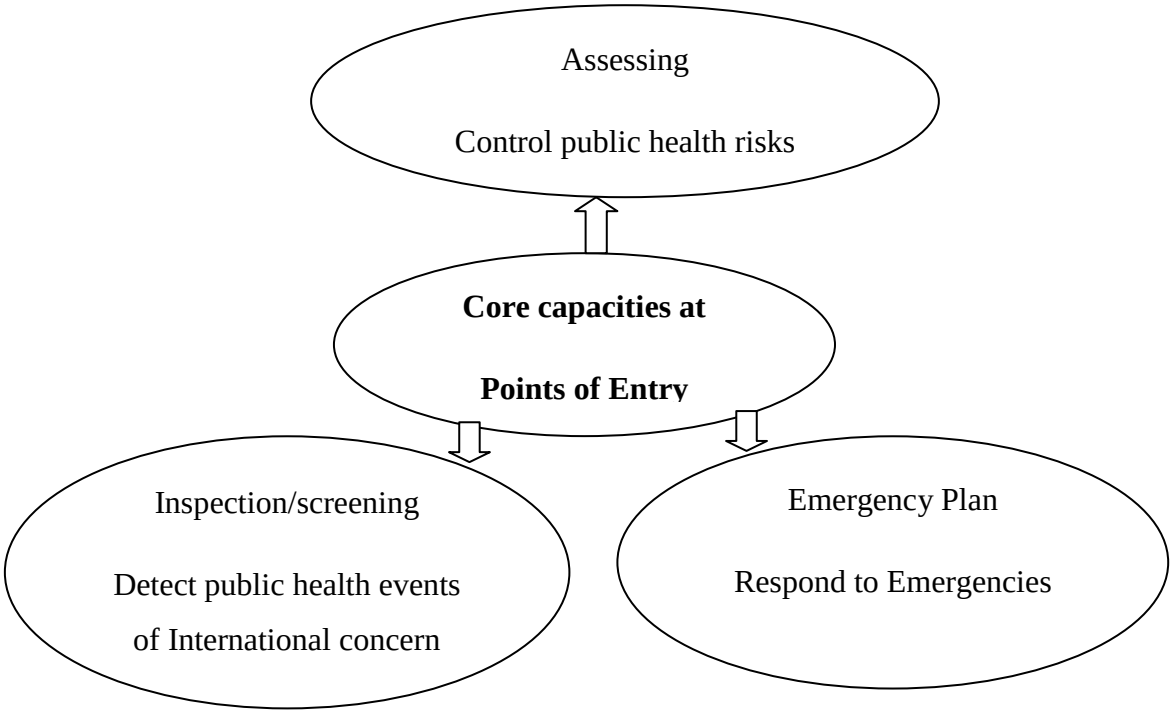


**Figure 1: The Core Capacities at Points of Entry**

The conceptual framework above shows that in order to control the public health risk, to detect PHEIC and respond to emergencies, the core capacities at POE should be developed and strengthened to be able to conduct the risk assessment, develop emergency plan and conduct regular screening. These core capacities are required to respond to events that may constitute a public health emergency of international concerns at POE. These include provision of appropriate medical services to ill or suspected travelers, inspection of conveyances and ensure safe facilities and environment at POE. It will enhance the containment of diseases at the sources and minimize the spread at the wide range. The POE should be well organized to assess the health risks and have a plan to appropriately respond on the public health emergence of international concern.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Global Threat

Movement of people and goods across national boarders are in very big numbers beyond compare in human history. In the past, the quarantine and trade restrictions were effective measures to control the importation of diseases from one country to another. However, it has social and economic implications on travel, trade and tourism [19]. For example, tens of millions of birds (wild and domestic) were killed during Avian Influenza outbreak. Asia faced a hard time as exports and imports were banned to France and US in 2006 and 2008 respectively [20].

The emergence and re-emergence of international diseases threat the public health in this era of international travel and trade in the world. This called upon the revision of IHR adopted in 1969. The purpose was to prevent, protect, control and provide a public health response to the international spread of disease in appropriate ways which avoid unnecessary interference with traffic and trade [21,22]. In 2006, 17 million international passengers went to India and import and export of livestock products increased. The increase in travel and trade creates favorable conditions for spread of infectious diseases across boundaries [23].

With globalization, interactions within and between countries are boundless in various aspects; people are crossing borders from one country to another. This nature of life involving importation and exportation may result in spreading infections which result from interaction of a host, a pathogen and their environment. It has been recommended that exchange of information about infectious diseases outbreak should be addressed internationally [15].

The recent outbreaks of SARS, Avian Influenza, Nipah virus and dengue fever in South-East Asia Region call for joint strengthen capacity of surveillance and response, in the laboratory and public health among WHO Member States. Some literature suggest that collaboration to establish networks and strengthen existing public health and laboratory capacities among centres of excellence globally is needed [21,24].

SARS emerged in March 2003 in China. This was a global threat due to massive movement of people. By May 2003, the reported cases increased from 339 cases to 5,248 cases. On one hand failure to early acknowledgement and taking of appropriate response to SARS epidemic in China posed the threat to the world health. On the other hand, it was a lesson in the management of other potential outbreak in the coming events [25].

There is no doubt that diseases will continue to emerge. This is justified with opportunities for microbes to produce unexpected epidemics due to human behavior and customs that favor them. Some pathogens remain unpredictable, spread across countries without respecting boundaries. For the past 30 years almost 30 new pathogens have been detected worldwide and many of which have caused outbreaks. Ability to respond quickly remains as a challenge. The emphasis should be on the building the capacity for early detection, effective and efficient responses using available resources, skills and knowledge. History has shown that it is less costly to prevent infectious diseases than to react with expensive treatment or control measures to public health crises [21].

### 2.2 International Health Regulations (2005) issues

Any seriousness of health impact, unusual nature of event, possibility to spread internationally and the event that restrict travel or trade is considered as public health emergency. It requires the coordinated international response. The IHR (2005) consider various public health of international concern emanate from new and re-emerging diseases, food safety and animal diseases, threats from chemical and radiological agents. The regulations require each country to have a national IHR focal point (NFP) that provide and receive information to and from WHO on 24 hours basis for 7 days a week in a year (24/7/365) [13].

The experience reported by Professor Harvey Fineberg in 64$^{th}$ session of WHA show that the IHR prepared the world to respond to pandemic H1N1 in 2009 and WHO tackled systemic difficulties and confirmed some shortcomings. The world was not well prepared to respond to a severe pandemic or any other public health emergency on a similarly global and threatening scale. The necessity to scale up the core capacities under regulations by individual countries to respond collectively to all public health risks should be emphasized by 2012 as it was

planned [23,26]. An emphasis of the IHR (2005) is on all public health threats, containment of sources and adaptation of responses. The rapid response and containment at the sources is the most effective way to secure maximum protections against international spread of diseases and key to preventing unnecessary health based restrictions on trade and travel [3,22].

The fundamental achievement is to strengthen diseases surveillance. It is assumed that if early detection, rapid and effective responses of most health emergencies are dealt with at a regional or national level, they never become a global threat [27]. Data collected at local level and immediate action taken as closer to origin of outbreak controls the sources and minimizes spread of outbreaks [15]. Wamala et al. explained that in responding to SARS outbreak in 2003 and that of influenza (H1N1) in 2009, cross-border surveillance activities such as screening, isolation, quarantine and sharing information activities were under taken. However, it was not routinely done, lasting after the prevailing of public health threat. The East African Community (EAC) Secretariat had periodic joint cross-border planning and simulation exercises for pandemic influenza (H1N1). This could be extended as strategies to strengthen the IHR (2005) surveillance capacities for the community members [28].

All WHO Member States require urgently strengthening and maintaining the core capacities, effectively collaborate with each other, support developing countries and take appropriate measures to implement the requirements of IHR (2005) [1].

Article 20 of IHR (2005) requires countries to develop the capacities at designated POE, and the relevant and required certificates for control sanitation in ships should be issued at the designated POE only [24]. Therefore, each country is to strength, build, maintain public health core capacities on implementation of routine inspection and control measures at POE (information, basic examination, immunization) and to establish emergency committee to provide advice on control measures [13].

It was revealed in the assessment report on the status of core capacity required for implementation of IHR (2005) of eight countries of WHO Regional Office for South-East Asia (SEARO) that all countries had designated IHR National Focal Points. However, few

countries in this region had reviewed the implementation. Many of them had developed or adapted Epidemic Preparedness and Response (EPR) plans. Almost every country had human capacity gap on basic epidemiology, outbreak investigation, surveillance, data management and analysis. Completeness and timely submission of reports as well as sharing of surveillance data need further improvements. Limited capacity at points of entry for surveillance and response, quarantine, screening and vector control were noted and the situation was worse at most of seaport compared to airports. Thus there is a need to focus intensively to strengthen and maintain capacities as required by IHR (2005) [23].

The important actions to strengthen core capacities at POE where taken during the SARS and influenza outbreaks, including the review and amendments of public health rules for aircraft and ports accordance with the provision of IHR (2005). In responding to the outbreak, plans were finalized to strengthen facilities, train port/airport health officers and arrange for the necessary logistics and supplies. In the preventing and controlling SARS outbreak, Indonesia conducted trainings, orientation and simulation exercises for POE staff to improve the capacity to implement IHR (2005). Funding, logistics and infrastructure at port health offices were improved as a way of building capacity to implement the IHR.The report pointed out the challenges in the process of implementation included limited capacity and scarce resources of the member states, competing interest of key stakeholders and implementers, and harmonization of global with domestic legislations. It was suggested that the integrated approach which utilizes the existing structures and resources should be harmonized and applied [23].

### 2.3 Resources at POE

The regulations describe that at all the time; the core capacities for the designated POE (airports, ports and ground crossings) should be able to have adequate staff, equipment and premises for provision of appropriate medical services including diagnostic facilities for assessment and care of ill travelers. Should also provide transport for ill travelers to an appropriate medical facilities as well as competent staff for the inspection of conveyances and control of vectors and reservoir at POE. Regular inspections to ensure a safe environment for

travelers using POE facilities including portable water supplies, eating and flight catering facilities and waste disposal services should be conducted [1].

The experience learnt from responding to pandemic (H1N1) 2009 in Sri Lanka revealed challenges that need to be addressed in future. The shortage of health staff at POE led to mobilization of addition staff that were not prepared to handle emergencies. The coordination with other services such as transportation of suspects and ill passengers, quarantine of suspected passengers and disinfection of aircraft at POE were difficult as some staff did not know how to do it and also were afraid to be infected. Lack of basic facilities including the personal protective equipments (PPE) was also a challenge [4].

The management of infectious disease involves availability of qualified health professionals to ensure the continuity of health care delivery, adequate supply of pharmaceuticals and other medical consumables as well as PPE. Implementation and enforcement remain inconsistent, thus governments are responsible to develop national policies and regulations that focus on achieving the requirements of food safety and general IHR. Global collective health protection will be realized when there is cooperation worldwide [20].

### 2.4 Risk Communication

Some countries in Sub-Saharan Africa and North American have many public health surveillance programmes for collecting data on single diseases of local or international importance. More often, the findings are not shared with other countries. In this situation, health managers may see the disjoint image of health events in their region and also limited resources cannot be well shared as the information on available resources are not shared as well [5].

The timely awareness of influenza, (H1N1) virus outbreak led WHO to influence other countries to engage fast their pandemic plans into real actions. It was a way to test the effectiveness of responding to outbreak using revised IHR (2005) in comparison of SARS outbreak in 2003. Timely communication, information sharing and notification were mainly facilitated by National Focal Points (NFPs) [5]. During the pandemic H1N1 (2009) in

Maldives and Myanmar, there were effective risk communication to the public through various mass media including television, video, leaflets and posters. However, risk communication needed to be improved in Napel. The political commitment supported the efforts in Myanmar to intensive surveillance and screening at POE is recommended elsewhere [4]

IHR (2005) should be integrated into the existing health system using the available resources. The practice of screening and treating cross border patients who diagnose to have HIV/TB, malaria and other vector borne diseases were done in India. This has to be extended to fit into IHR (2005) requirements [4]. Philippines and Guatemala integrated disease surveillance and response strategies to target many priority diseases at once through equipping the facilities at all levels with appropriate skills, resources and tools [5].

