

INFECTIOUS DISEASES AND MARITIME LAW

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Abstract

Integrating the control of global transmission of infectious diseases in the international maritime laws regime is complex, a novice job to do and may attract controversy from relevant organizations dealing with issues on infectious diseases and maritime law. In as much as health is paramount crucial for the humankind right to live, and therefore they must be protected and safeguarded against the ravages of infectious disease, not any of us can deny the fact that the maritime is one sector that contributed to the global spread of infectious diseases to the international community. Diseases have spread by man, animal and animal products in vessels of transportation throughout recorded history. The advent of globalization in particular, the increase in international travel has enabled new infections to spread much more rapidly around the world. The advance of technology in all areas of shipping and the burgeoning of the cruise industry complement the massive growth in the size, type and number of ships. This reflected on the constant high demand of international seafarers, more incidences on the discharge of ballast water and sediments from vessels, and the increased travel on maritime transports. These advances in the maritime sector had escalated the tendency on global transmission of infectious diseases posing a severe threat on the health of the human population, and national economies. Much literature and work on public health law has been done on mostly all levels to respond to the problem, and while the global spread of the diseases via vessels and through seafarers persists, little is known of the work on maritime law in relation to this issue. Because of this it is important to examine the relevance of maritime law in attempting to reduce and combat the global spread of infectious disease. This paper will analyse the significance of infectious disease as an international issue and the legal responses to the issue in a maritime context. It will focus particularly on how the issue might impact on Kiribati and will suggest a way forward for Kiribati and other maritime nations in the South Pacific region.

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Acronyms

| | |
|----------|---|
| BPOA | Barbados Plan of Action |
| EEZ | Economic Exclusive Zone |
| GOARN | Global Outbreak And Response Network |
| GLEW | Global Early Warning |
| HIV/AIDS | Human Immunodeficiency Virus /Acquired Immune Deficiency Syndrome |
| HDI | Human Development Index |
| ID | Infectious Disease |
| IHSR | International Health Sanitary Regulations (IHSR) |
| IHR | International Health Regulations |
| IMCO | Inter-Governmental Maritime Consultative Organisation |
| IMO | International Maritime Organization |
| LDC | Least Developed Countries |
| MHMS | Ministry of Health of Medical Services |
| MCTTD | Ministry of Communications, Transport, and Tourism Development |
| MDGs | Millennium Development Goals |
| MSI | Mauritius |
| NLV | Norwalk-like-virus |
| PAHO | Pan American Health Organizations |
| PPHSN | Pacific Public Health Surveillance Network (PPHSN) |
| RNA | Ribonucleic Acid |
| SARS | Severe Acute Respiratory Syndrome |
| SIDS | Small Island Developing States |
| STI | Sexual Transmitted Infections |

| | |
|---------|--|
| SOLAS | International Convention on Safety of Life At Sea |
| SHIPSAN | European Union Shipsan |
| SPC | Secretariat of the Pacific Community |
| TB | Tuberculosis |
| UNRRA | United Nation Relief and Rehabilitation Administration |
| UNDP | United Nations Development Programme |
| UNCTAD | United Nations Conference on Trade and Development |
| VSP | United States Communicable Disease Control Vessel Sanitation Programme |
| WHO | World Health Organization |
| WTO | World Trade Organization |
| WHA | World Health Assembly |

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1 Introduction

The global spread of infectious diseases has ever been a threat to the human public health and national economies for many centuries.

It dates back as far as the fourteenth century's outbreak of the great bubonic plague herein the "Black Death"¹, impacting on human suffering and death of a substantial number of peoples worldwide. At this era the literature on infectious diseases was in its infancy and responses to the threat were confined to the entire discretion of national public health departments to tackle this in their lone efforts and capabilities within their respective boundaries.

The fear from the cholera pandemic of the nineteenth century spreading from South Asia to most areas of the world costing substantial proportion of death around the world sparks the first attempt for international action, the International Health Sanitary Regulations (IHSR) which was concluded at the start of the twentieth century in 1903.² Also in the course of this 20th century, these diseases were less feared with the strides of medical science to their cure and substantial improvement of living standards in the developed world. Consequently there was complacency in the attitude of developed nations towards infectious diseases threat and their commitments to the then well established International Health Regulations (IHR) lax.

Then there comes a time from the last quarter of this 20th century to the present when the threat from the global spread of infectious disease returned. At this turnaround the rate of global spread has amplified considerably, hence, more menacing. The onset of HIV/AIDS in the 1980s, the outbreak of Sever Acute Respiratory Syndrome (SARS) in 2002-2003, and the recent pandemic influenza (swine flu) in early 2009 are examples among others.

The fear was coupled with the re-emergence of once controlled infectious diseases such as tuberculosis (TB), Salmonella, and etc, resisting their medical treatments and often difficult to treat in their new variant forms.

In addition to the above is the spectre of bioterrorism in relation to the intentional global spread of infectious disease.

¹ F.F.Cartwright, *Disease and History* (1972), at 37.

² Zacher, M. W., et al. *Governing Global Health*. (2007). Ashgate Publishing Ltd. At 15.

Against this backdrop it is without doubt that global spread of infectious diseases had exacerbated and persists as a challenge to the human public health and national economies.

The global spread of infectious disease if not controlled would result in pandemics. The impacts of historic pandemics were devastating to human suffering and death, and the destruction of national economies especially on developing countries.

The effort of reducing and combating the rapid global spread of infectious diseases is no simple task. The causes are multifaceted and ought to be identified before seeking their control. Most infectious diseases are preventable but their aetiology oftentimes lies outside the control of the health sector.³ In this case the control or responses will also come from other sectors aside from health.

The main key factors that contribute to amplify the global spread of infectious diseases involve globalization in particular international trade and travel. As a result of this phenomenon, infections which were once limited to specific parts of the globe are now able to spread more easily and rapidly to the human population.⁴

This paper will focus on international travel via maritime transport. Three maritime issues have been identified as significant contributing factors or causes to accelerate the international transmission of infectious diseases. These incorporate; 1) ballast water and sediments, 2) transmission aboard and globally via passenger and cargo ships, and 3) the seafarers' reservoir for sexual transmitted infections.

Because of this it is important to examine the relevance of maritime law in attempting to reduce and combat the global spread of infectious disease. This paper will analyse the significance of infectious disease as an international issue and the legal responses to the issue in a maritime context. It will focus particularly on how the issue might impact on Kiribati and will suggest a way forward for Kiribati and other maritime nations in the South Pacific.

This paper is divided into 6 chapters. Chapter 1 gives an introduction. In Chapter 2, as a novice to the area of the public health, it is necessary to insert a general overview on infectious disease. Chapter 3 describes the nexus between infectious disease and the maritime sector and the relevance of maritime law to respond to the issue. Chapter 4 discusses on infectious

³ Apostolopoulos, Y., Sonmez, S., *Population Mobility and Infectious Disease*, (2007) Springer Science+Business Media, LLC, at 6.

⁴ *Ibid*, at 8.

diseases impacts on the small island developing states (SIDS), their unique characters and status of vulnerability with an emphasis on Kiribati. The International Public Health and Maritime Responses are covered under Chapter 5. Chapter 6 discusses on the regional responses. The Kiribati Public Health and Maritime Laws and Institutions are detailed in Chapter 6. The conclusion posits proposals and recommendations as a way forward to reduce and contain the rapid global spread of infectious diseases from a maritime perspective particularly for Kiribati.

2 Infectious Disease

Definition

Infectious Disease (the ID) is defined as a disease resulting from the presence and activity of pathogenic microbial agents in the body.⁵ These agents include pathogenic viruses, pathogenic bacteria, fungi, protozoa, multicellular parasites, and aberrant proteins known as prions.⁶ Infectious pathologies are also called communicable diseases or transmissible diseases due to their potential of transmission from one person or species to another by replicating agents.⁷

The IDs are known as resilient, and able to survive and multiply through adaptation and natural selection.⁸ They also relentlessly find entry points to human populations through diverse mechanisms. Respiratory diseases are commonly acquired by contact with aerosolized droplets, spread by sneezing, coughing, talking, kissing or even singing⁹ e.g. Influenza, legionnaire, etc. Gastrointestinal diseases are often acquired by ingesting contaminated food and water¹⁰ e.g. Salmonella and Cyclospora cayetanensis. Sexually transmitted diseases are acquired through contact with bodily fluids generally as a result of sexual activity for instance HIV/AIDS and etc. vectors such as mosquitoes, etc are often responsible for serious blood-borne diseases, such as malaria, and other IDs.

In other words the IDs are highly infectious, and all pose serious problems for global health if not controlled. They are mostly feared in their nature to emerge, spread and re-emerge to the human population.

ID Emergence, Transmission and Re-emergence

⁵ The American Heritage@ Stedman's Medical Dictionary (Houghton Mifflin Company 2002).

⁶ Donald's Illustrated Medical Dictionary 2004 WB Saunders.

⁷ Ibid.

⁸ Kimball A. M, *Risky Trade Infectious Disease in the Era of Global Trade*, (Ashgate Publishing Ltd) (2006), at xiii

⁹ Kenneth J. Ryan and C.George Ray, *Sherris Medical Microbiology Fourth Edition* McGraw Hill 2004.

¹⁰ Ibid

Emergence

Science provides that the emergence of infectious disease occurs when the agent crossed over from other vertebrate animals to humans; viruses, especially RNA (ribonucleic acid) viruses like influenza, SARS and HIV, which seem to be more adept at jumping the species barrier.¹¹ Many of the so-called new diseases in the last and this century have proved to be primarily infections of wild animals which have been transmitted to man, and have sometimes proved far more severe in their new host than in their normal hosts.¹² The mechanisms of that crossover are largely unknown, but some factors seem to facilitate the process, such as poor water and sanitation, the encroachment of humans on animals' habitats, maintaining food animals in crowded conditions, and extensive use of antimicrobials.¹³ Most international authorities agree that the intensification of the poultry industry is related to the emergence of fatal bird flu outbreaks in Europe and Asia.¹⁴ There is a consensus that most of the new pathogens that have emerged over the last twenty years have done so in response to ecological pressure rather than evolutionary change in the microbes themselves.¹⁵ Ecological changes such as new agricultural practices, urbanisation, globalization and climate change seem to drive microbes from animals into new human hosts.¹⁶

Transmission

As discussed above these diseases are infectious and capable to spread to the jurisdictional or international community. The main determinants that contribute to the local spread or epidemic incorporate, again the absence of clean basic sanitation facilities, insufficient health and regulatory resources, and the unavailability of good diagnostic surveillance and epidemiological capabilities.¹⁷

¹¹ Ibid, p. 14

¹² Kimball A. M, *op. cit.*, p.16.

¹³ Kenneth J, et al, *op. cit.*, p. 99.

¹⁴ Food and Agriculture Organisation of the United Nations (2004). *Avian Influenza: Stop the Risk for Humans and Animal at Source.*

¹⁵ Kimball A. M, *op. cit.*, p. 99

¹⁶ Slingenbergh, J. I., M. Gilbert, et al. (2004). "Ecological sources of zoonotic diseases" *Revue scientifique et technique* **23**(2): p. 467 to 84

¹⁷ Kimball A. M, *op. cit.*, p.14.

Global transmission or a pandemic occurs when the microbes or these diseases cross frontiers into countries of which are novel to them. The two most significant factors that contribute to accelerate the global transmission are international trade and travel.

Re-emergence

The second half of the twentieth century witnessed certain diseases which have been put under control to emerge again. They have mutated into new variant forms and resist their drug-treatments, e.g. tuberculosis (TB) and etc.

Historic Pandemics and The Impacts

The emergence and global spread of infectious disease is not a new phenomenon to the world. The struggle between humankind and the ID had been around for centuries as evident through historic pandemics or global epidemics.

It could be traced back to the influenza pandemic of 412 BC and the Plague of Athens in 430 BC¹⁸. The 14th century was the age of the “Black Death” the bubonic plague, which became pandemic in 1348, decimated a substantial number of the population in Europe.¹⁹ The exchange of infectious diseases between the Europeans, and Native Americans during the European conquest of the North and South Americas.²⁰ In the 19th century cholera pandemics spread from South Asia to most areas of the world and led into the first international conference in 1851.²¹ The severe outbreak of pandemic influenza (Spanish Flu) in the early 20th century, 1918 – 1919 which resulted in about 40 million deaths worldwide.²² The onset of HIV/AIDS at the end of the 20th century i.e. in the 1980s. The wake of the SARS in 2002-2003. The outbreak of bird flu (Avian Flu) in 2007, and the recent pandemic influenza of swine flu at the beginning of 2009.

¹⁸ Thucydides, *History of the Peloponnesian War* (R. Warner trans.) (1954), 151-6.

¹⁹ F.F. Cartwright, *Disease and History* (1972), 37.

²⁰ A.W. Crosby, Jr., *The Columbian Exchange: Biological and Cultural Consequences of 1492* (1972), at 35-63.

²¹ Zacher. M.W., Cooper. A.F, et al, (2007). “The Transformation in Global Health Collaboration since the 1990s” *Governing Global Health*, at 15.

²² Stephenson, I KG. Nicholson, et al. (2004). “Confronting the avian influenza threat: vaccine development for a potential pandemic”, *Lancet Infectious Diseases* 4(8):499-509

The impacts from pandemics are threatening and devastating, not only on human suffering and death, but also on national economies, either directly due to the need for measures to contain disease and manage those who become infected, or indirectly because of decreases in travel and trade limitations.²³

The ID beyond borders

The ID's infectious character had been for many centuries known no frontiers and cross boundaries via state's points of entry, through international trade and travel posing risk to the health of the human population. Nevertheless prior to the 19th century, the scientific study on the ID epidemiology was quite limited, and therefore the understanding on the ID impacts on public health and their control of their global spread was considered to be a sovereign issue of a particular state.

The 19th century witnessed the advances in science and thus improved the knowledge of the infectious and transmissible nature of the ID and their control. This was coupled with the striking ID pandemics, for instance the cholera pandemics of 1851 and etc. It was then understood that the ID is capable to cross borders and by all means the control will go beyond sovereignty to involve other states. It is obvious that the outbreak or epidemic of the ID in one country is a concern of another regardless of whether it involves a developed or developing country. At the same time the control and responses against the ID global transmission goes beyond boundaries.

The ID transmission and control beyond the borders was immensely considered and addressed during the second half of the 20th century with the advent of globalization, in particular the increase in international trade and travel.

Globalization

Globalization is defined as a process of closer interaction of human activity within economic, political, cultural, social, and other spheres and along spatial, temporal, and cognitive dimensions.²⁴ It is generally accepted that the expansion of international trade and travel which had taken place during the last 30 or 40 years have involved significantly greater

²³ Ibid (Kimball) at xiii

²⁴ Lee, K. (Ed) (2003). *Health Impacts of Globalisation*. New York: Plagrave Macmillan.

movement of people and goods between countries, which make the global spread of disease easier.²⁵

The ID a significant international issue

The global character of the infectious disease problem is not new because they have for centuries spread around the world. However the realization of the ID as a crucial international issue occurred later during the second half of the 19th century with the advance studies in scientific epidemiology, and the cholera pandemic of 1851. It was then widely understood that the ID infectious character respect no boundaries, and the effort to reduce and contain its global spread undermined sovereignty and require global effort.

The effect of globalization in particular increased international trade and travel which exacerbated the global spread of the ID, coinciding with the accelerating fears of new deadly pandemics e.g. SARS and Avian Influenza, amplified the significance of the ID to be addressed and responded as an international matter.

International Maritime Travel

International maritime travel involves modern transports and activities pertinent to the maritime sector which contribute or cause to amplify the international transmission of the ID accelerating the risk or threat to the health of the human population. For instance, ships, passenger and cargo vessels and seafarers.

²⁵ Select Committee on International Organisations, *Diseases Know No Frontiers: How effective are Intergovernmental Organisations in controlling their spread?* (2008). Vol I, at 13.

3 The ID nexus with Maritime Sector

The important nexus of the maritime sector with infectious disease is through its contribution to amplify the global spread of the ID, increasing risk to the human public health. This section sets out the incidents where the occurrences or outbreaks and global transmission of the ID linked or connected to a maritime feature or activity.

3.1 The Past Incidents

Infectious diseases have been spread by vessels of transportation throughout recorded history.

One of the earliest recorded incidents of the spread of disease by sea transport occurred during the winter of 1346/47 of the fourteenth century when a small band of Genoese traders took shelter at Caffa (now Theodosia) on the Black Sea.²⁶ The town was besieged by attacking Tartars who had travelled by ship, many of whom were infected on board by the plague or “Black Death” as it later became known.²⁷ This was the period of the great bubonic plague which decimated a substantial number of peoples of the world.

In the nineteenth century (1838) the arrival of diseases in the Pacific Islands implicated also on the arrival of vessels. Williams wrote in his book about a visit to Rarotonga; “The natives said that the pestilence was brought to their island by a vessel which visited them just before it commenced its ravages. It is certainly a fact which cannot be controverted, that most of the diseases which have raged in the islands during my residence there have been introduced by ships”²⁸

3.2 The Latter Incidents

Ballast water and sediment

²⁶ Thucydides, *History of the Peloponnesian War* (R. Warner trans.) (1954), at 150 - 155

²⁷ *ibid*

²⁸ Williams, J. (1838). *A Narrative of Missionary Enterprises in the South Sea Islands*. London, John Snow.

Shipping transfers approximately 3 to 5 billion tons of ballast water internationally each year as well as domestically within countries and regions.

All ships need to carry ballast water to keep them stable in the water. Taking on ballast water and discharging must be carefully controlled to ensure the safety of the vessel and the seafarers on boards. But there is another challenge – the taking up of ballast water from one part of the world and discharging it elsewhere can introduce invasive aquatic species, such as zebra mussels, into an environment where they can overturn natural local species. It is estimated that at least 7,000 different species are being carried in ship's ballast tanks around the world.²⁹ Though the focus of the work on ballast water management relates to environment pollution it was also implicated in the transmission of infectious disease.

In 1991, cholera pandemic reached Latin America after almost a century without it.³⁰ A large outbreak in Peru quickly extended throughout the region and severe embargoes against a range of Peruvian products were applied and tourism was curtailed all with adverse effect on the economy of Peru. Everything from fish products to cotton sundries was embargoed by trading partners under the guise of preventing extension of cholera into their territories.³¹

The Pan American Health Organisations (PAHO) has estimated the economic cost in just nine months rose to \$770 million.³²

All it took for Peru was the introduction of cholera, suspected to have come from the ballast of a Chinese freighter discharged into harbor waters.³³

Transmission via vessels – on board and at global

Travel via maritime transport has played a major role in the transmission of infectious diseases on board vessels, and to the international community creating public health risk to the human population. Transmission on board vessels could happen on every vessel irrespective of size, type, and capacity. From a fishing vessel to a cargo vessel, disease spread is easy because of the semi closed and crowded environment worsen if the standard of sufficient sanitation and

²⁹ IMO Globallast Management Programme

³⁰ Available at <http://www.who.int/topics/cholera/impact/en/>, accessed on 28 September 2009.

³¹ Kimbal, A. M, at 140

³² WHO, Cholera Impacts, *op.cit.*

³³ Kimbal A.M at 140

clean water is not provided. As far as the evidence goes, cargo ships and passenger ships have been documented as most prevalent and notorious in the transmission of infectious diseases on their board.

Passenger Ships

The passenger shipping industry (cruise ships and ferries) has expanded considerably in recent years with the substantial increase in size and passenger capacity. In 2007, 12 million passengers worldwide travelled on cruise ships, a 7% increase from the previous year.³⁴ A typical cruise ship at present carries up to 3000 passengers and 1000 crew.³⁵ In April 2008 the *Independence of the Sea* cruise ship commenced work, and is known currently to be the largest at 340m and able to carry 4,375 passengers and more than one thousand crew. There are also details about the prospective bigger cruise ship, the *Oasis of the Sea – Project Genesis* with guests capacity of 5,400 and will be launched in late 2009.

Typically passenger ships carry a large number of people in close proximity in confined spaces for increasingly long periods of time. It could be considered a gathering place for the global community, where opportunities for interpersonal interactions and sharing common activities, food and beverages are plentiful. Person-to-person or indirect transmission (e.g. contaminated surfaces) can occur anywhere people are crowded together, i.e. it constitutes a place for the spread of the disease.