In order to strengthen surveillance and response systems, adequate laboratory capacity is required to support timely detection and immediate response at POE. In Maldives, laboratory samples for human and animals were sent to Bangkok during pandemic H1N1 in 2009. With a good public health care system and epidemic control facilities in Democratic Peoples' Republic of Korea in responding to pandemic H1N1 in 2009, lack of laboratory capacity for detection, limited medical monitoring of travelers and appropriate measures were major constraints. At that time, twenty eight people were detected and confirmed having H1N1 at POE [4]. It is important to note that in order to ensure that the emerging infectious diseases are early recognized and properly contained, there should be effective risk communications among public health authorities [21]. Therefore POE are crucial areas that require responsible organs to institute effective risk communication.

### 2.5 Designated Points of Entry

Article 19 of IHR (2005) is about the general obligations that, every WHO Member State needs to build core capacities for the designated POE within the time frame [2]. Not all points of entry adhere to the requirements of the IHR (2005), however, countries should select few core capacities that will be strengthened and maintained to control public health risks at borders. WHO documents these designated POE in published list of certified ports. The

countries should develop the competence authorities to provide services required by IHR (2005) [5]. Every state member should deliver relevant information about the sources of infection or contamination at POE which could result in international diseases spread to WHO when requested to respond to a specific potential public health risk [1].

In Nigeria port health is a department which is responsible for disease surveillance including immunization, responding to outbreak and disasters at port of entry, inspection of ships, air crafts and vehicles. Other functions related to the environmental aspects are sanitation, pollution control, disposal, disinfection, dis-insect and decontamination of conveyances. The provision of curative, preventive and laboratory services to passengers and crew are done [11]. WHO is recommending health measures taken to arrival travelers, baggage, cargo containers, conveyances, goods, postal parcels and human remains should be applied to departing travelers from affected area where control measures were assumed to be ineffective. The Article 5 of IHR (2005) require the member states to develop, strengthen and maintain the capacity to detect, assess, notify and report events of PHEIC including at designated POE. These capacities include those required at all times and during emergencies (see appendix IX) [23].

The x-ray machines for examining TB were placed at Heathrow and Gatwick airports where most potential entrants arrive, to examine people from countries of high risk for TB who intended to stay in UK for more than 6 months. New infections of TB from abroad were prevented to safeguard the citizen [13]. The health offices have been established at most of POE for the same purpose of protecting public health of citizens and foreigners and minimize unnecessary and unpredictable interferences with trade and travel. But due to various reasons including lack of commitment, lack of resources and staff, this is not done in most of airports.

Article 22 is about role of competent authorities that shall be responsible for monitoring baggage, cargo, containers, conveyances, goods, postal parcels and human remains departing and arriving from affected areas. The facilities used at POE should be maintained in a sanitary condition, kept free from sources of infection, availability of waste disposal services and general supervision. Effective and reliable communication facilities to enable smooth contact

with National IHR Focal Point on relevant public health measures should be available [1]. The importance of collaboration with other sectors providing such services to consider POE as priority areas is necessary to join efforts in preventing and control infectious diseases. The expected results are to ensure that facilities used at POE are kept free of infection, contamination including vectors and reservoirs. The routine measures are in place, public health emergencies plan is available and operational effectively at all designated POE and existence of coordination between WHO, other United Nations (UN) and intergovernmental organizations [3].

Assessment done in Uganda found that there was no designated POE to implement IHR (2005) in the country despite of having one international airport, one international port and several ground crossing points. On the other hand, all POE did not apply any IHR document despite of its importance for public health [28].The powers and responsibilities of the Port Health Officer include the inspection of vessels, trains, vehicles and aircrafts entering in the country, passengers and other goods particularly from the declared infected places/ areas are clearly defined in the Public Health Act, 2009 in Part III section (f) of United Republic of Tanzania [29].

### 2.6 Preparedness and Responses

The designated POE should be able to respond to events of the PHEIC. The appropriate public health emergency response should be provided through establishment and maintaining a public health emergency contingency plan. Assessment of and care for affected travelers and animals provided in collaboration with local medical and veterinary facilities for their isolation, treatment and other supportive services required. Also it should have appropriate space to separate from other travelers, and to interview suspect or affected persons. Facilities for assessment should be available. Another requirement is to be able to apply recommended measures of disinsect, derat, disinfect, decontaminate or otherwise treat baggage, cargo, containers, conveyances, goods or postal parcels, when appropriate, at locations specially designated equipped for this purpose [1].

Application of entry or exit controls for arriving and departing travelers should be provided at POE. Accessibility to special designated equipment and to trained personnel with appropriate PPE for the transfer of travelers who may carry infection or contamination is also a basic requirement [1]. The statuses of most of POE have limited access to these requirements. In the process of assessment important issues regarding emergency planning, surveillance, skills mix of health workers, accommodation facilities for medical inspection at ports and quality of services should be thoroughly examined [13].

Most of developing countries are vulnerable to infectious diseases and outbreaks. Even though, no avian influenza case reported in EAC, East African countries have many wetlands where the migratory bird rest which is potential for influenza. Necessary steps for prevention of entering in the borders should be taken. EAC Secretariat admitted a possible spread of this infectious disease in the region, and then developed 3 year strategy for comprehensive avian influenza public awareness campaign at all levels in 2006. Some interventions were initiated like specific plan for avian influenza on regional emergency preparedness and response, public awareness campaign strategy, establishment of animal health desk under EAC Secretariat and EAC Technical Working Group on Avian. To sustain and maintain the spirit of those interventions even if at the state of no outbreak is a big challenge [30].

These approaches could be expanded and sustained to incorporate comprehensive health hazards such as other outbreaks, chemical, radiation, food and animals that could be happening. During the outbreak of avian influenza, many countries were responded without considering other emergencies. In the implementation of IHR (2005) in Spain, the interventions were not well coordinated. There was neither performing alert system for 24/7/365 nor public health emergency plan [30].

### 2.7 Coordination

Implementation of IHR (2005) requires responses from various sectors and professional disciplines. National laws and legislations should be reviewed, consolidated and harmonized to accommodate the IHR (2005) requirements as it addresses all PHEIC. This has been a big challenge to the most countries to coordinate all key implementers to have one plan [31].

Gaps in joint planning pose challenges particularly on the research and development capacity, funds, timely detection of new pathogens and engaging appropriate interventions [20]. Lu emphasizes in the cooperation and collaboration in the control of infectious diseases and outbreaks among nations regardless of origin is among strategies of effective preparedness and responses. Most of outbreaks start as local events, later it become the global consequences if not stopped. To improve the capacity for early detection and quick respond need the multi disciplinary and multi-sectoral approach [25].

# CHAPTER THREE: METHODOLOGY

## 3.1 Study Area

The study was conducted at Julius Nyerere International Airport (JNIA) located at Dar es Salaam in Tanzania. Dar es Salaam is in the eastern coast shore of Tanzania and is the largest commercial centre in the country. It borders with Coast Region in the North, West and South while to the East, the Indian Ocean. Total surface area of Dar es Salaam is 1,397 square kilometers. According to the 2002 National Population and Housing census; Dar es Salaam had a total population of 2,487,288 people with an average annual growth rate of 4.3 percent. In 2010 it was estimated to have 3.1 million people [31]. JNIA was selected for this study because it is one of international and the busiest port in Tanzania with largest influx of passengers from all over the world. It is the most famous airport in the country. In 2008 it received total of 1,542,778 passengers [32].

Administratively, this point of entry is managed by the Tanzania Airports Authority (TAA), which is under the Ministry of Transport. However, the port health services at JNIA are mandated to the Ministry of Health and Social Welfare (MoHSW), under the Directorate of Preventive Health Services; Port Health Services Unit. The Directorate is headed by the Director; it has 4 sections headed by Assistant Directors namely Health Education and Promotion, Reproductive and Child Health, Epidemiology and Disease Surveillance, and Environmental Health Services. Port Health Services Unit belongs to the Environmental Health Services Section; provides administrative and technical support in running the health services at JNIA. The Ministry of Health and Social Welfare manage 19 points of entry out of 42 (sea, lake, air, dry) official points of entry in Tanzania. The rest are managed by the council/ municipal health departments in their respective area where they belong.

For the purpose of this study, Environmental Health Services, Epidemiology and Disease Surveillance, Health Education and Promotion, and Emergence Preparedness and Response

sections were involved. The management of JNIA was also enrolled as well as the WHO Disease surveillance unit.

### 3.2 Study Design

The study design was descriptive cross sectional assessment using qualitative method. Qualitative method enabled to capture the informants' perceptions, experiences, thoughts and their understanding of the IHR (2005) requirements at points of entry. It enables to discuss, clarify and compare the existing situation with required standards of IHR (2005). The method provides means of obtaining relevant information according to the nature of the subject to be studied [33].

### 3.3 Study Population

The study population involved two groups of respondents: management group from MoHSW headquarters, WHO country office and JNIA manager; and the implementation group constituted health workers at JNIA.

### 3.4 Sampling Procedures and Sample Size

Purposive sampling procedure was used so as to focus on the most favorable insight into an issue [36]. This provided specific information needed for the study. The in-depth interviews were conducted to 11 senior people. At the MoHSW; these were:- Acting Director of Preventive Health Services, 3 Assistant Directors under the Preventive Health Services (Environmental Health Services, Health Education and Promotion, and Epidemiology and Disease Surveillance), Head of Port Health Services, 2 IHR NFP officers and desk officer in Emergency Preparedness and Response section. Other senior officers that were interviewed included: the Head of Port Health Services at JNIA, the Director of JNIA, and the Programme Officer responsible for disease control and surveillance at the WHO country Office in Tanzania. Two focus group discussions (FGDs) with health workers at JNIA were conducted. One group had 5 and the second had 4 workers. The number of FGDs participants could not reach the standard number of 6-12 because the researcher had to hold interview with those workers who were available at the time of conducting interviews. Health workers at JNIA are working in shifts so as to provide 24 hours services. Some of the workers were on annual leave and others had other important duties and responsibilities to attend during the study.

### 3.5 Data Collection Tools

The checklist with open ended questions to guide the in-depth interview was used to obtain information from respondents. The FGD guide focusing on the research objectives and questions were developed and used to guide discussion with JNIA health workers. Both key informant interviews and FGD guides were developed in English and translated in Swahili to minimize language barriers during data collection. All interviews and discussions were tape recorded, transcribed verbatim and translated into English, to facilitate data analysis and writing of the dissertation. Documents and reports relevant for the assessment were reviewed to obtain necessary information for the study.

### 3.6 Data Collection Procedure

The qualitative approach was used for data collection and analysis. The qualitative approach tries to understand the real experiences and understanding of participants.

Both the in-depth interviews and FGD methods were used. The researcher conducted in-depth interviews to MoHSW management team at the headquarters, WHO National programme officer and heads of JNIA. Interview sessions were conducted in their offices after fixing appointments with them and lasted for an average of 70 minutes. The researcher held two FGDs with 9 health workers. The discussion was held at JNIA office which provided adequate privacy. One FGD took approximately 80 minutes.

The consent for participation was sought from key informants and FGDs participants. The consent also included the use of tape recorders and photo taking. Some issues were observed at the site like use of personal protective equipments, availability of current plan of actions, availability of isolation rooms, offices for health workers at JNIA, vaccine storage etc. The desk review of documents and reports was also used to enrich the given information.

### 3.7 Data Management

Data obtained from the in-depth interviews and FGD was daily checked for completeness using the taped information and documented in the note books after the interviews. The recorded audio cassettes were labeled and given code numbers in order to be identified

according to respondents interviewed. The recorded information was transcribed verbatim and the transcripts were typed into computer files with specific identity codes provided. Any missing informations which was identified at this stage was requested from the respective respondents.

### 3.8 Data Validation

The collected information was validated by making reference to notice in the notebooks, replaying the tape recorder and contacting the informants for more clarifications.

### 3.9 Data Analysis

The data collected using qualitative research method results in large amount of richly comprehensive data that is contextually loaded and subjective [34,37]. In this study, the thematic analysis was used to analyse the collected data. Specifically the analysis adopted an inductive approach to analyze data, which is a process of coding the data without necessarily fitting it into a pre-existing coding frame, or the researcher's analytic preconceptions. In inductive approach the themes identified are not imposed by the researcher rather they emerge and strongly linked to the data themselves [38]. Data collection and analysis take place concurrently [39].The processes include the familiarizing with the transcribed data, coding the data, searching for themes, reviewing the themes, defining and providing names, and producing the entire report [37]. A theme represents some level of patterned response or meaning within the data, thus capturing important information in relation to the research question (table 1).