Cruise itineraries incorporate all continents and areas which are not easily accessible by other means of travel. The diversity of passengers and crew members coupled with the rapid movement of the cruise ships from one port to another, and the semi closed and crowded environment of such cruise ships may impact in disease spread to other passengers and crew members, as well as dissemination of those diseases to visited ports/countries and the home communities of disembarking passengers and crew members.

A literature review by WHO identified more than 100 diseases outbreaks associated with ships since 1970 – 2000.³⁶ This is probably an underestimate because many outbreaks are not reported and some may go undetected. Outbreaks of measles, rubella, varicella,

³⁴ International Travel And Health 2009, <http://www.who.org>.

³⁵ Ibid.

³⁶ WHO/SDE/WSH/01.4, *Sanitation on Ships – Compendium of outbreaks of foodborne and waterborne disease and Legionnaires' disease associated with ships 1970-2000*, 2001.

meningococcal meningitis, hepatitis A, legionellosis, and respiratory and gastrointestinal illness among ship travellers have been reported. Such outbreaks are of concern because of their potentially, serious health consequences and high costs to the industry. In recent years, influenza and norovirus outbreaks have been public health challenges for the cruise industry.³⁷

Gastrointestinal disease

A wide range of pathogens affected passengers and crew during ship-associated gastrointestinal disease outbreaks. These include Salmonella species, Enterotoxigenic Escherichia coli, Norwalk-like virus (NLV), Cyclospora, etc.³⁸ Most of the detected gastrointestinal disease outbreaks were associated with cruise ships and were linked to food, or water consumed onboard ship.³⁹ Factors contributing to outbreaks included contaminated bunkered water, inadequate disinfection of potable water, potable water contaminated by sewage on ship, poor design and construction of potable water storage tanks, deficiencies in food handling, preparation and cooking and use of seawater in the galley.⁴⁰

Norwalk-like virus (NLV) is the most common pathogen implicated in outbreaks. Symptoms often start with sudden onset of vomiting and/or diarrhoea. There may be fever, abdominal cramps and malaise. The virus can spread in food or water or from person to person. It is a very infectious disease and in one outbreak on a cruise ship in 1998, over 80% of the 841 passengers were affected.⁴¹

Norovirus is another common pathogen causing the outbreaks. In June, 2006 a reported outbreaks on cruise ships suddenly increased; 43 outbreaks occurred on 13 vessels.⁴² Symptoms and mode of transmission and morbidity are identical to the above NLV disease.

To prevent and reduce outbreaks of gastroenteritis caused by norovirus, it is important for ships to enhance food and water sanitation measures and disinfection of surfaces.

³⁷ Outbreaks of diseases on passenger ships. 2008. Available at <http://www.cic.gov/travel>.

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

Legionnaires' a respiratory disease

Legionnaires' disease is a potentially fatal form of pneumonia, first recognized in 1976.⁴³ The disease is normally contracted by inhaling legionella bacteria deep into the lungs. Legionella species can be found in droplets of water (aerosols) or in droplet nuclei (the particles left after the water has evaporated).⁴⁴

The WHO review showed that over 50 incidents of Legionnaires' disease, involving over 200 cases were associated with ships in the past decades.⁴⁵ For instance, an outbreak of Legionnaires' disease occurred on a single cruise ship in 1994: 50 passengers were affected on nine different cruises and one passenger died. The disease was linked to a whirlpool spa on the ship.⁴⁶

Prevention and Control depend on proper disinfection, filtration and storage of source water; avoidance of dead ends in pipes and regular cleaning and disinfection of spas are required to reduce the risk of legionellosis on ships.⁴⁷

Influenza and other respiratory tract infections

Influenza is an acute viral disease of the respiratory tract characterized by fever, headache, myalgia, prostration, coryza, sore throat and cough that is often severe and protracted.⁴⁸ Airborne spread predominates among crowded populations in enclosed spaces and may also occur through direct contact.⁴⁹ The influenza virus may persist for hours, particularly in the cold and in low humidity.⁵⁰ Incubation period is short, from one to three days, and individuals

⁴³ WHO Fact Sheet N°269, February 2002; *Ship Sanitation and Health*, available at <http://www.who.int/mediacenter/factsheets>. Accessed on 28 September 2009.

⁴⁴ Ibid.

⁴⁵ Opcit.

⁴⁶ Ibid.

⁴⁷ International Travel and Health 2009, *Mode of Travel: Health Considerations*, at 27.

⁴⁸ Kimball, A. M., *Risky Trade – Infectious Disease in the Era of Global Trade*, (2006). Ashgate Publishing Limited, London. At 49.

⁴⁹ Ibid.

⁵⁰ Ibid.

are infectious for three to five days following the onset of illness.⁵¹ There are types of influenza viruses – A, B and C – and the emergence of new strains occurs only with type A viruses.⁵²

A literature review indicated among other things, that high attack of influenza have been reported in closed settings such as cruise ships.⁵³ From 1997 to 2005, nine confirmed outbreaks of influenza associated with passenger ships have been described in the scientific literature with attack rates up to 37%.⁵⁴

Another recent incident in early 2009 was the outbreak and transmission of the new influenza A (H1N1) virus (swine flu) aboard the P & O Cruises' Pacific Dawn and to Australia through the arriving passengers. Consequently, and in order to prevent the transmission, Australia has prompted authorities to divert the vessel away from the major population centers. The Pacific Dawn in compliance had diverted to anchor off one remote island and remain there while tests are carried out on samples from at least three more crew members who have come down with flu-like symptoms. No passenger was allowed to disembark.

It is important to note that crew members who serve passengers may become reservoirs for influenza infection and may transmit to passengers on subsequent cruises.⁵⁵

Additionally when passengers from southern and northern hemispheres mix, there is a potential for off-season exposure to diseases that normally emerge at particular times of the year.⁵⁶ So people who normally receive vaccines in anticipation of the winter flu season may be unexpectedly exposed in the summer when they encounter people from countries where the seasons are reversed.⁵⁷ For instance in August 1997, a group of passengers from Australia,

⁵¹ Ibid.

⁵² Ibid.

⁵³ Minooee A, Rickman LS. Infectious Diseases on cruise ships. *Clin Infect Dis* 1999:737-43.

⁵⁴ Miller JM, Tam TW, Maloney S, Fukukda K, Cox N, Hockin J, et al. Cruise Ships: high-risk passengers and the global spread of new influenza viruses. *Clin Infect Dis* 2000:433-8. See also: Update: Influenza activity – United States, 1997-98 season. *MMWR Morb Mortal Wkly Rep* 1997: 1094-8. See also Brotherton JM, Delpach VC, Gilbert GL, Hatzl S, Paraskevopoulos PD, McAnulty JM. A large outbreak of influenza A and B on a cruise ship causing widespread morbidity. *Epidemiol Infect* 2003 Apr;130(2):263-71.

⁵⁵ Ibid.

⁵⁶ Kimball, A.M., p. 40.

⁵⁷ Ibid.

which typically has a flu season that runs from May to September, boarded a cruise ship in New York, where the flu is more common in the opposite months. The Australian passengers were disproportionately represented in an initial attack of acute respiratory illness that subsequently spread through the ship, suggesting that they may have been infected before boarding.⁵⁸ Moreover, the outbreak marked the first of that particular strain of virus in North America. Similarly, a summer-time influenza in Alaska's Yukon Territory between May and September of 1998 was linked to an infusion of cruise ship passengers and crew into the area.⁵⁹ This cruise, up the inside passage along the coast of Canada, seeded influenza into communities along the route during the summer, which is off-season for flu in the northern hemisphere.

Cargo Ships

The survey in respect of sea-farers indicates a number of seamen are infected with legionnaire. The inspection of these ships provides that microbes of this disease were found on the ship's surfaces and from the air condition of the cabins.

The Seafarers

Seafarers have been implicated as reservoirs for transmissions of sexual transmitted diseases, to their spouses or sexual partners at any visited port or to their home countries e.g. HIV/AIDS, Chlamydia and etc. A 2004 survey indicated that Chlamydia was found in 75% of Kiribati experienced seafarers.

The above incidents had illustrated the first important link or relationship between the maritime sector and the ID, i.e. maritime role through vessels in transmitting the diseases on board and extendedly to the international community. Apparently the current and prospective vibrant acceleration of the maritime industry, coupled with burgeoning in international trade, and the proliferation as well as the popularity of the cruise industry had amplified and worsen

⁵⁸ Miller, J. M., T. W. Tam et al. (2000). "Cruise ships: high- risk passengers and the global spread of new influenza viruses", *Clinical Infectious Diseases* **31**(2): 433-8.

⁵⁹ Uyeki, T.M., S. B. Zane, et al. (2003). "Large summertime influenza A outbreak among tourists in Alaska and the Yukon Territory", *Clinical Infectious Diseases* **36**(9): 1095-102.

the pace in global spread of these diseases persisting to challenge public health security of the global community. There is a need for constructive, efficient and effective responses to reduce and contain this problem.

The relevance of maritime law

The relevance of maritime law in the effort to minimise and reverse the rapid global spread of the ID depends on whether or not there is an established link of this ID issue to the maritime law. The definition of maritime law would confirm the important linkage and its relevance to address this instant problem.

Maritime Law is defined as “that system of law which particularly relates to commerce and navigation, to business transacted at sea or relating to navigation, to ships and shipping, to seamen, to the transportation of persons and property by sea, and to marine affairs generally.”⁶⁰ Apparently the three issues identified under maritime sector to have contributed to amplify the global transmission of the ID; ships ballast water, passenger and cargo ships, and seafarers are covered under the above definition, therefore this conclude maritime law is relevant in providing legal responses to reduce and combat the rapid international spread of the ID.

⁶⁰ Black’s Law Dictionary, Revised 4th edition at page. 1121.

4 The ID and Small Island Developing States

The first part of this chapter provides an overview on the Small Island Developing States (known as SIDS) through the origin of this category of countries, the members, and their unique status and vulnerabilities encountered which impede their efforts towards sustainable development. It examines the important link between the ID issue and SIDS nations in terms of their global spread to and from these countries and the general impacts it could inflict on these group of countries in the context of their peculiar characteristics and vulnerabilities and their strive for sustainable development. It differentiates the effects of ID pandemics on developed countries and SIDS.

The second part specifies the above scenario in the Kiribati context; global transmission of the ID to Kiribati (emphasis is placed on the possible international spread of ID via maritime sector), and the impacts inevitable from this transmission or pandemic(s) on Kiribati.

Overview of SIDS

The origins of the SIDS category

There is no explicit and proper definition of the Small Island Developing States (SIDS) category. The specific categorization of SIDS amid the least developing countries and developing countries originated through a long process commencing from the attempts to classify their disparities on the basis of their unique characteristics and vulnerabilities for purposes of qualifications for special treatment from developed partners.

Developing countries cannot be regarded as a uniform, undifferentiated group.⁶¹ There have been attempts to classify these countries into groups or categories, often with the idea that these categories could form the basis for a more differentiated treatment of developing countries.⁶² Numerous categorizations have been proposed, but most have not gone beyond research findings and consideration within academic circles.⁶³ The classification or formulation of criteria for qualifying a country to belong in the category of SIDS is crucial to

⁶¹ Hein P. *Is a special treatment of Small Island Developing State possible?* “ Small Island developing States: origin of the category and definition issues”, UNCTAD/LDC/2004/1, United Nations 2004, at page 2.

⁶² Ibid.

⁶³ Ibid.

enhance the credibility of the category and its capacity to gain greater attention and attract a more effective and favourable treatment from development partners.

The early few categories of developing countries (prior to specific SIDS) that have earned international recognition in the United Nations and other relevant organizations are country denominations which were distinguished based on the level of development. They are listed hereunder.

The Least Developed Countries (LDCs) category

In 1968 the LDC category was identified within the United Nations and officially instituted in 1971.⁶⁴ LDCs have been referred to in almost all international conferences as requiring special support.⁶⁵

The low-income (and IDA-eligible) countries

The “low-income countries” is another classification assessed by the World Bank on the level of development basing on the per capita national income. States with possessing per capita below a periodically reviewed national income cut-off point (US per capita in 2003) are qualified as low-income and eligible for International Development Association (IDA) soft-lending conditions by this World Bank Group.⁶⁶

Human Development Index (HDI) ranking

The United Nations Development Programme (UNDP) developed a ranking on developing countries through human variables in addition to income per capita. The HDI was not been used as a yardstick for justifying special measures in favour of any particular category of countries. However the criteria used for identifying LDCs are related to that of the HDI, it is noted that most of the countries with the lowest HDI scores are also LDCs.⁶⁷

The SIDS category

⁶⁴ Ibid at 2

⁶⁵ Ibid

⁶⁶ Ibid at 3.

⁶⁷ Ibid at 4

Other assessments to categorise developing states aside from the above involve distinctions based on geographical factors and size. These assessments led to the categorisation of the SIDS denomination, nevertheless the category remains undefined.

The island developing countries (former name of SIDS before 1994), and land-locked developing countries were internationally identified as geographically disadvantaged. UNCTAD, after initiating the LDC category in the early 1970s, was the first body to facilitate the development of a framework for international action in favour of countries in the two groups. In 1972 at their third session it was concluded that a panel of experts should denote and study the problems of island developing countries. In 1976 at its fourth session UNCTAD encouraged the international community to envisage special measures in favour of these countries. In 1977, UNCTAD secretariat set up a Special Programme for these states within the United Nations. Between the late 1970s and the mid-1980s, the integral characteristics and problems of island developing countries were addressed in UNCTAD reports and raised in the United Nations General Assembly resolutions.

The most commonly raised problems were issues of smallness and remoteness, constraints in transport and communications, distance from market centers, low resource endowment/narrow resource base, dependence on few commodities as sources of foreign exchange earnings, limited internal markets, and vulnerability to natural and environment disasters.⁶⁸

In 1983 the non-aligned movement had also pursued a specific focus on small island countries for a long time.⁶⁹ In 1985, the World Bank recognized the “small island exception” for IDA eligibility.⁷⁰ The formal phasing out of the island developing countries category in favour of SIDS was initiated in 1992 in an indirect manner, on the occasion of the United Nations Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro in 1992. Agenda 21, which was adopted by this conference, contained a special section (chapter 17, section G) devoted to the sustainable development of small island developing

⁶⁸ Ibid at 5.

⁶⁹ The Non-aligned meeting of experts on small island developing countries, Report NAC/CONF. 7/EM/DOC.4/Rev.2. Non-Aligned Movement, Grenada, 1983.

⁷⁰ Opicit at 7.

States. Following this conference, the UN General Assembly decided, in December 1992⁷¹, to convene the first Global Conference on the Sustainable Development of Small Island Developing States (Barbados, April-May 1994). Another resolution on island developing countries was routinely adopted by the General Assembly in the same year.⁷² It is at this year that the United Nations abandoned the concept of “small island countries” and gave way to a more focused denomination that of Small Island Developing States (SIDS). The later relevant international frameworks and conferences on these countries have specifically spell out SIDS in their programmes and work. These include International Conference on Financing for Development in 2002; the “Monterrey Consensus”, the Johannesburg Plan of Implementation of the same year, and the Mauritius Strategy of Implementation of 2005.

Moreover, the classification of developing countries on distinctions based on size reflected on the works of the International Economic Association (Lisbon) in 1957 which marked the first manifestations of global attention on this issue, and the Joint Task Force on small states of the Commonwealth Secretariat and the World Bank to make recommendations on desirable responses to the problems of “small economies” starting from 1982 through 2002. The later action coincided with the work of the World Trade Organization (WTO) observed through the specific reference to “small economies” in the Doha Ministerial Declaration of 2001, and the Ministers resolutions for WTO to “examine issues relating to the trade of small economies” aiming “to frame responses to the trade-related issues identified for the fuller integration of small, vulnerable economies into the multilateral trading system, and not to create a sup-category of WTO Members.”⁷³

The “small economies” categorization used by the Commonwealth Secretariat and WTO is ambiguous. To categorise developing countries by size of their small economies is confusing and is unlikely to be used to distinguish SIDS denomination exclusively without the influx of other obvious non-SIDS countries with small economies.

SIDS unique characteristics and vulnerabilities

⁷¹ Resolution 47/189

⁷² Resolution 47/186

⁷³ WTO, Doha Ministerial Declaration, Para 35.

In the absence of a clear definition on the classification of the SIDS category, they are presently identified through the peculiar characteristics and vulnerabilities they confront in their pursuit of sustainable development.

The characteristics and vulnerabilities of SIDS was stressed in numerous UNCTAD reports, UN General Assembly resolutions, in the Barbados Programme of Action for the Sustainable Development of SIDS (BPoA), Mauritius Strategy for Implementation, and through UN established units for SIDS.

These were reiterated again in the recent report of the Secretary General on the sustainable development: follow-up to and implementation of Mauritius Strategy for the Further Implementation of the BPoA for the Sustainable Development of SIDS.⁷⁴ The special characteristics and vulnerabilities of SIDS which render them deserving of the continued attention and support of the UN systems and the wider international community are listed below;

SIDS countries have in common a number of structural problems:

- Their populations and markets are small;
- Their resource base is narrow, fragile and prone to disruption by natural disasters;
- They typically depend for foreign exchange on a small range of primary product exports; and
- They generally have limited local capital for productive investment.

The characteristics of SIDS also include:

- Remoteness;
- Geographical dispersion;
- Fragility of ecosystems;
- Constraints on transport and communications;
- Isolation from markets;
- Vulnerability to exogenous economic and financial shocks;
- Limited freshwater supplies;
- Heavy dependence on imports;
- Depletion of non-renewable resources; and

⁷⁴ UN-General Assembly, A/64/278, 10 August 2009, at page 3

- And, weak human and institutional capacity for strategic decision making.

Membership of SIDS

The SIDS category consists of 51 Members under the United Nations Department of Economic and Social Affairs (UNDESA). There are three main groups or region of the member countries. They are known as the Africa, Indian Ocean and Mediterranean and South China Sea (the AIMS), the Caribbean states (the CARICOM), and the Pacific Island Forum (PIF). Each Member are categorised to the respective region of their origin or geographical location. The Pacific Islands Forum is made up of – American Samoa, Northern Marianas, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshal Islands, Federated States of Micronesia, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Lester, Tonga, Tuvalu and Vanuatu.

The ID link with SIDS nations

The significant link between the ID and SIDS nations is through the global spread of the ID to these countries and the impacts of prospects pandemics on the health of the human population, national economies and the sustainable development of any respective nations of SIDS. Further as discussed in Part I of this paper, the experience of many regions have shown that failure to effectively control such diseases as HIV/AIDS will have substantial negative impacts on future sustainable development in all small island developing states.

The survival of small island developing states is firmly rooted in their human resources ... which are the most significant assets; those assets are under severe stress and all efforts must be taken to ensure the central position of people in the process of sustainable development.⁷⁵

Sustainable development programmes must seek to enhance the quality of life of peoples, including their health, well-being and safety.⁷⁶

Health is the key determinant of sustainable development as identified through the internationally agreed development goals, including those contained in the Millennium

⁷⁵ United Nations General Assembly A/Conf, 167/9, October 1994 at page 3.

⁷⁶ Ibid

Declaration.⁷⁷ The strengthening and further development of cooperation and experience-sharing among small island developing states in the area of health is crucial and should be made a priority.⁷⁸ A major concern in small islands developing states is the increasing incidence of such health challenges as HIV/AIDS, tuberculosis, SARS, bird flu and other new emerging diseases, and their impact on sustainable development.⁷⁹

Impacts of ID vs. Sustainable Development of SIDS

“Sustainable Development is a development that meets the need of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.”⁸⁰

The three main pillars of sustainable development are conceptually; environmental sustainability, economic sustainability, social political sustainability, and cultural sustainability was later added as the fourth.⁸¹ In the context of SIDS, health and their human resources are integral to the development of social political sustainability. It is imperative on the government to strengthen and maintain the health of the community if it has to achieve sustainable developments.

Scientific advances in the development of vaccines and chemotherapeutic agents and at the same time with the improvements in human life standards have brought communicable diseases under control. However, there remain many important IDs for which the maritime sector are indispensable, especially in the field of water, food, air, and sanitation on vessels, and sexual transmitted infections spread by seafarers. Such diseases include; salmonella, legionnaire, influenza, HIV/AIDS and Chlamydia. In all such instances, the maritime

⁷⁷ Mauritius Strategy of Implementation, 2005, at page 25.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ United Nations, 1987. “Report of the World Commission on Environment and Development”, General Assembly Resolution 42/187, 11 December 1987.