Data collection started on 20$^{th}$ April to 11$^{th}$ May 2012. Data were obtained in form of interview transcripts collected from respondents and some identified texts that revealed the experientially on the study topic. The audio cassettes were labeled as identification of respondents. The respondents were named as "KI" representing Key informant, thus there were KI 1 to 11based on the first to last in the interview sessions and the 2 FGDs participants were given numbers to identify them: Gr 1:1...5 and Gr 2:1...4, meaning group number followed by number of participant. Transcription went concurrently with data collection. It was typed into computer files using Microsoft Word programme with serial numbers. The researcher systematically looked at the data collected from a range of respondents. Each

transcribed data had information. The important themes were identified as they emerged when examining data. As the themes continued to emerge, the researcher grouped together the data from respondents. The similar and contrast quotations were noted to support some statements on the emerged themes. The organized themes were interpreted to generate the final report.

**Table 1. Example of thematic analysis:**
Line by line coding of text data and development of themes

| **Text data** | **Code** | **Themes** |
|---|---|---|
| *"Frankly speaking, I have heard about IHR but I don't know exactly what it means and who does what at the ministry".* | Low understanding of IHR, Lack of seriousness | understanding of the IHR |
| *"There are many responsible units for IHR. When you think about the coordination you can see the complexity".* | Weak coordination, Fragmented coordination | Coordination of IHR at POE |
| *"This computer here is not always working, sometime we run out of catridge"* | Unreliable communication facilities | Risk communication |
| *"Right now we do not have PPE in our store, but the MoHSW always bring it when there is any public health threat"* | Lack of preparation for emergence, Storage out of JNIA | Emergency preparedness and response |

### 3.10 Ethical Consideration

Ethical clearance was obtained from MUHAS- Institutional Research Board and Publication Committee. This ethical clearance was used to obtain permission from the Ministry of Health and Social Welfare to contact officials under the ministry and the head of Port Health at JNIA about the study.

Also the ethical clearance was used to obtain permission from Ministry of Transport particularly Tanzania Airport Authority as well as to the WHO Country Office, Tanzania. These authorities were thoroughly informed about the objectives of the study. Verbal and written consent were obtained from every respondent after explaining the purpose of the study and assured on the confidentiality of information obtained from them.

# CHAPTER FOUR: RESULTS

## 4.1 Introduction

The presentation of the results is structured by the thematic areas on the status of the implementation of IHR (2005) at JNIA. The findings are based on the analysis of the responses and experiences of the respondents toward the implementation of IHR (2005) at POE. The identified themes included: Understanding and advocacy of IHR (2005), national legislations and guidelines focusing on the implementation of IHR (2005); Designated POE in Tanzania; coordination of efforts for implementation of IHR (2005) at POE, risk communication at POE, emergence preparedness and responses to public health events, and resources mobilization for IHR (2005) at POE.

## 4.2 Understanding and Advocacy of IHR

### 4.2.1 Low Understanding of the IHR

Some respondents had correct understanding of IHR requirements. However, some of them had little information about the IHR (2005) as expressed by one of the respondents from MoHSW: *"The regulations are for the implementation of health issues at POE and may be it has been established to control spread of diseases from outside.....but I am not sure... (KI 3).*

Most of the respondents had idea about international health regulations. Other respondents explained that it deals with health issues at POE particularly those focusing on the control and prevention of outbreaks and infectious diseases which are transmitted from country to country. This level of understanding was illustrated by one of the respondents: *"it is a legal framework that binds all WHO member states to prevent and control events of public health concerns including diseases, radiations and chemicals. It specifies the necessary interventions to be done at any POE to detect, notify and respond to contain any event of public health concerns..." (KI 1)*

### 4.2.2 Low Advocacy to Key Players

Very few respondents admitted that they do not know the IHR details. They assume that it involves issuing of various instructions from WHO on global health regulations. One

respondent was quoted saying: *"I usually get instructions from WHO insisting on some health issues; these may be the international health regulations..." (KI 8).*

It was noted that since 2007, no comprehensive plans which have been developed to advocate, orient and sensitize heads of departments and sections at the MoHSW and its institutions and agencies on IHR (2005) requirements. This was justified by the following explanations from one of the respondents: *"I doubt whether all key players at this ministry are aware of IHR (2005) apart from those outside the health sector... we haven't disseminated this information appropriately..." (KI 1).*

### 4.3 Existance of Legislations and Guidelines related to IHR (2005) at JNIA

The study found that there are several legislations and guidelines that aim at strengthening surveillance, detection, notification and response in order to protect the health of human being in Tanzania. Most of these instruments are under a variety of supervisory bodies that lack the clear machinery of sharing information. The Public Health Act of 2009 provides cross border surveillance and control measures during the public health events. Other legislations are Environmental Management Act 2004, Industrial and Consumer Chemical, Occupational Health and Safety Act 2003, Tanzania Food and Drugs Authority Act 2003, Mining Act 2007, Local Government Act 2004 and National Disaster Act 1990. Existing policies include National Health Policy 1990 and National Disaster Policy of 2004. The non binding legislations that support IHR (2005) implementation such as Integrated Disease Surveillance and Response, Cross Border Surveillance and other joint implementation plans are existing and available for use.

#### 4.3.1 Existing Legislations towards Implementation of IHR (2005)

The Public Health Act of 2009 was seen as the most useful act to regulate health issues in Tanzania. It was noted that this Act was among the government's efforts toward the implementation of IHR (2005) at POE and elsewhere as emphasized by one key informant: *"We do use the Public Health Act of 2009 which had many regulations to operationalise general health issues in various service points including the POE..." (KI 7).* Respondents further underscored that IHR (2005) compliment the national efforts in addressing health

events particulary those which threat the global health as expressed by one key informant: *"the IHR (2005) are not new but they insist on the strengthening of diseases surveillance, preparedness and responding on the health events that threat the globe particularly at POE where there is high movement of people and luggage from one country to the other. .." (KI 7).*

### 4.3.2 Existing Guidelines towards the Implementation of IHR (2005)

The practice of using WHO Integrated Disease Surveillance and Response (IDSR) guidelines adopted by Africa countries for diseases surveillance was reported to be the best tool for follow up the infectious diseases and other public health events. It was reported that the IDSR tool has been used since 1995 for collection and generating the reports on diseases. Tanzania also adopted and widely disseminated the use of this tool. The respondents stated that the existing IDSR tool has been revised to encompass the requirements of IHR (2005) since 2009; however, the revised one has not yet been disseminated to users. The findings show that the Health workers at JNIA were conversant with older IDSR tool, but some of them were not able to link it with IHR as mentioned by one respondent: *"we know that we are required to report weekly to MoHSW using IDSR tool, but is that the IHR requirements or it is just a normal international practice of IDSR strategy?....." Gr 2: 4.*

Nevertheless, one respondent insisted on the dissemination of the revised IDSR which has incorporated the emphasis on the IHR (2005) because IDSR is an appropriate approach toward the implementation of IHR (2005) in strengthening surveillance. The respondents underscored that the dissemination will be done when funds are available: "*we have managed to revise the IDSR to incorporate the IHR (2005) requirements ... we are currently looking for funds to disseminate to users..." (KI 1).*

## 4.4 Designated POE in Tanzania

The country has several POE including airports, sea ports, lake ports, and ground crossing points as shown in Table 2 below. It was not clear how many POE have been designated for implementation of IHR (2005) in Tanzania as many respondents mentioned different contradicting numbers. Some respondents mentioned all three major POE: Kilimanjaro International Airport (KIA), JNIA and Mwanza Airport. One respondent claimed that there

are more than 12 designated POE, while another respondent occupying senior position at the MoHSW said that there is no any POE in the country which qualifies to meet the standards of IHR (2005). *"....in Tanzania, we do not have any POE which can be designated for IHR implementation unless we select and focus on one, but it will need more resources..." (KI 10).*

It was noted that the initiatives towards designated POE for implementation of IHR (2005) in the country might be delayed. While the regulations have not insisted in number of POE to be involved in the implementation of IHR (2005), some officials at MoHSW were proposing to involve more than one POE. This may delay the specific interventions due to lack of availability of adequate resources as suggested by one respondent*: "we could focus to one POE, let say start with JNIA and ensure that all stakeholders are involved... we could make some remarkable achievements rather than aiming at involving many POE while we know how much we are constrained with inadequate resource...Unfortunately we have not yet agreed on this ...." (KI 11).*

It was further noted that there was no designated POE for implementation of IHR (2005) until the time when this assessment was conducted. However, at JNIA there were provisions for the application of IHR (2005) documents like the International Certificate of Vaccination or prophylaxis and Aircraft General Declaration.

## 4.5 Coordination of IHR (2005) Implementation at JNIA

### 4.5.1 Unclear Coordination Structure of Implementation of IHR (2005) at MoHSW

All respondents admitted that there is no clear coordination of the implementation of IHR (2005). However, respondents at the MoHSW said that the key players for the implementation of IHR (2005) should be the MoHSW as it deals with events that affect human beings' health. They understand that currently the main coordination role has been placed at the Emergency and Disaster Preparedness Unit of the Prime Ministers' Office. This unit has the multi sectoral and multidisciplinary members who compose technical committees. It also has the role of mobilizing resources and coordinating all responsible technical sectors, depending on the nature of events, to respond on emergencies and disasters in Tanzania.

It was observed that within the MoHSW, there were different views on the responsible unit to coordinate the implementation of IHR (2005) particularly to POE. Some respondents at MoHSW reported that the IHR (2005) is coordinated at the Epidemiology section. In contrast other respondent claimed that it is coordinated at Emergency Preparedness and Response Section (EPRS) within the Health Quality Assurance Division at MoHSW even though the IHR NFP officials belong to Preventive Health Services Department. Meanwhile, the Environmental Health Services Section has the port health services unit which facilitates the health services at all POE.

**Table 2: List of Points of Entry in Tanzania**

| SN | Types of POE | Total | Official POE |
|---|---|---|---|
| 1 | Sea ports | 9 | Dar es Salaam, Mtwara, Tanga, Lindi, Kilwa, Mafia, Kilwa Kivinje, Bagamoyo, Pangani |
| 2 | Lake ports | 13 | Mwanza, Nansio, Kemondo bay, Mbambabay, Karema/Ikala, Karagonja, Kigoma, Musoma, Bukoba, Itungi, Kabwe, Kirando, Kasanga |
| 3 | Airports | 7 | Julius Nyerere International Airport, Kilimanjaro International Airport, Songwe Mbeya, Mtwara, Mwanza, Kigoma, Tabora |
| 4 | Ground Cross | 16 | Horohoro, Namanga, Kyaka/Mtukula, Himo/Holili, Tarakia, Sirari, Rusumo, Manyoni, Kasuanalu, Kambanga, Msimbati, Tunduma, Marongo, Kasesya, Mugaana, Marusagamba. |

### 4.5.2 Fragmented Implementation of IHR (2005) at JNIA

The three sections (Epidemiology, Environmental Health and Emergency Preparedness and Response) have roles to play in the implementation of IHR (2005) in various ways at POE including JNIA. The Epidemiology and Disease Surveillance Section is responsible for diseases surveillance and control. The port health services unit under the Environmental Health Services Section has the role of assessing risks, preparedness and responses. The EPRS is responsible for developing and facilitating the emergency and preparedness plan for the MoHSW. It was observed that these sections have separate plans which are uncoordinated

towards the implementation of IHR (2005). The respondent explained on how these sections respond when there is alert or when the PHEIC has been reported from other countries or in one of the POEs in the country: *"...The Epidemiology and Diseases Surveillance Section usually is informed first on any public health emergence of international concern, but the budget for preparedness and responding is placed in EPRS which in most cases funds are not readily available, when funds are available usually can not suffice the estimated costs to respond to the event holistically...".(KI 1).*

### 4.6 Channels of Risk Communication at JNIA

From the findings of this study, the risk communication can take various ways depending on the nature and situation of the public health events occurrences. Both formal and informal communications take place particularly from JNIA to MoHSW and IHR NFP. In case of PHEIC, the IHR NFP communicates with WHO and other sectors, as well as to the general public.

#### 4.6.1 Communication between JNIA and MoHSW

The respondents for this study reported that in case of any public health threatening event at JNIA, the health workers report to the IHR NFP as well as to the Head of Port Health at the MoHSW. The main channels of communication between JNIA and IHR NFP include fax, email, landline and mobile phones, which operate in 24 hours. It was also noted that on rare occasions, POE may communicate to each other informally without following the existing health system communication channels. The following statement explained by one respondent: *"...I have contacts of Heads of Port Health in other POE within the country as you can see the list over there ...I can informally inform them on any public health event..."(KI 7).*

It was reported that, the existing communication channel in the health system was also used in the execution of IHR (2005) whereby the POE reports any health threat to the nearby health authorities as well as MoHSW particularly to the Epidemiology and Disease Surveillance Unit. JNIA, which is located in Dar es Salaam, usually reports to the Head of Port Health Services at MoHSW who is responsible to inform the MoHSW management.