⁸¹ Ibid.

measures, either as an integral part of primary health care or undertaken outside the health sector, form an indispensable component of overall ID control strategies, together with health and hygiene education.

For instance, the SIDS need to be committed to address the ID and their impacts for instance on HIV/AIDS which is prevalent in many SIDS countries. In addition to its impact on individuals and families, HIV/AIDS or other IDs are particularly devastating for countries with small populations and limited skilled workforces, taking a severe toll on their economies as productivity declines, income levels are reduced and the social fabric is undermined. Responding to HIV/AIDS and other IDs is both an urgent health issue and a development imperative.

The social economic impact of the pandemic is expected to be devastating for all countries, and increasingly for women and children.⁸² While direct health costs will be substantial, they will be dwarfed by the indirect costs of the pandemic - mainly costs associated with the loss of income and decreased productivity of the workforce.⁸³ The pandemic will inhibit growth of the service and industrial sectors and significantly increase the costs of human capacity-building and retraining.⁸⁴

The ID and Kiribati

Overview of Kiribati

Kiribati is small and remote, comprised of 33 atoll islands, and spread over a vast area of the Pacific Ocean. It has three main island groups, the main group known as the Gilbert Islands which are made up of 16 islands including the capital island of South Tarawa, the Phoenix Islands include 8 atolls, the Line Islands with 8 coral islands, and Banaba Island. The islands were surrounded by exclusive economic zones (EEZs) encompassing 3.5 million square kilometres (km²), stretching 5,000 kilometres (km) from west to east and 2,000 km from north to south, but a total land area of only 811 square kilometres (km²). Isolation,

⁸² Agenda 21, 1992, at page 5

⁸³ Ibid

⁸⁴ Ibid

sparse resources, and a fragile environment constrain economic activity. Kiribati is part of the Micronesia in the Pacific Region (refer to Figure 1 below).

The People

The people of Kiribati are by nature hardy, egalitarian, and conservative.⁸⁵ Land is scarce in Kiribati, and land-based resources are sparse.⁸⁶ Families and communities in Kiribati have always had to manage risks that threatened their survival in the isolated and physically limited environment of their mid-Pacific atoll chain.⁸⁷

The population of Kiribati was at 92,533 in the 2005 census⁸⁸, an increase of 9.5% or slightly more than 8,000 persons over the 2000 census. This represents an annual growth rate of 1.8%, a current annual population increment of 1,700 – 1,750, and a population at the end of 2008 of about 98,000. The population today is three times as large as it was 60 years ago. On the basis of the growth rates derived from the 2005 census, the population is projected to pass 130,000 around 2025.

About 43.6% of the population, or 40,311 of those enumerated in 2005, resided on South Tarawa, accounted for 46.8% (43,372 people), and the Line and Phoenix islands accounted for 9.6% (8,850 people).⁸⁹ Of the latter 5,115 (5.5% of the population) were on Kiritimati. Between 2000 and 2005, the population of South Tarawa increased by 3,594 and that of Kiritimati by 1,684. The average population density in Kiribati was 127 people per square kilometre (km²). In South Tarawa it was 2,558/km², with North Tarawa next at 372/km²; Kiritimati, with over half the country's land area, was next to last at 13/km². Kanton, the only inhabited Phoenix island, was last with 41 persons on its 9km² of land. Overcrowding in South Tarawa persists, however, putting stress on the environment and infrastructure.

In-migration is constant between islands as individuals or as families in search of work, to change residence, or for education and family visits. The 2005 census reported that during 2000-2005, over 2000 persons moved their place of residence from South Tarawa and the

⁸⁵ Kiribati Social and Economic Report 2008, at pp 14

⁸⁶ *ibid*

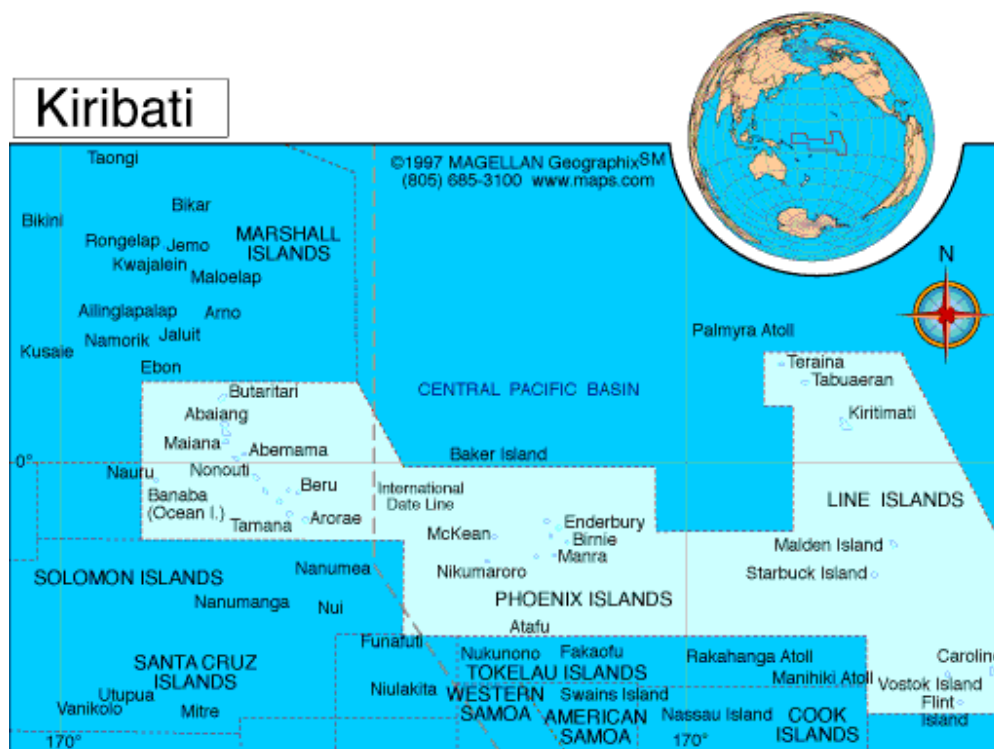
⁸⁷ *ibid*

⁸⁸ Kiribati 2005 Census Report: Analytical Report, Volume 2, KNSO, 2007, at page 2-6

⁸⁹ *Ibid*

Gilbert Group to the Line Islands.⁹⁰ During the same period, 7,000 moved to South Tarawa from the Gilbert Group and the Line Islands, and a similar number moved from South Tarawa and the Line Islands to the outer islands of the Gilbert Group.⁹¹ This indicates that across the country, an average of 250-300 persons were on the move each month to new residence locations.⁹²

The population profile is young, with 58% aged 24 and younger and 37% below 15 years old. The median age of the population as indicated above was 21 years old.⁹³ The average life expectancy was 61 years, with females averaging 63 years and males 59 years.⁹⁴ There has been an improvement in health indicators over the last decade, however people of Kiribati still have a shorter life span than those in most other Pacific Islands.⁹⁵



⁹⁰ ibid

⁹¹ Kiribati Social and Economic Report, 2008

⁹² ibid

⁹³ Kiribati National Statistics Office, 2009

⁹⁴ ibid

⁹⁵ Ministry of Health Country Health Profiles, at page 155

Figure 1 Map of Kiribati

(Source: Map of Kiribati, <http://www.greenwhichmeantime.com>)

Socioeconomic situation

Kiribati is classified as a least-developed country (LDC) under UNDESA list, because of its low per capita gross national product (GNP), limited resources and high vulnerability to external forces. It is also falls into the category of small island developing states (SIDS) and therefore member of the AOSIS.

Incidences of the ID transmission to Kiribati via maritime sector

Three maritime factors herein listed below, have been implicated in the global spread of infectious diseases. Global transmission of the ID which is often the cause of pandemics poses potential threat and adverse impacts to the health of the international community and national economies.

Discharge of Ballast Water and Sediments

Kiribati licensed over 250 vessels inclusive, fishing vessels, tankers and bunkers. Often times these vessels came to port for a few days in the only two ports of South Tarawa and on Kiritimati island. Fishing licences are the major income for Kiribati, 40% - 45% of national monetary income is derived from licensing fees, therefore there is a tendency of expanding this industry to generate more income.

International Shipping Services operates frequently at roughly every 35 days. The influx of cargo as well as international passengers is experienced in this operation. The Government is seeking ways to increase competition in international shipping to Kiribati, thus it appears that the increase in international shipping services is anticipated in the future. In addition a proposal on the concept of Tarawa operating as a transshipment port for Nauru, Tuvalu, and Wallis and Futuna is being studied. This would increase the risk of global spread of infectious diseases to Kiribati if this project comes through.

Transmission aboard and to countries via Cruise lines

Cruise ship tourism is essential for development. Passenger ships regularly visited one of the Line Islands (Tabuaeran or Fanning Island) once every 2 weeks during the months from September to March to put ashore passengers for a few hours before departing. This is also the case with yachts which at times visit Kiritimati and Tabuaeran. The development strategy for the island envisages continuation of the present pattern of visits, with progressively more of the goods and services consumed by visitors while ashore provided by island residents.

The chances of global transmission on Kiritimati and Tabuaeran is a threat since there is no hospital in Tabuaeran except for a small clinic and is remotely located that urgent medical assistance may take a while to get through. The hospital on Kiritimati is inadequately equipped and if there is a chance of an outbreak on this island, it may be difficult to respond urgently. With regards to maritime quarantine if a case is suspected, no port infrastructure exist on Taebuaran while the port on Kiritimati lacks required facilities at the site for medical procedures except to report and transfer all cases to the hospital.

International Seafarers

Seafarers and cruise ship employment is an established and essential area of employment for I-Kiribati. More than a thousand I-Kiribati seamen and women are employed on overseas merchant ships, fishing vessels and recently on cruise ships. The remittance of ship crews contribute significantly to the national income. There are prospects of increasing the number of seafarers over the next few years particularly for their high demand from the South Pacific Maritime Services and agreements by the Government and the Norwegian Cruise Line Ships.⁹⁶

By default of their profession, mariners, sailors, seafarers, fishermen, motor-boat operators, crew members and port, harbour and dock workers, as well as boat passengers are highly vulnerable to HIV/STIs.⁹⁷ Their potential role as transmission pathway to the general population is critical especially in the least developed countries which Kiribati is one.⁹⁸

However despite the prospects for development in this industry a survey initiated by WHO indicated high Chlamydia (a sexually transmitted infection – STI) prevalence were

⁹⁶ Kiribati Social and Economic Report, 2008, at page 23

⁹⁷ WHO 2004

⁹⁸ Yiorgos A. "Population migration and infectious disease", Springer, 2007, at p.146

recorded among both trainee and experienced seafarers, while 85% of the syphilis cases were among experienced seafarers.⁹⁹ The endemicity of Chlamydia is a concern because most seafarers have regular female partners in Kiribati with whom they do not use condoms. It is likely that there is a significant transmission from seafarers to their partners who are at higher risk for STIs than the general population as was the case with HIV in the same community.¹⁰⁰

Sexual transmitted infections are a critical health issue in Kiribati. A WHO survey in 2006 showed that there is generally an increasing incidence of both STIs and HIV in Kiribati.¹⁰¹ In light of the current number of I-Kiribati seafarers employed on overseas vessels, and the anticipated increase, the risk of HIV and STIs transmission to the Kiribati community.

Aggravating health risk factors in Kiribati

A number of environmental factors are increasing the risk of communicable diseases in Kiribati. High-density housing and overcrowding in urban areas, such as South Tarawa, is facilitating the transmission of infectious disease. For instance, tuberculosis incidence in Kiribati has now surpassed that of other Pacific island countries, and most reported cases (70% in 2005) are found in the urban settlement of Betio in South Tarawa.¹⁰²

Inadequate water supplies, unsafe drinking water, variable standards of personal hygiene, poor food handling and storage, and poor sanitation are all contributing to the number of cases of diarrhoeal, respiratory, eye and skin infections.¹⁰³ Diarrhoeal diseases and respiratory infections are major causes of mortality among children.¹⁰⁴

Impacts of ID transmission or pandemic on Kiribati

The social-economic impact of the pandemic is expected to be devastating for all countries and increasingly for women and children. While direct health costs will be

⁹⁹ WHO 2004

¹⁰⁰ Yiorgos A et al, Population Mobility and Infectious Disease. Springer 2007, at page 147 – 148.

¹⁰¹ WHO 2006

¹⁰² World Health Organization Regional Office for the Western Pacific Countries and Asia, “Country Profiles”, WHO, 2009. At 157

¹⁰³ *ibid*

¹⁰⁴ *ibid*

substantial, they will be dwarfed by the indirect costs of the pandemic – mainly costs associated with the loss of income and decreased productivity of the workforce. The pandemic will inhibit growth of the service and industrial sectors and significantly increase the costs of human capacity-building and retraining.

Kiribati as a small island developing state (SIDS) had special characteristics and vulnerabilities that impede its effort to develop sustainably. It is small and remote, experience high cost of transport and communication, isolated from market centres, with a low or narrow resource base and depend on few commodities for foreign exchange earnings, limited internal markets, and vulnerable to natural and environmental disasters. In this situation it is difficult to scale up resources, and capacity to respond to any incidence of a pandemic. Vaccines are costly, health capacity, resources and infrastructure at hospitals and port of entry is weak, it is surmountable to respond to pandemics adequately.

In an incidence of a pandemic in Kiribati especially on the capital South Tarawa will adversely affect the health of the Kiribati community, the national economy and most importantly sustainable development. There is only one international seaport in Kiribati on South Tarawa, but the population residing on Tarawa is 43.6% which is 40,311 (as of 2005 census) of the total population of 92,533. It may only take this one port to introduce a pandemic of a fatal ID to decimate the substantial population of Kiribati as a whole.

The impacts will be devastating, if not from the embargoes and travel advisories to Kiribati, it will have adverse effects on human death and suffering and on the already weak economy from loss of human resources and the restitution of a skilled community.

There is a need to develop, maintain, and strengthen domestic responses against pandemic incidents from all relevant sectors, particularly in this scenario, the public health and maritime sectors.

5 International Public Health and Maritime Responses

The maritime sector played a major role in accelerating the cross-boundary of the ID to the increasing the risk and threat to the health of the human population. The threat had transformed from being a sovereign issue, and at this time is widely acknowledged at the forefront of the international community. This calls for global responses. This chapter will examine responses from relevant international bodies or organizations. It will analyse the responses as to their effectiveness to reduce and contain the global spread of the ID.

5.1 The United Nations

The United Nations Organisation (UN) is an international organization who stated aims in facilitating cooperation in international law, international security, economic development, social progress, human rights, and achieving the world peace.

In order to facilitate development in improving social and economic conditions in the world's poorest countries, the UN developed eight international development goals, the Millennium Development Goals and Targets which was signed in September 2000. The number six goal stipulates the control on the global spread of the ID. The MDGs will be reviewed in September 2010.

5.1.1 The Millennium Development Goals and Targets (MDGs)

“Goal No. 6 Combat HIV/AIDS, malaria, and other diseases

Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS

Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.”

The issue on the global spread of the ID had been declared by the UN as an area of concern for the health and life of the people of the world, and required intergovernmental activity to control this problem. International, Regional Organizations and Governments are obligated by this universal goal to respond to this concern.

5.2 The World Health Organization (WHO)

The World Health Organization (WHO or the Organisation) is a specialized agency of the United Nations (the UN), tasked to direct and coordinate authority for international health within the UN system.¹⁰⁵ Amid the list of important responsibilities of the WHO, a central and historic task is the management of the global regime for the control of the international spread of infectious diseases.

This section provides the general background, the mandates, and internal structure of the WHO. It will then look in detail at the WHO legal and institutional regime engaged in reducing and combating the global spread of infectious diseases. In this case we will examine; the International Health Regulations 2005 (IHR), the International Sanitation Guide, the Global Outbreak Alert and Response Network (GOARN), and the Global Early Warning System for Major Animal Diseases (GLEW) in their work towards attaining international public health security from the ravages of infectious diseases.

5.2.1 Creation of WHO

The WHO was formally established in September 1948 as the UN specialised organization in the field of public health. It was preceded by certain important health organizations and events which led up to its birth.

The origins on the international initiatives to set up an international health body date back to the nineteenth century with a focus on expanding the economic and trade interests for the Great Powers.¹⁰⁶ The issue was broadened during the twentieth century to embrace the role of the state in providing for social needs which invariably influenced the conception and birth of the WHO.¹⁰⁷

At the end of World War II, the world leaders agreed to convene a conference to discuss the creation of an institution that would bring together various existing international health organizations. The idea emanates from the difficult lesson posed by the Influenza Pandemic

¹⁰⁵ <http://www.who.int/about/en>.

¹⁰⁶ Lee, K., *Global Institutions; The World Health Organization (WHO)*.

¹⁰⁷ Ibid at 12.

and its devastating impacts worldwide during the post World War I era. The aftermath of the First World War was ruins; lack of housing, poor health care, poor water and sanitation and so forth. This was as generally understood contributed to disease emergence and consequently a pandemic. The cost of war had also weakened the capacity of many governments to respond to health needs.¹⁰⁸ The possibility of an epidemic occurrence after World War II strikes fear and poses challenges to the health of the human population of this time. This had urged the move by governments for a need to set up an independent collective international body to enable them to respond to any occurrence of a disease outbreak. This is coincident with the advancements in medical academic which had enabled a better understanding on the nature of infectious diseases and the needs to respond effectively against their global transmission.

At the UN Conference on International Organization in 1945, interestingly this issue was not on the agenda.¹⁰⁹ Nevertheless at the joint submissions from the delegations of Brazil and China recommending a conference to take place for the purpose of establishing an international health organization, the UN Economic and Social Council agreed to convene this conference in February 1946 “to consider the scope of, and the appropriate machinery for, international action in the field of public health and proposals for the establishment of a single international health organization of the United Nations”¹¹⁰. After constructive preparations from the appointed Technical Preparatory Committee (consists of 16 experts in the field of health) on draft constitution, resolutions and agenda, the International Health Conference opened as the first conference to be held under the auspices of the United Nations in June 1946. At the conference the constitution was concluded as well as the protocol for the dissolution of the Office International Hygiene Publique (OIHP). An Interim Committee was established to pursue health-related duties of the League of Nations Health Organization and the UN Relief and Rehabilitation Administration (UNRRA) pending the formal set up of the WHO.

There was considerable delay for the formal establishment hence: the WHO constitution was enforced on 7 April 1948 hereby established the WHO (the Organisation) as a specialized

¹⁰⁸ Ibid at 12

¹⁰⁹ Ibid at 13

¹¹⁰ F.H.Garrison. *An introduction to the History of Medicine* (Philadelphia WB Saunders, 1929).

agency within the terms of Article 57 of the Charter of the United Nations.¹¹¹ The Organisation formally came into existence in September 1948.

5.2.2 The Mandate

Article 1 of the WHO's (the Organization) Constitution (the Constitution) stipulates the overall objective of the Organization as; "shall be the attainment by all peoples of the highest possible level of health."¹¹²

There are 22 functions provisioned under Article 2 of the Constitution as actions to accomplish the above goal. These actions all work within the broad definition of health specified in the preamble of the Constitution, i.e. "health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity." This wide definition in principle is framed in the universality parameters of human public health.

In addition to the above functions, the other significant task of the WHO during its early days was the revision and consolidation of the International Sanitary Regulations known to the present as the International Health Regulations 2005.

Application and Interpretation of the mandates

Moreover, despite the fact that the general objective and functions are specified, the interpretation, and the extent of the application of these mandates are always ambiguous, and controversial. The debate on the interpretation and extension of the WHO mandates centred on three set of opinions.

Firstly, the distinct and competing views on the application and usage of the principles of *social medicine* and *biomedicine*. The former matches the preamble meaning of health which also favours the views of the drafters of the Constitution. The later underpins and give preference to a more circumscribed mandate of the WHO. Though the two sides acknowledge the WHO goal to promote international health cooperation, they tend to take different views as to how this mandate is executed. The social medicine advocates envisioned the principle of

¹¹¹ Constitution of the World Health Organisation; available at http://www.who.int/governance/eb/who_constitution_en.pdf

¹¹² Ibid.

universality on the extension of the WHO mandate. The biomedicine reasons for favouring a disease-based mandate are the views that equated the goal of social equity with the spread of post war communism, and to avoid the repetition of the United States absence on board the WHO.¹¹³ The later views prevailed in the early years.