It was also noted that the practice of POE including JNIA to report on notifiable diseases and other health related events to the MoHSW on weekly basis help the Epidemiology and Diseases Surveillance Unit to monitor diseases trends and it is also used by the health sector for risk assessment and alerting the health systems on health threat. This is done using the IDSR tool which is regarded as a crucial device for implementation of IHR (2005). However, as noted earlier, health workers at JNIA were not aware on the revised IDSR tool to encompass IHR (2005) requirements.

### 4.6.2 Informal Communication between IHR NFP, WHO and Other Sectors

The study key informants reported that the IHR NFP officials have a contact with WHO country office and can access to the alerts/ events notified worldwide through WHO website. They do notify the MoHSW management as well as all POE including JNIA. It comprises of three officers (two from the epidemiology section and one from the environmental health services section). The organization and arrangement of IHR NFP was seen as the National Focal Persons rather than national focal points. These people are working together informally as there are no guidelines or institutional arrangement/ framework to facilitate the coordination of the IHR (2005) issues within MoHSW and other IHR NFP from other ministries like Transport, Communication, Livestock, Agriculture, Tourism, Environment protection and others. In support of this explanation, one of the respondents from the MoHSW underscored that: *"I have no mandate to direct or advice any responsible section or unit within the Ministry of Health and Social Welfare to pay attention on issues related to IHR requirements unless I go through the set structure..." (KI 11).*

### 4.6.3 Communication on Information related to IHR to the General Public

The respondents for this study reported that if there are health related events, then the MoHSW is responsible to inform the public as well as WHO country office on the confirmed public health events. This is done through press release to media and circular letters to the Regional Commissioners (RC) and District Commissioners (DC) on what is happening in the country and how to prevent, control or handle it. These authorities are required to disseminate information to general public in their respective areas of jurisdiction including POE.

Information, education and communication (IEC) messages and materials for common diseases such as cholera, polio and measles in the country were not available at JNIA. Our respondents said that such information are not routinely produced, they are usually produced and made available during the specific epidemic or outbreak. One respondent commented that: *"... production of IEC materials come from various programmes of the MoHSW... in most of the time huge productions are ordered when there are public health alerts within the country or in other countries... the huge production of IEC one was done during the SARS epidemic..."(KI 3).*

### 4.6.4 Limitations of Communication on IHR among Implementers

It was observed that the MoHSW website had limited access to information on disease surveillance and was not a reliable means of information for health alerts. This was commented by one respondent: *"It is very easy to get timely public health alerts reported by other countries on the websites than getting such alerts from our own country..." (KI 7).* The accesses to internet enhance timely and reliable means of communication worldwide. But some of communication facilities such as computers and fax at JNIA health office were not reliable all the time. For instance the printers at JNIA health office may run out of catridge making it difficult to print important documents required for communication.

## 4.7 Responding to Public Health Events at JNIA

It was reported that preparedness and responding to PHEIC is still a challenge toward the implementation of IHR (2005) requirements. One respondent claimed that: *"...despite of developing preparedness and response plan yearly, we have been responding as the events come and not before..." (KI 2).* It implies non compliance with a developed plan at national level.

### 4.7.1 Challenges to Preparedness on Public Health Events at JNIA

Preparedness plans were developed but not honored in term of budget allocation and procedures to obtain the required resources to support immediate response to the event. The same was explained by one of the health workers at JNIA. *"...we have been requesting things from the Ministry of Health and Social Welfare several times; we rarely get them...." Gr. 1:3*

It was reported that there is a public health emergency contingency plan, at JNIA. This was developed to enable the JNIA authority to get prepared and respond on any emergence. Follow up of the implementation depends on the occurrence of events. The following explanation was given by one respondent: *".... Public health emergence contigency plan is the requirement of TAA to every airport, however, it had never followed it up to ensure that there is preparation in place in case of event..."(KI 7).*

It was observed that the isolation rooms for examining the suspects or ill travelers do not have equipment to provide the required health services at JNIA. When asked on how they manage suspects, it was noted that they do take suspects to the selected hospitals in the city. It was reported that at one time Muhimbili National Hospital (MNH) did not have isolation rooms and the suspect case was taken to Aghakhan hospital which had isolation rooms.

It was also reported that there was no reliable ambulance at JNIA for health workers to facilitate the transport of suspects, ill travelers and/ or specimen to the nearby health facilities. However, it was noted that there was one ambulance at JNIA owned by TAA. The first aid clinic for minor health services was available at JNIA. The last simulation exercise on the air crush was done on March 2012. It was observed in the plan documents that no simulation exercise on the infectious or outbreak diseases have been planned for the past two years (2010/11 to 2011/2012).

### 4.7.2 Uncoordinated Efforts to Respond on the Public Health Events

The EPRS do develop emergence preparedness and response plan for the MoHSW. It was noted that the plan involved many actors but was not shared with key players within the MoHSW because of lack of coordination among the main actors. This brings difficulties in the implementation in case of any emergence. The following statement justifies this finding: *"...the problems are due to uncoordinated plan within ourselves... you can be required to respond to the event while you don't know who is responsible to facilitate the expenses..." (KI 11).* It was noted that Medical Store Department (MSD) is responsible organ for providing medical supplies and equipement for responding to emergencies at the site of events including JNIA when ordered by MoHSW.

### 4.7.3 Un-organised Trainings and Orientation to Health Workers at JNIA

It was noted that no training programme for JNIA health workers for career development, knowledge and skills update. One respondent complained that she has not attended any training after her basic education: *"...since I graduated I got no additional training... I real need further training to be able to define and detect diseases appropriately ...".Gr 1:1*. Another respondent said: " ...*It is not easy to get training opportunity by following appropriate procedures.....mainly it is individual efforts.....Those at Headquarters do attend trainings even if those trainings were meant for health workers at POE..." (Gr 1:3).*

The findings revealed that health workers and health authorities particularly those who are around the site of events are the ones accessing orientation program on the case definition of that specific disease. It was reported that due to limited resources it has been difficult to orient everybody in the system. In most cases, orientations were provided to the Council Health Management Teams (CHMT), Regional Health Management Teams (RHMT), health workers of POE and tutors of health training institutions around the site of event. This statement was provided by one respondent from MoHSW: *"... It is very expensive to orient everybody, but when there is an alert, for instance the case of recent yellow fever in Uganda, the RHMT, CHMT and workers at POE around the border of Tanzania with Uganda were reoriented on the control and preventive measures as well as on the case management ...." (KI 4).*

### 4.7.4 Weak Laboratory Network to Respond on the IHR Implementention at JNIA

In Tanzania, the laboratory service network was reported as a challenge for rapid response. The diagnosis and confirmation of diseases depend on the level of laboratories from the dispensary to national laboratories. The well equipped laboratories reported by respondents included; one at Muhimbili National Hospital and the other at National Institute for Medical Research (NIMR) headquarters in Dar es Salaam. Other laboratories at referral and district hospitals were available to confirm health conditions. For the complicated cases the specimens are usually sent out of country particularly to Kenya and South Africa for further investigation. The chemical hazards were investigated at the Chief Government Chemistry situated at Dar es Salaam. Since JNIA is situated in Dar es Salaam, laboratory services may

not be a problem compared to other POE. However, the respondents for this study suggested that coordination and communication should be harmonized between JNIA and respective laboratories for timely responses on events. The assessment report of IHR (2005) revealed that generally there is shortage of the competent of laboratory staff in health facilities in Tanzania [40].

### 4.8 Shortage of Resources at JNIA

The implementation of IHR (2005) to meet the core capacity requirements depends on the available resources within the national structures of the countries. The core capacities required at POE as well as at JNIA are those capacities for detecting, notifying and responding to the specified human health hazards and events (see appendix IX) [41].

#### 4.8.1 Shortage of Financial and Material Resources at JNIA

The implementation of IHR (2005) demands additional resources particularly on the building of core capacities to enable JNIA to operate IHR (2005) requirements all the time. All respondents reported that there is critical shortage of financial resources and equipments. The funds allocated to Port Health Services Unit at MoHSW for the past two years (2010/2011 and 2011/2012) were mainly meant for the administrative and running expenses for 19 POE to purchase communication facilities, vehicles and motorcycles [42]. There was no specific budget for JNIA. For the 2011/12 budget, less than 20% of planned funds were released at the time of this assessment. Nevertheless during the specified period, there were no other interventions that were financially supported apart from logistics and administrative services.

As far as the IHR (2005) requirements at JNIA are concerned, the implementation has been distributed in various units within and outside the MoHSW. It was noted that the budget has been allocated to different units, most of which were uncoordinated. The support for surveillance was obtained from WHO and it mainly focuses on technical supports on national diseases surveillance and rarely on POE. The findings revealed the MoHSW is the major funder for port health services on financial, equipments and human resources.

Based on the findings of this study, some efforts were gradually done to improve working conditions at POE including JNIA. These include transport for major POE, communication facilities and increasing number of health workers.

It was observed that there were insufficient and unreliable working facilities to support the implementation of IHR (2005) including the communication facilities such as computers for accessing internet at JNIA. No modern scanners to fasten and smoothing the screening of passengers which are currently used in other international airport to detect the temperature for passengers for scientific and quick detection. The respondents complained that the MoHSW have failed to facilitate the implementation of IHR (2005) by not providing adequate working equipments and supplies to JNIA as reported by one of the respondent: *"I have been here since 1970s; Lack of adequate working equipment and supplies is a frustrating situation as we are not treated like other health workers at the MoHSW headquaters...." Gr. 1:5.*

It was observed the health office located to JNIA was small to accommodate 20 health workers and at the same time it was used as storage and vaccination room for yellow fever.

### 4.8.2 Answerability of Health Workers at JNIA

The MoHSW is an employer of all health workers working at Port Health Unit at JNIA (except for those who are working at the JNIA clinic). During this assessment, it was noted that there were sufficient health workers to perform all health related activities at JNIA. The TAA has nothing to do with administration and management of health workers and services at JNIA apart from following health instructions provided by health experts. The findings of this study showed that the JNIA management does not know the needs and requirements of health workers at JNIA as stated by one of the respondents: *"...the JNIA authority provides office space to the health unit at JNIA, but other working equipments and all health workers belong to the MoHSW..." (KI 8).* Answerability and chain of command of health workers to JNIA authority remain a challenge in the whole process of implementing IHR (2005).

## 4.9 Availability of Competent Authorities at JNIA

It is expected that international airport like JNIA should provide variety of quality services to cater for the demands and needs of local and international travelers all the time. These include

access to medical and diagnostic facilities, transport for ill and suspect travelers, competent health workers and PPE to handle ill and suspect travelers, private rooms for history taking and examination of suspect travellers. Other services are vector control, food and water safety, solid and liquid waste management.

At the JNIA there were private companies to provide sanitation, cleaning and disposal of waste products, catering and security around the premises. These are private companies which have legal contracts with JNIA authority. The companies are required to provide highly and specialized services to protect the health and safety of passengers and others JNIA community members. The sanitation for JNIA premises was said to be given high priority like safety and security. The statement below describe the view of respondent at JNIA on the competent authority: *"...passengers are highly respected and therefore the attractive and conducive environment is the 2$^{nd}$ or 3$^{rd}$ priority to me as it promotes the use of this airport and attracts businesses and tourism industries..."(KI 8).* It was reported that TAA and JNIA authority respect health instructions aiming at improving the services provided at JNIA.

On occupational hazards, it was reported to be worse even for health workers themselves at JNIA. They do attend arrivals while standing all the time as there was no a health desk at JNIA. This is unhealthy and uncomfortable working environment to individuals. The following statement justifies this: *"...we do attend arrivals while standing all the time and is like chasing and grabing passangers...and there is no a special desk like those of customs and immigration units...we often experience back pain...".Gr2:4.*

# CHAPTER FIVE: DISCUSSIONS

The IHR (2005) cover a wide range of public health risks of potential international concerns including those caused by biological, chemical and radionuclear sources and both transmitted by persons, goods, food, animals, vectors and environment. For the purpose of this study, the assessment focused to the biological public health transmitted by persons at JNIA POE. The discussion is organized into the main themes emerged from the study findings: the understanding and advocacy of IHR (2005); national legislations and guidelines; designated POE; coordination of IHR (2005) implementation at POE; risk communication at POE; emergence preparedness and responses to public health events; resources at POE and competent authorities at JNIA.