The second issue is on the WHO normative activities versus the technical activities. For the reasons of limited resources the WHO restricts its mandate and work to normative activities. This circumscribed mandate was criticized by some as an artificial separation of normative activities and technical activities.¹¹⁴ There was a question whether WHO could achieve its normative activities without engaging in some degree of technical activities.¹¹⁵

This low profile work of WHO was overshadowed in resource terms by other UN organizations (UNDP, UNICEF)¹¹⁶, and newly emerging funding organizations e.g. the Gates Foundation, etc. The then Director-General at that time (2001) was content with the WHO low profile and its selective endeavours. However the situation on the emerging funding organisations and their expansion health related work in what supposed to be WHO predominant domain stir up some unease in the WHO.¹¹⁷ In 2003, the new Director-General deliberately attempted to raise the profile of the WHO in launching the 3 by 5 initiative, “to provide three million people living with HIV/AIDS in low- and middle-income countries with life-prolonging antiretroviral treatment (ART) by the end of 2005”.¹¹⁸

Finally is the debate involving WHO priority setting amid limited resources. In the fulfilment of the 22 functions set out in the Constitution, the WHO’s work program and structure grew steadily in breadth and depth.¹¹⁹ Over the years and in response to invariable limits on budgetary resources, questions about the appropriate mix of activities undertaken by the WHO have been regularly raised.¹²⁰ The current debate focuses on the identification of

¹¹³ Lee, K at 17.

¹¹⁴ Ibid

¹¹⁵ Ibid

¹¹⁶ Ibid, at page19.

¹¹⁷ Select Committee on Intergovernmental Organizations Report: Vol I, 2008, (*check the page*)

¹¹⁸ Ibid, at 19

¹¹⁹ Ibid, at 20

¹²⁰ Ibid, at 20.

“core functions” of the WHO compared with those of other global health initiatives.¹²¹ The core functions incorporate; providing leadership on matters critical to health and engaging in partnerships where joint action is needed, shaping the research agenda and stimulating the generation, translations and dissemination of valuable knowledge, setting norms and standards and promoting and monitoring their implementation, articulating ethical and evidence-based policy options, providing technical support, catalysing change, and building sustainable institutional capacity, and monitoring the health situation and assessing health trends.¹²² This programme covers the ten-year span from 2006-2015.

Furthermore among the above mandates, the organization does other things too: it analyses the non-health determinants of health, such as poverty, transport systems and education; its in-country staff work with governments in developing countries to prepare sensible health plans, and it sends staff into Member States, by invitation, to help deal with health crises.¹²³

5.2.3 The Structure

Article 9 of the Constitution specified the organs of the Organisation to be; the World Health Assembly (herein, WHA or the Health Assembly), the Executive Board (the Board), and The Secretariat.

World Health Assembly

The World Health Assembly (WHA) is the highest decision-making body in the organizational structure of the WHO. It meets annually to *inter alia* determine the overall policy direction of the WHO’s six-year General Programme of Work, review and approve reports and activities of the Executive Board, and review and approve the budget. It also

¹²¹ Ibid, at 20.

¹²² *Engaging for Health; 11 General Programme of Work, 2006-2015; A Global Health Agenda*, May 2006, WHO; available at; http://whqlibdoc.who.int/publications/2006/GPW_eng.pdf.

¹²³ Select Committee on Intergovernmental Organisations: *Diseases Know No Frontiers: How effective are Intergovernmental Organisations in controlling their spread?* Vol I: Report. (2008). The Stationery Office Limited, at 36. <http://www.publications.parliament.uk/pa/ld/ldreg.html>.

appoints the Director-General (for five-year terms) and elects the 34 members of the Executive Board.

In executing its tasks, the WHA is assisted and supported by a number of committees with specified responsibilities, such as the Committee on Administration, Finance, and Legal Matters and the Committee on Programme and Budget.

The WHA also holds authority to adopt regulations in such fields as; sanitary and quarantine requirements and other procedures designed to prevent the international spread of disease; nomenclature for diseases causes of death, and public health practices; and standards with respect to the safety, purity and potency of biological, pharmaceutical and similar products.¹²⁴ Under the Constitution such regulations are binding unless member states decide to withdraw or made reservation on them.¹²⁵ For instance the adoption of the International Health Regulation (IHR) 2005 on which we will examine in detail later in this paper.

The procedure in terms of passing recommendations (i.e. resolutions), in practice the majority of WHA decisions are not subject to voting but are agreed by consensus.

Executive Board

The Executive Board (EB) is responsible for the implementation of decisions taken by the WHA. There were 18 members in 1948 and had risen to 34 in 2007 due to increase in WHO's membership. WHA elected member states to nominate EB members, with requirements as "technically qualified in the field of health". It involves a three-year term and one-third of the members change per year.

The EB meets twice every year, in January and after the WHA in May. Its tasks are *inter alia*, preparing the agenda for the WHA, take action to WHA decisions, submitting a draft General Programme of Work, reviewing the proposed program budget, advising on legal matters within WHO regulatory and constitutional framework, submitting advice or proposals on its own initiative, taking emergency measures regarding the WHO's finances and functions, and performing any other functions entrusted to it. It is also supported by committees in its work.

The Secretariat

¹²⁴ Article 21 WHO Constitution.

¹²⁵ Article 22 WHO Constitution.

The Secretariat is the administrative and technical organ of the WHO, tasked for implementing the organization's activities. It comprises of the headquarters in Geneva, 6 regional offices, and 147 country offices. The Director-General is the head, who is nominated by the EB with the approval of the WHA for a five-year term. Aside being the chief administrative and technical officer, he is also tasked to appoint Secretariat staff, preparation of annual financial statements and drafting of the proposed program budget. The current Director-General is Dr Margaret Chan. The Secretariat is staffed by some 8,000 health and other experts, and support staff.

Regional Offices

To achieve strategic focus within decentralized structure to promote international health cooperation led to the establishment of the 6 offices in 1951. There was on office in African region (AFRO), the Americas (AMRO), the Eastern Mediterranean (EMRO), Europe (EURO), the Western Pacific (WPRO), and Southeast Asia (SEARO). Each member state belongs to a regional office. The offices are each headed by a Regional Director, who serves as the chief technical and administrative officer for the WHO in that region. The EB formally appointed the regional director upon nomination by the respective Regional Committee. Regional committees meet annually to formulate policies with a regional dimension, review the regional program budget proposed by the Regional Director, and monitor the WHO's collaborative activities for health development in that region. In principle the decisions are then formally approved by the WHA and the Executive Board to ensure that they are appropriate to global policies.

WHO country offices and representatives

The 147 country offices (the CO) are located in states deemed in need of country-level support.¹²⁶ Each CO is headed by a WHO Representative (WR) who is a trained physician and not a national of that country. The WR is appointed by and answerable to the relevant regional office and, is supported by health and other experts, both foreign and local, and the necessary

¹²⁶ WHO country offices map;

http://www.who.int/countryfocus/country_offices/map_showing_who_country_offices.pdf

support staff.¹²⁷ The overall role of the CO is to work with the government to implement WHO policies and programs and, more generally, support the development of the country's health system.¹²⁸ COs are generally, located within a country's ministry of health, have three main functions: policy, advice and technical support; information, public relations and advocacy; and management and administration.¹²⁹ International liaison offices serve a similar purpose to that of COs but on a smaller scale.¹³⁰ These offices are often found in countries that want a WHO presence but do not have the substantial health needs that require the presence of a CO. Liaison offices are headed by a liaison officer, who is a national of that particular country.¹³¹

5.2.4 The International Health Regulations (IHR)

The Organization is empowered under Articles 21(a) and 22 of the Constitution to adopt international regulations for protection against the global spread of infectious disease. The IHR came into being by virtue of this mandate. It is the first unified code for the control of cross-border diseases. It is legally binding on members whom do not reserve provisions or withdraw within a specified period.

This section sets the historical development of the IHR, and analyses it by examining its application and effectiveness to control the global spread of the maritime related ID and the extent in the level of cooperation and coordination it provided under Articles 13, 17(f), 57.1,¹³² for WHO and other relevant organizations in this case, the IMO to combat the diseases.

Historical developments of IHR

The origins of IHR could be traced back to the mid nineteenth century in 1851 when eleven European States and Turkey attended the first International Sanitary Conference in Paris to negotiate a Convention and Regulations on maritime traffic and the control of the plague,

¹²⁷ Lee, K. At 34

¹²⁸ Ibid at 34

¹²⁹ Ibid at 34

¹³⁰ Ibid at 34

¹³¹ Ibid at 34

¹³² International Health Regulations (2005)

cholera, yellow fever, neither of which entered into force.¹³³ This also coincident with the advances in science epidemiology and as a result had urged governments to deliberate on a global regime as a response to this problem.

After six conferences between 1851 and 1892, the first International Sanitary Convention (ISC) was adopted in 1892. It was then replaced by the 1903 ISC and revised a number of times over the years until the 1944 ISC. In 1951 the World Health Assembly adopted the ISC as an International Sanitary Regulations. In 1969 as part of a revision work after adoption by the Health Assembly it was renamed as the International Health Regulations (IHR).¹³⁴ They were amended in 1973¹³⁵, and 1981¹³⁶, principally to reduce the number of covered diseases from six to three (yellow fever, plague and cholera) and to mark the world science triumph on the eradication of smallpox.

In 1995 the WHA instructed the WHO Director-General (DG) to revise the IHR because the Regulations did not provide an effective framework for addressing the international spread of disease.¹³⁷ WHO issued a complete proposed text in January 2004, which served as a basis for WHO's regional consultations through the spring and summer of 2004.¹³⁸ These consultations led to a revised proposed text, issued in September 2004 for the first intergovernmental negotiations held in November 2004.¹³⁹ The negotiations were completed in May 2005 prior to the WHA's annual meeting,¹⁴⁰ at which the Assembly adopted the new IHR.

¹³³ Fidler, P. D., at 21-24

¹³⁴ WHO Official Records, No. 176, 1969, resolution WHA22.46

¹³⁵ WHO Official Records, No.209, 1973, resolution WHA 26.55.