## 5.1 Understanding and Advocacy of IHR (2005) Requirements

The implementations of IHR (2005) requirements at POE and JNIA in particular involve many stakeholders from different levels of government and institutions. Not many efforts have been done to ensure that all ministries, departments and agencies understand the concepts of IHR (2005). In order to comprehend the efforts that every player direct to the achieving the IHR (2005), advocacy and sensitization sessions should be organized to create understanding. Menucci suggested that the dissemination of IHR (2005) requirements to all actors in the circuit enhances its implementation [30]. Similarly, the initiatives taken by key players in Kenya of holding the meeting to bring together stakeholders involved in implementation of the regulations was a strategy of creating awareness and understanding of IHR (2005) [43].

## 5.2 Legislations and Guidelines Related to IHR (2005) at JNIA

Operations at JNIA are provided by different government and private agencies, institutions and organizations which are governed by the application of various legislations, regulations and instruments. The application of some legislations and instruments may interfere or conflict with implementation of IHR (2005). The findings revealed the availability of legislations and instruments related to public health, environmental, TAA, customs, food and safety, agriculture, livestock, radiation safety, chemical safety, transportation and collection

and disposal of waste products. The WHO IHR core capacity monitoring framework emphasizes that enforcing such legislations could serve in institutionalizing and strengthening the role of IHR (2005). The processes of harmonizing legislations facilitate coordination among the different entities and organizations involved at JNIA [41]. This study support the suggestion made by another study [28] that in order to ensure the national broad scope in the participation of the implementation of IHR (2005), the intersectoral committee (legal and technical advisers) for assessing legislations that cover all functions and subjects of IHR (2005) needs to be established.

Each country is required to ensure that legislative references are distributed and disseminated to all responsible people for implementation of the IHR (2005) [35]. The study revealed that the IDSR guidelines were reviewed to accommodate important issues stipulated in the IHR (2005) but were not yet disseminated to the users at JNIA. The Public Health Act of 2009 was widely disseminated without informing users whether it was complimenting the IHR (2005). This Public Health Act (2009) was mainly used to handle issues at JNIA POE to prevent and control public health events of international concern.

WHO sees the new or revised guidelines may not be explicitly required under the country's legal system for implementation of provisions in IHR (2005). However, revision of some regulations and any other instruments may still be well thought-out by the country in order to smooth the progress of the implementation of IHR activities in more focused manner [35,41]. It is wise for government authorities to keep various partners on board right from the policy development and planning phases of implementation of IHR (2005) at JNIA.

### 5.3 Designated POE

The IHR (2005) framework requires each WHO Member State to have at least one designated POE which will meet the obligations of the regulations by June 2012 [3,4]. Several publications put emphasis on the importance for the country to designate POE, develop core capacities and identify competent authorities at each designated POE [3, 4, 35]. Despite the fact that JNIA is the international and the busiest airport, the study found that in Tanzania there was no designated POE in which government's efforts could focus in building the

required IHR (2005) core capacities such as surveillance, effective preparedness and response and risk communication.

Through international air travel and trade, infectious diseases spread far and widely within a short period of time. So a crisis in one country can affect livelihoods and economies in many parts of the world. It is in this line that WHO emphasizes much on the effective public health measures and response capacity at international POE that contribute to reduce the risk of international spread of diseases [4].

### 5.4 Coordination of IHR (2005) Implementation at POE

According to WHO, the IHR (2005) article 4 mandates the member states to appoint IHR NFPs for coordinating IHR implementation in the country [2]. Despite the importance of IHR (2005) requirements at the POE, the findings of this study revealed the weak coordination among key stakeholders on the focus of building required core capacities at JNIA. Within the MoHSW the structure seems to be disintegrated in fostering health services at POE, particularly in JNIA. The range of activities of the responsible departments and sections and the laid down communication channels among the key implementers was sub optimal. The IDSR strategy is concerned more on the control and prevention of communicable diseases in the districts and less at the POE including JNIA. WHO confirmed similar situation showing that the communicable diseases surveillance and response systems at community and national level at least have been given more attention in many countries and relatively lacking at POE due to lack of awareness and adequate training on the IHR Core Capacities at POE [4].

However, the POE belong to different authorities like TAA in case of airports, TPA for the sea and lake ports and land crossing belong to immigration and customs. From the findings of this study, it was noted that it is not easy to task one section that can ensure that the IHR (2005) core capacities are implemented at JNIA. The Port Health Services Unit at MoHSW which was expected to play coordination role was found to be less involved in the implementation of the IHR (2005) requirements at the POE since the core responsibilities are mandated to Epidemiology and Disease Surveillance section of the MoHSW. The IHR (2005) insists on partnerships and intersectoral collaboration to facilitate the establishment and

building the core capacities [3]. Thus, the health sector should be well coordinated to support the implementation of IHR (2005) at the JNIA. The report of the WHO regional meeting of 14-16 July 2010 in Colombo, Sri Lanka suggested that the health authority at the airport should coordinate, supervise and monitor other stakeholders' activities related to health issues at airport [4].

### 5.5 Risk Communication at POE

The process that allows exchanging information aimed at rapid containing crisis with minimal disruption is known as risk communication. It involves creation of awareness towards appropriate actions to be taken to benefit the public by cutting short the transmission of infection [21]. The findings have shown that in Tanzania, the normal government structures are used to notify the public about the identified public health threat. Through MoHSW, the Regional Commissioners (RC) and Regional Medical Officers (RMO) are informed on the public health events, these disseminate the messages to the District Commissioners (DC)/District Executive Directors (DED)/District Medical Officers (DMO) who inform people at their areas of jurisdictions. JNIA health workers are responsible to inform the airport authority at JNIA so that the whole community at JNIA is well informed on the public health events.

The Integrated Disease Surveillance and Response (IDSR) adopted by WHO Africa Region (WHO AFRO) member countries as a strategy to strengthen surveillance. The strategy has improved early detection, reporting and timely response to epidemic prone and other diseases in several countries including Tanzania. A study in Mexico reported that the quick reporting in good faith helped the Mexican to secure global assistance in time before the spread of the H1N1 in a wide range [1]. The important part of risk communication is the timely dissemination of information to the community about health risks and events [41]. Other countries use media to communicate with the public about the existing public health threat. The WHO meeting report on prevention and control of Chikungunya in South-East Asia (SEA) reported the effective communication through media that provided the facts to public during the outbreak in Caribbean [44].

According to IHR (2005), NFP must be available and accessible at all the time for urgent reciprocal communication with WHO IHR NFP and others sectors within the set structure [45]. JNIA does notify the MoHSW as well as respective health authority in their locality. They report to the head of Port Health as well as to the IHR NFP at MoHSW. The protocol for communication from the JNIA to the higher level was well formulated and known. The systematic disease reporting has been underscored to help in identifying potential dangerous situations before it become serious and unmanaged epidemic [27]. The logistics to facilitate risk communication should be improved and maintained. The modern electronic and faster communication facilities which can manage large volume of information in a very short time such as internet, fax, radiocalls, landline and mobile phone should be available all the time to facilitate risk communication at JNIA as well as at the IHR NFP of the MoHSW.

### 5.6 Emergence Preparedness and Responses to Public Health Events

The IHR (2005) strongly encourage countries to institute and strength the core capacities at international POE, this include the public health emergency preparedness and response through the development of a public health emergency contingency plan [4]. Efficient public health system may not only quickly detect and respond to infectious diseases at initial stage, but also sensitive enough to mark a new unidentified infection. In order to control and contain disease outbreaks that have the potential to spread globally, the IHR (2005) specify measures to be taken at POE. These measures include surveillance, screening, isolation, contact tracing and disinfection [27]. The IHR framework emphasized on critical components for consideration in responding to public health events; these are appropriate case management, infection control and decontamination [41].

Preparedness includes the mapping of potential hazards and its sites, identification of required resources and capacity to support the required operations during the public health emergency [41]. The experience gained by many countries during the SARS outbreak have been used for development of emergency preparedness plans in order to deal with threats or reality [46].

Menucci suggested that in preparedness and responding to events, the POE requires to have arranged isolation spaces for interview and management of suspects and application of

specific measures of events [3]. The weak institutional and physical infrastructure for response systems should be addressed. Absence of equipped isolation rooms at JNIA indicated the weakness on the emergency preparedness. It was revealed in this study that PPE were not available at JNIA all the time, rather those PPE were only being supplied when the health events were reported. The emergency preparedness plan demand the availability of PPE at POE all the time.

It was noted that the simulations exercises were not in the plans of health workers at JNIA. The head of Port Health Services at the MoHSW was not aware of types of simulation exercises planned by JNIA authority. This implied the lack of joint preparedness plan both at JNIA and MoHSW to ensure the implementation of IHR (2005).

The report of a regional meeting in Colombo highlighted that the effective response to public health needs depend also on the effective health laboratory network in the country to identify, track and limit public health threats. Laboratory and disease surveillance capacities for essential monitoring of diseases are the critical parts of the system to be focused in the implementation of IHR (2005) [4]. Likewise, the study done by Masanza et al pointed out the necessity of strengthening laboratory services to enhance the timely detection and reporting of public health events. However, due to poor infrastructure, low human resources capacity and inappropriate technologies, laboratory services were not given special attention in the most resource limited health care systems in Africa [47]. The challenge of lack of sufficient well trained laboratory staff in the health system was also reported in the IHR assessment report [40,47]

If any laboratory test for a suspect has to be taken at JNIA is likely to delay and hold the passenger for some time as the test should be done either at the Municipal hospitals, or at the MNH or NIMR laboratories which are located far away from the airport premises. Nevertheless, in the limited resources health care systems, laboratory networkings serve for the quick detection and response to the public health events and therefore facilitate the implementation of IHR (2005) in sharing the resources, knowledge and expertise.

The study on infectious diseases in UK recommends that awareness to travelers on the health status should be instituted at POE because it helps the country in controlling and preventing the diseases [36]. However, this study observed that there is less health information and promotion to travelers at JNIA. No leaflet was found to be given to either departures or arrivals at JNIA. However, there were billboards with health messages on malaria and hand washing in few areas at the JNIA premises.

The study by Kimball et al acknowledges the effective training and development of core competencies like applied epidemiology, informatics and laboratory methods to local forefront workers as one of the ways to improve surveillance and response systems [27]. The AFENET publication [43] pointed out that the training of health workers on IDSR core functions is the key strategy in early detection, reporting and timely response to public health risks. Contrary, it was noted that training to health workers at JNIA were not planned or scheduled. Rather, it happens when there was local or international alert of public health events. Experts organize trainings and orientation to POE health workers as well as the regional and district health management teams around the place where the health events have been reported or there is an alert to happen.

Lack of awareness, advocacy and adequate training on the importance of POE in the implementation of IHR (2005) has left behind the efforts to sparehead the required strategies for disease surveillance and response systems [4]. Training and re-training of health workers at POE is part of preparedness and response and therefore it is important for JNIA health workers for career development and update of knowledge and skill particularly on case detection. Opportunities for continuous education and upgrading of skills should be initiated particularly on technical and managerial skills on prevention and control of infectious diseases at JNIA.

### 5.7 Resources at JNIA

The MoHSW IHR assessment report of 2010 admitted that not much has been done generally to implement IHR (2005) in the country including at POE [40]. Two years extension to 2014 has been requested by Tanzania and accepted by WHO Headquarters to meet the required

core capacity of IHR (2005). No sanctions for non compliance states have been stated in the IHR (2005). However, the study by Fischer et al [5] assumed that countries should develop the legal and regulatory mechanisms, physical infrastructure, materials and equipments, human resources and procedures necessary to guarantee that all IHR (2005) obligations are met. It demands collaboration across disciplines and sectors.

Despite the fact that POE is experiencing critical shortage of human resources for health like other health facilities in the country, government was making effort to employ and deploy health professional at JNIA. However, at the time of conducting this study, health workers located at JNIA were enough to meet the health service for 24 hours, 7 days a week throughout the year.

It was noted that JNIA was far away to meet the standards required by IHR (2005) as designated POE. Few working facilities like computer, mobile phone and fax were available for communications. There was no plan for regular preventive maintenance. It is necessary for the country to identify and mobilize the required technical, financial and human resources from all possible available sources to focus on the implementation of IHR (2005) to meet core capacity requirements at JNIA. Assessment conducted in countries in the South East Asia Region (SEAR) revealed that in the implementation of IHR (2005) at POE more resources is needed particularly for training of human resources, ensuring of adequate supplies and equipment and operations services for strategic linkage with other collaborators related to IHR requirement [4].

### 5.8 The Competent Authorities at JNIA

At most international POE, there are various authorities providing variety of services needed to travelers. These services are supposed to meet the requirements of IHR (2005) to protect travelers from public health risks. Regarding public health services, entry screenings have been given higher priority than exit screening in most of South-East Asia (SEA) [4]. At JNIA as well, the yellow fever screening was mainly done to international arrival during this assessment. The report of the Regional meeting of South-East Asia pointed out that public health systems at POE include not only the screening and quarantine but also provision of

quality catering services, hygiene and sanitation to reduce health risks to international travelers [3,4]. The provision of quality services at JNIA was among the IHR (2005) requirements. The collaboration and coordination between the TAA and health authority at JNIA should have shared strategies geared to the improvement of the required services to meet the set standards with less interferences. The IHR (2005) express that the port health authority has to coordinate the public health emergencies at ports [3]. This demands the health authority at JNIA to conduct regular meetings and trainings to ensure that everybody is aware of public health interventions and his/her required responsibilities at airport. These include monitoring and evaluation arrangement of vector control, food safety, chemical safety and general environmental protection to reduce health risks to international travelers.

### 5.9 Strengths of the Study

The qualitative research method permitted the researcher to obtain exhaustive views and opinions of the key stakeholders in the implementation of IHR (2005) at POE and specific for the JNIA. The large amount of relevant information about the practices and experiences of respondents were collected by directly questioning and talking. It offered the considerably flexibility of questioning on the specific issues which generated number of themes. The discussions could expose agreement and contradictory views of respondents on the IHR (2005) core capacities that were necessary at POE. It raised the issues related to understanding and interpretation of the concepts as well as attitude and perceptions of involved respondents. The findings provide important strengths to be maintained and areas for improvement if the JNIA could be one of the designated POE in Tanzania.

### 5.10 Limitation of the Study

When considering the findings of the study it is important to recognize the limitation of the methodology. The use of occasional spontaneous questions in the in-depth interviews might make the answers difficult to analyse. It is suggested that in the future quantitative research methods can be used in such a study for clear picture.

It was impossible to have FGD of more than 6 participants because health workers at JNIA are working in shifts so as to provide 24 hours services. Some of them were on annual leave

and others had other important responsibilities to attend in the office and outside the office during the time this study was conducted.

The findings of this study cannot be used to generalize the situation of other POE in Tanzania as they differ in many aspects such as the magnitude of the workload and involved services as far as IHR is concerned. More studies are needed for comparison. Allocated funds and time were not enough to search for experiences regarding the implementation status of IHR (2005) of other POE.

The views of other key players at JNIA like immigration, police force, and customs could be of important to the assessment of IHR (2005) in a wide range at JNIA. Time was not enough to reach many key players at JNIA.

Views of travelers using JNIA could provide their feelings and experiences on how the IHR (2005) are implemented in other international airports in other countries so as to compare with JNIA. Travelers at JNIA were not included in the study population because of the logistics involved in interviewing foreigners and limited time and budget for conducting this study.

# CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Conclusions

The study aimed at assessing the implementation of IHR (2005) at the JNIA in order to determine the strengths that can be maintained and also the areas that need improvement in prevention and control of infectious diseases. Regarding IHR (2005), strengthening of sound public health policies and practice at POE could improve international travel and trade. The findings indicate that the JNIA has not yet realized the requirements stipulated in the IHR (2005) to be the designated POE despite being the busiest airport in Tanzania.

More efforts were needed particularly on the coordination of responsible stakeholders to seriously focus on the implementation of IHR (2005) requirements at JNIA by effectively and efficiently utilize available resources. Therefore, the core capacities such as effective surveillance, emergency preparedness and response, and risk communication to respond to public health threats at POE should be developed and strengthened at JNIA. There should be adequate allocation of human and financial resources for sustainability of IHR (2005) implementation at POE. It is necessary for the policy and decision makers to coordinate the efforts for harmizing policies and guidelines, resources and available opportunities to address the identified challenges.

## 6.2 Recommendations

This study has provided important information regarding the status of the implementation of IHR (2005) in Tanzania specifically focusing at the JNIA. It therefore recommends to all responsible authorities in the implementation and management of the IHR (2005) including policy makers and implementers at JNIA, MoHSW, immigration department, TPA and other stakeholders to consider the following:

- To designate JNIA to implement IHR (2005).
- To review, harmonise and disseminate existing regulations and guidelines to facilitate the implementation of IHR (2005) at JNIA.

- To have a joint plan involving all relevant key players that focuses on interventions on IHR (2005) requirements in their respective areas at JNIA.
- The national leaders within and beyond the health sector to increase resources over longterm to sustain commitment for the health services at JNIA such as training programmes, communication facilities, medical equipment and supplies, office space and furniture, uniforms, and PPE. Modern working equipments at JNIA are recommended in order to minimize unnecessary inconveniencies for passengers as well as health workers when implementing required health interventions.
- To legalize the institutional arrangement for the IHR NFP at MOHWS to work with other IHR NFP out of health sector so that the JNIA could be easily supported on the implementation of IHR (2005).

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# APPENDICES

## Appendix 1: Informed Consent Form- English Version

**INFORMED CONSENT FORM**

Interviewee No. …….

**Consent to participate in a study**

Greetings! My name is **Edith Bakari.** I am postgraduate student at Muhimbili University of Health Allied Sciences. I am working on a study on Assessment of Implementation of the International Health Regulations (2005) in prevention of infectious diseases, a case of Julius Nyerere International Airport, Dar es Salaam.

**Purpose of the Study:**

The study is conducted in partial fulfillment of the requirement for the award of degree of Masters of Arts, Health Policy and Management of MUHAS. The study is aiming at assessing the implementation of IHR (2005) at point of entry particularly Julius Nyerere International Airport. The IHR (2005) is a global legal instrument that requires the WHO member states to prevent and respond to sensitive public health risks which threatening the world in a way that avoid unnecessary interference with international traffic and trade.

You are being asked to participate in this study because your department/unit/section is an important organ with regards to prevention and controlling of infectious diseases and outbreaks in this country. Kindly collaborate to provide a clear picture and situation on prevention and responding to public health of the international concern. The findings will be useful in assessing the strengths and areas for improvement towards implementing the requirement of IHR (2005).

**What participation involves:**

If you agree to take part in the study, you will be interviewed to answer and explain details as per interview guide used.

**Confidentiality:**

I assure you that all the information collected from the interview will be respected and treated confidentially. The answers, opinions and suggestions will be used for the improvement of the implementation of IHR (2005) at POE. Your name will not be written in this report. All information collected from the study will be entered in computers with identity codes known by interviewer only.

**Risks:**

I don't expect any harm as a result of your participation in this study. There may be some questions that you are not willing to answer; do not hesitate to tell the interviewer your feeling on those questions. However, you may need to refer the researcher to somebody for more clarifications and supporting data. You may reject to answer any particular question and also you may end the interview session at any time you wish.

**Right to withdraw:**

It is voluntary to take part in this study. You can withdraw your participation at any time, even if you accepted at the beginning. Refusal to participate in this study has no penalty.

**Benefits:**

The information you provide will lead the assessment of the implementation of IHR at the point of entry particularly JNIA. The strengths will be maintained and improved in future. However, areas for improvement will be highlighted for further actions towards the IHR (2005) requirements.

**Who to contact:**

If you have any question about the study, do not hesitate to contact the researcher, **Edith Bakari**

Muhimbili University Health and Allied Sciences,

P.O. Box 65001,

Dar es Salaam. Tel: 0784 237443.

You may also contact the supervisor, **Dr. Gasto Frumence**,
Muhimbili University Health and Allied Sciences,

P.O. Box 65001,

Dar es Salaam. Tel No: 0713 212212

Or you may call **Prof. Muhsin Aboud,** Chairperson of the Senate Research and Publications Committee, P.O. Box 65001, Dar es Salaam. Tel: 255 22 215 2489.

Do you agree to participate in the study?

I…….have read the contents in the consent form and understand.

I agree ☐ I do not agree ☐

Signature of participant……

Signature of interviewer…..……

Date ……

**Appendix II: Informed Consent Form – Swahili Version**

**FOMU YA RIDHAA**

Namba ya Msailiwa…….

Ridhaa ya kushiriki katika utafiti

Salaam! Ninaitwa **Edith Bakari,** mwanafunzi wa shahada ya uzamili wa Sera za Afya na Uongozi katika chuo kikuu cha Sayansi ya Afya na Tiba Muhimbili. Nafanya utafiti wa kutathmini utekelezaji wa Kanuni za Afya za Kimataifa zilizorekebishwa mwaka 2005 (IHR 2005) katika kudhibiti magonjwa ya kuambukiza katika uwanja wa ndege wa kimataifa wa Julius Nyerere, Dar es Salaam.

**Madhumuni ya utafiti:**

Utafiti huu unafanyika ili kukamilisha masomo ya shahada ya uzamili wa sera za afya na uongozi katika chuo kikuu cha Sayansi ya Tiba Muhimbili. Utafiti una lengo la kutathmini utekelezaji wa Kanuni za Afya za Kimataifa zilizorekebishwa mwaka 2005 (IHR 2005) katika kudhibiti magonjwa ya kuambukiza katika uwanja wa ndege wa kimataifa wa Julius Nyerere.

Kanuni za Afya za Kimataifa zilizorekebishwa mwaka 2005 ni chombo cha kisheria kinachozihitaji nchi zote ambazo ni wanachama wa Shirika la Afya Duniani kudhibiti magonjwa au athari zinazotishia afya ya watu na kusambaa katika nchi nyingi na kwa muda mfupi zisipodhibitiwa. Aidha katika kudhibiti magonjwa na athari hizo, kujaribu kuwa na utaratibu ambao utapunguza au kuondoa usumbufu usio wa muhimu kwa wasafiri, watalii na wafanya biashara wa kimataifa.

Umeombwa kushiriki katika utafiti huu kwa sababu idara/sehemu/kitengo chako ni muhimu katika kudhibiti magonjwa ya kuambukiza, dharura na yale ya mlipuko hapa nchini. Tafadhali naomba ushirikiano wako katika kutoa taarifa juu ya hali halisi ya udhibiti na mwitikio wa masuala ya afya ya jamii ya kimataifa. Matokeo ya utafiti huu yatatumika kuonyesha mwelekeo wa utekelezaji wa kanuni hizi na vilevile kuweza kurekebisha mapungufu.

**Masuala yanayohusu ushiriki:**

Iwapo utakubali kushiriki katika utafiti huu, utasailiwa masuala yaliyo kwenye mwongozo wa usaili ili kutoa maelezo husika.

**Usiri**

Nakuhakikishia kwamba majibu, taarifa, maoni na ushauri wowote utakaotoa utatumika kuboresha utekelezaji wa kanuni za afya za kimataifa katika uwanja wa ndege wa Kimataifa wa Julius Nyerere. Jina na cheo chako hakitaandikwa katika taarifa hii. Aidha, taarifa zote zitaingizwa kwenye kompyuta kwa kutumia namba za utambulisho ambazo zinajulikana kwa msaili tu.

**Madhara:**

Sitegemei kuwa ushiriki wako katika utafiti huu utakuwa na madhara yoyote. Iwapo kuna maswali ambayo hutayapenda, unaruhusiwa kutoyajibu au kumwelekeza msaili kwa mtu mwingine kwa maelezo zaidi. Aidha, una uhuru wa kutoendelea na usaili wakati wowote.

**Haki ya Kujitoa/ kutoshiriki katika utafiti**

Ushiriki wako katika utafiti huu ni wa hiari. Una hiari ya kujitoa katika utafiti huu wakati wowote hata kama ulikubali mwanzoni. Kujitoa kwako hakutaathiri stahili zako kwa namna yoyote ile.

**Manufaa:**

Taarifa utakazotoa zitasaidia kufanya tathmini ya utekelezaji wa Kanuni za Afya za Kimataifa katika maeneo ya kuingilia katika nchi na hasa katika kiwanja cha ndege cha kimataifa cha Julius Nyerere, Dar es Salaam. Maeneo yanayofanyika vizuri yatakayobainika yataendelezwa. Hata hivyo maeneo yatakayobainika kuwa na mapungufu yatafanyiwa kazi ipasavyo kulingana na maelekezo ya kanuni za afya za kimataifa.

**Watu wa Kuwasiliana:**

Iwapo una suala lolote kuhusu utafiti huu, unaweza kuwasiliana na mtafiti, **Edith Bakari**, Chuo Kikuu cha Sayansi za Afya na Tiba, Muhimbili,
S.L.P. 65001,
Dar es salaam. Namba ya simu: 0784 237443

Pia unaweza kuwasiliana na Msimamizi wa utafiti huu, **Dkt. Gasto Frumence**,
Chuo Kikuu cha Sayansi za Afya na Tiba, Muhimbili,
S.L.P. 65001,
Dar es salaam. Namba ya simu: 0713 212212.

Pia unaweza kuwasiliana na **Prof. Muhsin Aboud**, Mkurugenzi wa Tafiti na Machapisho, Chuo Kikuu cha Sayansi za Afya na Tiba, Muhimbili, S.L.P. 65001, Dar es Salaam. Namba ya simu 255 22 215 2489.

Je umekubali kushiriki katika utafiti huu?

Mimi……nimesoma maelezo katika fomu hii na kuelewa.

Nakubali ☐

Sikubali ☐

Sahihi ya Msailiwa……
Sahihi ya Msaili**.....**……

Tarehe ……...

**Appendix III: Interview guide for MoHSW officials- English Version**

**Part I: Identification of the interviewee's particulars and Social demographic data:**

Name of department…….. Section…….

Designation…….. Position…….....

Education level……..

Age……. Sex: Male ☐ Female ☐

Duration in this position; ……Years and ……months

**Part II: Knowledge about International Health Regulations (2005)**

a. What do you know about the International Health Regulations (2005)? What is/are the aim(s) of these regulations? (probe on the core capacities)
b. What are the requirements of IHR (2005) at the POE? (Probe of the feasibility in our country).
c. Which departments/sections are responsible for implementation of IHR in our country?
d. How do these department/sections responsible for implementation of the IHR (2005) coordinate their activities at the central level?
e. How do you communicate with other countries on the public health of international concern?
f. How do you communicate with point of entry on the public health of international concern?

**Part III: Stakeholders involvement in implementation of IHR (2005)**

a. Who are the stakeholders of the IHR (2005) in Tanzania? (Probe on who coordinate others)
b. What are their roles? (Probe the main stakeholders and their responsibilities)
c. How do you coordinate plan/ efforts toward implementation of IHR (2005)?

d. What can be done to improve the stakeholders' involvement?

**Part IV: Implementation status**

a. Which policies/ guidelines have been developed to enhance the implementation of IHR (2005) since June 2007?
b. What have been done so far at POE towards implementation of IHR (2005)?
c. In case of suspect at any POE, how do other responsible agents/ institutions do?
d. Who is responsible to inform other POE on public health events of international concern?
e. How do public be informed for any infectious at any of our POE? (Probe more on prevention and control measures).
f. What do you consider as strengths at POE regarding the IHR (2005) requirements?
g. What do you consider as weaknesses at POE regarding the IHR (2005) requirements?
h. How do you report the implementation status to WHO or other international agencies (Frequency of reporting, meetings)
i. How do you mobilize resources for IHR (2005) requirement? (Probe more on financial, human resources, laboratory reagents, medical supplies and equipment, office spaces).

**Part V: Challenges**

a. In your own words, what do you consider as challenges in implementation of IHR (2005)?

**Part VI: Recommendations and way forward**

a. What are your advice for improving and fastening the implementation of IHR (2005)? (Probe more actions to be taken)

**Appendix IV: Interview guide for MoHSW officials- Swahili Version**

**Mwongozo wa Usaili kwa maafisa wa Wizara ya Afya na Ustawi wa Jamii**

**Sehemu ya I: Taarifa binafsi za msailiwa**

Idara…… Sehemu……..……

Kazi yako…… Wadhifa……

Kiwango cha juu cha elimu…….....

Umri……. Jinsi: Me ☐ Ke ☐

Muda uliotumikia cheo cha sasa; miaka……na miezi…….....

**Sehemu ya II: Ufahamu kuhusu Kanuni za Afya za Kimataifa (2005)**

a. Unaelewa nini kuhusu Kanuni za Afya za Kimataifa (2005)? Nini lengo/malengo ya kanuni hizi? (uliza zaidi kuhusu maeneo muhimu (core capacity))
b. Nini matakwa ya Kanuni za Afya za Kimataifa (2005) katika maeneo mbalimbali ya kuingilia nchini? (Uliza zaidi kuhusu uhalisia katika nchi yetu).
c. Ni idara zipi au sehemu zipi zinahusika katika utekelezaji wa kanuni hizi hapa nchini?
d. Ni jinsi gani idara /vitengo vinavyoshughulika na utelekezaji wa kanuni za afya za kimataifa zinavyoratibu shughuli zao katika ngazi ya kitaifa?
e. Ni jinsi gani mnavyowasiliana na nchi nyingine kuhusu masuala yanayotishia afya ya jamii kimataifa?
f. Ni jinsi gani mnavyowasiliana na maeneo ya kuingilia nchini kuhusu masuala yanayotishia afya ya jamii kimataifa?

**Sehemu ya III: Wadau wanaoshiriki katika utekelezaji wa Kanuni za Afya za Kimataifa (2005)**

a. Ni nani wadau wa Kanuni za Afya za Kimataifa (2005) hapa Tanzania? (Uliza zaidi nani anaratibu wengine).
b. Majukumu ya wadau hao ni nini? (Uliza zaidi wadau wakubwa na majukumu yao).

c. Ni jinsi gani mipango na rasilimali zinaunganishwa pamoja katika utekelezaji wa Kanuni za Afya za Kimataifa (2005) hapa nchini?
d. Nini kinaweza kufanyika ili kuimarisha ushiriki wa wadau wote katika utekelezaji wa Kanuni za Afya za Kimataifa (2005) hapa nchini?

**Sehemu ya IV: Hali ya utekelezaji**

a. Ni sera/ miongozo ipi imeandaliwa kuwezesha utekelezaji wa Kanuni za Afya za Kimataifa (2005) tangu Juni 2007?
b. Nini kimefanyika kuwezesha utekelezaji wa Kanuni za Afya za Kimataifa (2005) katika maeneo ya kuingilia nchini?
c. Iwapo kuna mtu anahisiwa kuwa na hali inayotishia afya ya jamii kimataifa katika maeneo ya kuingilia nchini , ni jinsi gani wahusika wengine wanashiriki katika hili?
d. Nani anahusika kutoa taarifa katika vituo vingine vya kuingilia mipakani pale mtu anapohisiwa kuwa na hali inayotishia afya ya jamii kimataifa katika kituo kimojawapo?
e. Ni jinsi gani jamii inapewa taarifa za ugonjwa wa kuambukizwa unaogundulika katika mojawapo ya maeneo ya kuingilia nchini? (Uliza zaidi kuhusu kuzuia na kudhibiti kuenea kwa ugonjwa).
f. Unaona kuna mafanikio gani katika maeneo ya kuingilia nchini ambayo yanaelekea kutekeleza matakwa ya Kanuni za Afya za Kimataifa (2005)?
g. Unaona kuna mapungufu gani katika maeneo ya kuingilia nchini ambayo yanaelekea kutekeleza matakwa ya Kanuni za Afya za Kimataifa (2005)?
h. Ni kwa utaratibu upi unatumika kutoa taarifa za utekelezaji wa Kanuni za Afya za Kimataifa (2005) kwa Shirika la Afya Duniani au mashirika mengine ya Kimataifa? (Uliza zaidi taarifa zinatolewa mara ngapi, au ni mikutano mingapi)?
i. Ni jinsi gani rasilimali zinatafutwa zinazohusika kutekeleza matakwa ya Kanuni za Afya za Kimataifa (2005)? (fedha, watu, vifaa vya maabara na tiba, dawa, vifaa vya kinga [PPE])

**Sehemu ya V: Changamoto**

a. Kwa maoni yako, ni zipi changamoto zinakabili utekelezaji wa Kanuni za Afya za Kimataifa (2005)?

**Sehemu ya VI: Mapendekezo na mipango ya baadaye**

a. Ni nini ushauri wako katika kuboresha na kuharakisha utekelezaji wa Kanuni za Afya za Kimataifa (2005)? (Uliza zaidi nini kifanyike).

*ASANTE KWA USHIRIKI WAKO*

**Appendix V: Interview guide - WHO country Office – English Version**

**Part I: Identification of the interviewee's particulars and Social demographic data:**

Name of Department……...Section……

Designation……Position……

Education level……..

Age……. Sex: Male ☐ Female ☐

Duration in this position; ……Years and ……months

**Part II: Knowledge about International Health Regulations (2005)**

a. What do you know about the International Health Regulations (IHR) (2005)? What is/are the aim(s) of these regulations? (probe on the core capacities).
b. What are the requirements of IHR (2005) at the POE? (probe of the feasibility in our country).
c. How do you communicate with other authorities on the public health of international concern?

**Part III: Stakeholders involvement in implementation of IHR (2005)**

a. Whom are you collaborating with on the public health events of international concern?
b. What other institutions/ agency do you collaborate with in the prevention and controlling infectious diseases at POE?
c. What are their roles? (Probe the main stakeholders and their responsibilities)
d. How do you coordinate plan/ efforts toward implementation of IHR (2005)?
e. What can be done to improve the stakeholders' involvement?

**Part IV: Implementation status**

a. Which guidelines are used to enhance the implementation of IHR (2005) since June 2007?

b. What POE are designated for implementation of IHR (2005)? Why those?
c. How regular does your office certify the designated POE?
d. What have been done so far at POE towards implementation of IHR (2005)?
e. What kinds of support are you providing to MoHSW / TAA/ others?

**Part V: Challenges**

a. In your own views, what do you consider as challenges in implementation of IHR (2005) at POE (JNIA)?
b. How can these challenges be addressed?

**Part VI: Recommendations and way forward**

a. What are your advices for improving and fastening the implementation of IHR (2005)? (Probe more actions to be taken)

*THANKS FOR YOUR PARTICIPATION*

**Appendix VI: Interview guide - WHO country Office- Swahili Version**

**Mwongozo wa Usaili kwa maafisa wa Shirika la Afya Duniani, Ofisi za Tanzania**

**Sehemu ya I: Taarifa binafsi za msailiwa**

Idara…… Sehemu……..……

Kazi yako…… Wadhifa……

Kiwango cha juu cha elimu…….....

Umri……. Jinsi: Me ☐ Ke ☐

Muda uliotumikia cheo cha sasa; miaka……na miezi……

**Sehemu ya II: Ufahamu kuhusu Kanuni za Afya za Kimataifa (2005)**

a. Unaelewa nini kuhusu Kanuni za Afya za Kimataifa (2005)? Nini lengo/malengo ya kanuni hizi? (uliza zaidi kuhusu uwezo muhimu).
b. Nini matakwa ya Kanuni za Afya za Kimataifa (2005) katika maeneo ya kuingilia nchini? (Uliza zaidi kuhusu uhalisia katika nchi yetu).
c. Ni jinsi gani mnavyowasiliana na mashirika/taasisi nyingine kuhusu masuala yanayotishia afya ya jamii kimataifa?

**Sehemu ya III: Wadau wanaoshiriki katika utekelezaji wa Kanuni za Afya za Kimataifa (2005)**

a. Ni wapi washirika wenu katika masuala yanayotishia afya ya jamii kimataifa?
b. Ni taasisi/ mamlaka zipi zinashiriki katika masuala yanayotishia afya ya jamii kimataifa katika maeneo ya kuingilia nchini?
c. Majukumu ya taasisi/mamlaka hizo ni nini? (Uliza zaidi wadau wakubwa na majukumu yao).
d. Ni jinsi gani unaratibu mipango na nguvu za pamoja katika utekelezaji wa Kanuni za Afya za Kimataifa (2005) hapa nchini?

e. Nini kinaweza kufanyika ili kuimarisha ushiriki wa wadau wote katika utekelezaji wa Kanuni za Afya za Kimataifa (2005) hapa nchini?

**Sehemu ya IV: Hali ya utekelezaji**

a. Ni miongozo ipi inatumika katika utekelezaji wa Kanuni za Afya za Kimataifa (2005) tangu Juni 2007?
b. Ni vituo vipi vya kuingilia mipakani vimeteuliwa kutekeleza Kanuni za Afya za Kimataifa (2005)? Kwa nini vituo hivyo?
c. Ni mara ngapi ofisi yako inapitia na kuthibitisha maeneo teule ya kuingilia nchini yanayotekeleza Kanuni za Afya za Kimataifa (2005)?
d. Ni masuala yapi yamefanyika kuhakikisha utekelezaji wa Kanuni za Afya za Kimataifa (2005) katika maeneo ya kuingilia nchini?
e. Ni aina gani ya msaada Shirika la Afya Duniani linatoa kusaidia Wizara ya Afya na Ustawi wa Jamii, Mamlaka ya Viwanja vya Ndege Tanzania au taasisi zinginezo katika kuhakikisha utekelezaji wa Kanuni za Afya za Kimataifa?

**Sehemu ya V: Changamoto**

a. Kwa maoni yako, ni changamoto zipi zinakabili utekelezaji wa Kanuni za Afya za Kimataifa (2005) katika maeneo ya kuingilia nchini na hasa Uwanja wa Kimataifa wa Julius Nyerere?
b. Ni jinsi gani ya kukabili changamoto hizi?

**Sehemu ya VI: Mapendekezo na mipango ya baadaye**

a. Ni nini ushauri wako katika kuboresha na kuharakisha utekelezaji wa Kanuni za Afya za Kimataifa (2005)? (Uliza zaidi nini kifanyike).

*ASANTE KWA USHIRIKI WAKO*

**Appendix VII: Interview guide for FGD - POE- English version**

Name of Point of Entry……

Number of Participants…..……. .....

**Part I: Knowledge about International Health Regulations (2005)**

a. What do you know about the International Health Regulations (IHR) (2005)? What is/are the aim(s) of these regulations? (probe on the core capacities)
b. What are the requirements of IHR (2005) at the POE? (probe of the feasibility in our country)
c. How do you communicate with other authorities on the public health of international concern?
d. How do you communicate with other points of entry on the public health of international concern?

**Part II: Stakeholders involvement in implementation of IHR (2005)**

a. How do you collaborate with Tanzania Airport Authority (TAA) on the implementation of IHR (2005)? (Probe on who coordinate others)
b. What other institutions/ agency are you collaborating with in the prevention and controlling infectious diseases at POE?
c. What are their roles? (Probe the main stakeholders and their responsibilities)
d. How do you coordinate plan/ efforts toward implementation of IHR (2005)?
e. What can be done to improve the stakeholders' involvement?

**Part III: Implementation status**

a. Which guidelines are used to enhance the implementation of IHR (2005) since June 2007?
b. What have been done so far at POE towards implementation of IHR (2005)?

c. What happen when you suspect infected passengers/crews at your POE? (Probe more on prevention and control measures: examination rooms, isolation rooms, emergency diagnosis and treatment)
d. To whom do you communicate in case of a suspect reported at POE, how do other responsible agents/ institutions do?
e. How long it takes (on average) other key players to respond for any reported suspect at POE?
f. How are you informed about other POE on handling of infectious diseases (Probe on information exchange programmes/meetings)
g. How do public be informed for any infectious at your POE? (Probe more on prevention and control measures: examination rooms, isolation rooms)
h. How do you determine your requirement for management and preventing infectious diseases at POE? (Probe on stock at any time, conditions of equipments, skilled and adequacy staff).
i. What kind of support are you receiving from MoHSW/ TAA/ others?
j. What are sources of funds? Which ones are reliable for the past 12 months?
k. What training programmes have you received relevant to implementation of IHR (2005)? (probe on availability of training programme and implementation)
l. How often do you conduct the simulation exercises for handling infectious diseases at your POE?
m. How do you get the drugs, medical supplies and other necessary equipments for handling the infectious cases?

**Part IV: Challenges**

a. In your own views, what do you consider as challenges in implementation of IHR (2005) at POE (JNIA)?
b. How can these challenges be addressed?

**Part V: Recommendations and way forward**

What are your advices for improving and fastening the implementation of IHR (2005)? (Probe more actions to be taken)

*THANKS FOR YOUR PARTICIPATION*

**Appendix VIII: Interview guide for FGD at JNIA- Swahili Version**

**Mwongozo wa usaili wa kikundi kwa watumishi wa afya katika Uwanja wa Kimataifa wa Ndege wa Julius Nyerere, Dar es Salaam.**

Jina la Kituo……

Idadi ya Washiriki…….....…….

**Sehemu ya I: Ufahamu kuhusu Kanuni za Afya za Kimataifa (2005)**

a. Unaelewa nini kuhusu Kanuni za Afya za Kimataifa (2005)? Nini lengo/malengo ya kanuni hizi? (uliza zaidi kuhusu uwezo muhimu).

b. Nini matakwa ya Kanuni za Afya za Kimataifa (2005) katika njia za mipaka za kuingia nchini? (Uliza zaidi kuhusu uhalisia katika nchi yetu).

c. Ni jinsi gani mnavyowasiliana na mashirika/taasisi nyingine kuhusu masuala yanayotishia afya ya jamii kimataifa?

d. Ni jinsi gani mnavyowasiliana na vituo vingine vya kuingilia mipakani kuhusu masuala yanayotishia afya ya jamii kimataifa?

**Sehemu ya II: Wadau wanaoshiriki katika utekelezaji wa Kanuni za Afya za Kimataifa (2005)**

a. Ni kwa namna gani mnashirikiana na Wakala wa Ndege Tanzania katika kutekeleza matakwa ya Kanuni za Afya za Kimataifa (2005)? (Uliza zaidi kujua nani anaratibu ushirikiano huo).

b. Ni taasisi/ mamlaka zipi zinashiriki katika masuala yanayotishia afya ya jamii kimataifa katika maeneo ya kuingilia nchini?

c. Majukumu ya taasisi/mamlaka hizo ni nini? (Uliza zaidi wadau wakubwa na majukumu yao).

d. Ni jinsi gani unaratibu mipango na nguvu za pamoja katika utekelezaji wa Kanuni za Afya za Kimataifa (2005) hapa nchini?

e. Nini kinaweza kufanyika ili kuimarisha ushiriki wa wadau wote katika utekelezaji wa Kanuni za Afya za Kimataifa (2005) hapa nchini?

**Sehemu ya III: Hali ya utekelezaji**

a. Ni miongozo gani inatumika kutekeleza Kanuni za Afya za Kimataifa (2005) tangu Juni 2007?

b. Nini kimefanyika katika maeneo ya kuingilia nchini kuelekea utekelezaji wa Kanuni za Afya za Kimataifa (2005)?

c. Nini kinafanyika pale inapotokea abiria au wafanyakzi katika ndege kuhisiwa kuwa na ugonjwa wa kuambukiza katika eneo la kituo cha kuingilia? (Uliza zaidi kuhusu kudhibiti na kuzuia uambukizi hasa kuwepo kwa chumba maalum cha uchunguzi na matibabu, chumba cha kutenga wale wanaohisiwa).

d. Nani wanapewa taarifa kuhusu mtu anayehisiwa kuwa hali ya afya yenye tishio kimataifa katika kituo cha kuingilia? Ni kwa vipi taasisi/ wakala wengine wanahusika?

e. Kwa wastani, wadau wengine wanajitokeza baada ya muda gani tangu kupata taarifa ya mtu anayehisiwa kuwa na hali ya afya ya kutishia mataifa katika kituo cha kuingilia?

f. Ni kwa namna gani kituo chenu kinapata taarifa za magonjwa ya hatari kutoka vituo vingine vya kuingilia mipakani? (Uliza zaidi kuhusu upashanaji habari, mikutano).

g. Ni jinsi gani taarifa za magonjwa ya hatari za kituo chenu zinafika kwa jamii? (Uliza zaidi kuhusu jitihada za kudhibiti na kuzuia maambukizi).

h. Ni vipi mnaweza kujua mahitaji yanayotakiwa katika kituo chenu ili kuweza kudhibiti maambukizo ya magonjwa? (Uliza zaidi kuhusu dawa, vifaa na watumishi wanaokuwapo muda wote).

i. Ni aina gani ya msaada mnapata kutoka Wizara ya Afya na Ustawi wa Jamii, Mamlaka ya Viwanja vya Ndege au kwingineko?

j. Vyanzo vyenu vya fedha/ mapato vinatoka wapi? Vyanzo vipi ni vya uhakika kwa kipindi cha miezi 12 iliyopita?

k. Ni mafunzo ya aina gani yanayotolewa yanayolenga utekelezaji wa Kanuni za Afya za Kimataifa (2005)?

l. Ni mara ngapi kwa mwaka mnafanya mazoezi ya majaribio ili kuweza kujiandaa kudhibiti magonjwa ya kuambukizwa katika maeneo ya kuingilia nchini?

m. Ni kwa utaratibu upi unatumika kupata dawa, vifaa na mahitaji mengine muhimu kwa ajili ya kudhibiti magonjwa ya kuambukiza katika vituo vya kuingilia mipakani?

**Sehemu ya IV: Changamoto**

a. Kwa maelezo yako, nini changamoto za utekelezaji wa Kanuni za Afya za Kimataifa (2005)? mnazokutana nazo katika kituo hiki?

b. Changamoto hizi zinaweza kukabiliwa vipi?

**Sehemu ya V: Mapendekezo na mipango ya baadaye**

a. Ni nini ushauri wako katika kuboresha na kuharakisha utekelezaji wa Kanuni za Afya za Kimataifa (2005)? (Uliza zaidi nini kifanyike).

b. Ni kwa kiwango gani Kituo cha Uwanja wa Ndege kimejiandaa kuendeleza yale mazuri ili kuendelea kudhibiti magonjwa ya kuambukiza?

*ASANTE KWA USHIRIKI WAKO*

## Appendix IX: Core Capacity Requirements for Designated POE

***The capacities at all times:***

1. To provide access to (i) an appropriate medical service including diagnostic facilities located so as to allow the on time assessment and care of ill travellers, and (ii) adequate staff, equipment and premises;

2. To provide access to equipment and personnel for the transport of ill travellers to an appropriate medical facility;

3. To provide trained personnel for the inspection of conveyances;

4. To ensure a safe environment for travellers using point of entry facilities, including potable water supplies, eating establishments, flight catering facilities, public washrooms, appropriate solid and liquid waste disposal services and other potential risk areas, by conducting inspection programmes, as appropriate; and

5. To provide as far as practicable a programme and trained personnel for the control of vectors and reservoirs in and near points of entry.

***The capacities for responding to events that may constitute a PHEIC***

1. To provide appropriate public health emergency response by establishing and maintaining a public health emergency contingency plan, including the nomination of a coordinator and contact points for relevant point of entry, public health and other agencies and services;

2. To provide assessment of and care for affected travellers or animals by establishing arrangements with local medical and veterinary facilities for their isolation, treatment and other support services that may be required;

3. To provide appropriate space, separate from other travellers, to interview suspect or affected persons;

4. To provide for the assessment and, if required, quarantine of suspect travellers, preferably in facilities away from the point of entry;

5. To apply recommended measures to disinsect, derat, disinfect, decontaminate or otherwise treat baggage, cargo, containers, conveyances, goods or postal parcels

including, when appropriate, at locations specially designated and equipped for this purpose;

6. to apply entry or exit controls for arriving and departing travellers;
7. To provide access to specially chosen equipment, and to trained personnel with appropriate personal protection, for the transfer of travellers who may carry infection or contamination [1].

**Appendix X: The responsibilities of the competent authority at POE**

**Required to:**

(a) be responsible for monitoring baggage, cargo, containers, conveyances, goods, postal parcels and human remains departing and arriving from affected areas, so that they are maintained in such a condition that they are free of sources of infection or contamination, including vectors and reservoirs;

(b) ensure, as far as practicable, that facilities used by travellers at points of entry are maintained in a sanitary condition and are kept free of sources of infection or contamination, including vectors and reservoirs;

(c) be responsible for the supervision of any deratting, disinfection, disinsection or decontamination of baggage, cargo, containers, conveyances, goods, postal parcels and human remains or for sanitary measures for persons, as appropriate under these Regulations;

(d) advise conveyance operators, as far in advance as possible, of its intent to apply control measures to a conveyance, and shall provide, where available, written information concerning the methods to be employed;

(e) be responsible for the supervision of the removal and safe disposal of any contaminated water or food, human or animal dejecta, wastewater and any other contaminated matter from a conveyance;

(f) take all practicable measures consistent with these Regulations to monitor and control the discharge by ships of sewage, refuse, ballast water and other potentially disease-causing matter which might contaminate the waters of a port, river, canal, strait, lake or other international waterway;

(g) be responsible for supervision of service providers for services concerning travellers, baggage, cargo, containers, conveyances, goods, postal parcels and human remains at points of entry, including conducting inspections and medical examinations as necessary;

(h) have effective contingency arrangements to deal with an unexpected public health event;

(i) Communicate eith the National IHR Focal Point on the relevant public health measures taken pursuant to these Regulations [1].