¹³⁶ WHA34/1981/REC/1, resolution WHA 34.13; WHO Official Records, No.217, 1974, resolution WHA27.45, and resolution EB67.R13, Amendment of the International Health Regulations (1969).

¹³⁷ World Health Assembly, *Revision and Updating of the International Health Regulations*, WHA48.7 (May 12 1995)

¹³⁸ World Health Organization, *International Health Regulation: Working Papers for Regional Consultations, IGWG.IHR/Working paper/12.2003* (January 12, 2004); I.O. Gostin, "International Infectious Disease Law; Revision of the World Health Organization's International Health Regulations," *JAMA* 291 (2004): 2623-2627.

¹³⁹ World Health Organization, *Review and Approach of Proposed Amendments to the International Health Regulations; Draft Revision, A/IHR/IGWG/ 3* (September 30, 2004).

¹⁴⁰ World Health Organization, *Revision of the International Health Regulations: Note by the Secretariat A58/4* (May 16 2005).

The WHO is currently working with the IHR 2005 to date.

IHR (2005) – Applications and Effectiveness to control maritime-related ID

The purpose of the IHR 2005 is “to prevent, protect against, control and provide a public health response to the international spread of diseases in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary, interference with international traffic and trade.”¹⁴¹ Its scope had expanded to encompass public health risks whatever their origin or source¹⁴² including naturally occurring infectious diseases, whether of known or unknown etiological origin. With the broad scope on the ID, there is no question the IHR that the control of the maritime – related IDs are potentially covered. As indicated earlier these IDs include diseases transmitted through the discharge of ballast water, e.g. cholera, gastrointestinal disease i.e. Norwalk-like-virus (NLV), Respiratory Diseases, e.g. Legionnaire and Influenza the outbreaks and transmission perceived to be ship associated, and the STIs i.e. Chlamydia prevalent transmission according to WHO survey in Kiribati, by seafarers.

Though it is clear that NLV disease is covered under the provisions of the IHR, the practical implementation of the provision to control the spread of diseases from vessels is vague. For instance in an incidence where there is an outbreak of NLV aboard a vessel due to contaminated water resulted from the poor design and construction of water storage on that ship. The immediate respond under the IHR will be the application of public health measures as in sanitation of vessels, quarantine and isolation of suspected and infected persons. Though the IHR is adequate to apply basic health measures for sanitation and isolation procedures, it is insufficient to deal with the issue of poor design and construction of water storage or other part of the vessels which may be the primary cause for the spread of any gastrointestinal disease in the first place. Though this may be a distinct issue which qualifies under the auspice of other relevant organisations such as the International Maritime Organization, it need or could be covered on a cooperation level with the relevant organization. Article 14, 17(f), 57.1 provided to facilitate cooperation and coordination between WHO and other international organizations (inclusive IMO) on matters relating to the control of the ID global spread. The

¹⁴¹ International Health Regulations (2005), Article 2.

¹⁴² Ibid, Article 1.1

implementation of this cooperation provision is ambiguous or has not been invoked. The extent and level of cooperation and coordination between WHO and IMO under this article to respond to ID spread cases particularly the ones associated with ships or the maritime sector is unknown.

5.2.5 The International Sanitation Guide

The WHO Guide to Ship Sanitation is referenced in the International Health Regulations (2005) and has become the official global reference on health requirements for ship construction and operation. The purpose is to standardize the sanitary measures taken in ships, to safeguard the health of travellers and workers and to prevent the spread of infection from one country to another.

The revised 3rd edition of the Guide has been prepared to reflect the changes in construction, design and size of ships since the 1960s and the existence of new diseases (e.g. legionnaires' disease) that were not foreseen when the 1967 Guide was published. This third edition will be available by March 2010.

This appears as the answer to the issue on global spread of ID on and from vessels resulting from the defect design and construction. In the meantime prior to March 2010, it will be correct to say that cases of this category are uncovered under the Public Health Regime. Given the assurance and prospects of the effective work to come in the implementation of this Sanitation Guide, certain questions may be raised with regards to the usage of this Guide. Would it be binding on ship builders or the relevant maritime sector? If not how would it compel the ship builders to construct ships using their standards? If this Guide is unenforceable, the instant problem persists.

There is a need for cooperation and appropriate measures to be imposed from the relevant maritime sectors especially IMO to enable effective response to this problem.

5.2.6 Global Outbreak Alert and Response Network

The Global Outbreak Alert and Response Network (GOARN) is a partnership of different institutions and networks (it has been described as a “network of networks”). Launched in

April 2000 its role is to coordinate reports of and responses outbreaks of infectious disease and to provide a framework for delivering support to countries. In essence, GOARN's role is to act as a "global safety net", complementing rather than replacing national surveillance systems. Its activity are coordinated by WHO's Department of Epidemic and Pandemic Alert and Response.

There are currently around 140 GOARN partners, including scientific institutions in Member States, surveillance initiatives, networks of laboratories, IGOs and NGOs. Since 2000 GOARN has responded to around 90 events, with more than 500 experts providing field support to some 40 countries. It played a crucial role in helping to contain the SARS outbreak in 2003.

5.2.7 Global Early Warning System (GLEW)

This body is an integration of medical doctors and the vets. It assist and enhance the understanding on zoonotic and other animal diseases which by experienced in many cases of influenza infections and other IDs, had originated from animals and jumped the barrier of animal species to infect humans.

5.3 The International Maritime Organization

5.3.1 Background

The International Maritime Organisation (IMO) is a specialized agency of the United Nations with responsibility for safety and security at sea and the prevention of marine pollution of ships.

The brief background that led to the constitution of the IMO goes back in centuries. With an utmost rejection for its establishment in the nineteenth century (1889), aside from other international organisations in the fields of postal communication, telecommunications and aviation, the desire for its establishment was raised again in the mid twentieth century.¹⁴³ Following the establishment of the United Nations in 1945, and certain other international organisations, e.g. World Health Organisation (WHO) in 1948, the United Nations Geneva

¹⁴³ Available at http://www.imo.org/Conventions/mainframe.asp?topic_id=77. Accessed 28 September 2009.

conference which took place in the same year (1948), adopted the Convention that conceived the Inter-Governmental Maritime Consultative Organisation (IMCO).¹⁴⁴ This Convention was later come into force in 1959. In 1982 the name was changed to the International Maritime Organisation by virtue of an amendment to the IMCO Convention adopted by the Assembly by the Organisation in 1975.¹⁴⁵

There were, it is true, a great number of international agreements covering many subjects of shipping, but without any co-ordination between them. It was the desire for such coordination which motivated the call for a permanent entity to regulate all shipping activities.

A number of organisations preceded the establishment of IMO. The International Maritime Committee¹⁴⁶ created in 1897, and still in existence today, was responsible for the adoption of a number of conventions dealing *inter alia*, with collisions, salvage and assistance at sea, limitation of ship-owners' liability and exemption clauses in bills of lading.¹⁴⁷ During the First World War, the need to coordinate the allocation of available tonnage among the Allied Powers resulted in the creation of the Allied Maritime Transport Council, which lasted from 1917 to 1919.¹⁴⁸ The advent of the Second World War again prompted the major allies to provide for the effective utilization of their shipping resources.¹⁴⁹ As a result, the Combined Shipping Adjustment Board was created in 1942. In 1945, most of its functions were transferred to the short-lived United Maritime Authority. The purpose of the Authority was to ensure the continued availability of the tonnage resources of the various nations in the light of the changed conditions prevailing during the later phases of the War.¹⁵⁰

When the United Maritime Authority was dissolved in 1946, after the termination of hostilities, it was succeeded by the United Maritime Consultative Council – itself a

¹⁴⁴ *ibid*

¹⁴⁵ Resolution A.358 (IX) of 14 November 1975. <http://www.imo.org/conventions/> *Convention of the International Maritime Organisation*, IMO Doc. 023.82.08E.

¹⁴⁶ Berlingieri, F., "The Work of the Comite Maritime International: Past, Present and Future", *Tulane Law Review*, **57**, 1983, pp. 1,260-1,273.

¹⁴⁷ Henry, C. E., *The Carriage of Dangerous Goods by Sea; The Role of the International Maritime Organisation in International Legislation*. (1985). Frances Pinter (Publishers) Limited, at 37.

¹⁴⁸ *Ibid*.

¹⁴⁹ *ibid*

¹⁵⁰ *Ibid*.

predecessor of the Provisional Maritime Consultative Council (PMCC) created in 1947.¹⁵¹ The PMCC existed up to the foundation of IMO.

Matters related to shipping were also discussed within the League of Nations and the United Nations. The League had created a Committee for Communications and Transit in 1921. In 1946, that Committee transferred its functions to the Temporary Transport and Communication Commission of the Economic and Social Council of the United Nations. In 1947, that body was replaced by a permanent Transport and Communication Commission.¹⁵²

It was against this background of temporary and *ad hoc* organisations that IMO came into being.¹⁵³

5.3.2 The structure of IMO

At present the IMO had 168 member states and three associate members. The Organization comprises of an Assembly, a Council and four main Committees: the Maritime Safety Committee; the Marine Environment Protection Committee; the Legal Committee; and the Technical Co-operation Committee. There is also a Facilitation Committee and a number of Sub-Committees support the work of the main technical committees.

Article 11 of the Convention on the International Maritime Organisation stipulates IMO organs; the Organization consists of an Assembly, Council, Maritime Safety Committee (MSC), Legal Committee, Marine Environment Protection Committee (MEPC), Technical Co-operation Committee and “such subsidiary organs as the Organization may at any time consider necessary”; and a Secretariat.¹⁵⁴

The governing body of IMO is the Assembly which is made up of all Member States and meets biannually; however extraordinary session is convened when necessary. The Council elected by the Assembly for two-year terms is the Executive Organ of IMO and had increased

¹⁵¹ *ibid*

¹⁵² United Nations Maritime Conference (1948), United Nations, ECOSOC, Doc. E/Conf.4. See further two texts entitled, respectively, ‘Meeting about the Inter-Governmental Maritime Consultative Organization’, London, October 1953, and Preparatory Committee of IMCO’, 1st to 4th sessions, 1948-1959.

¹⁵³ *Opicit* at 37

¹⁵⁴ <http://www.imo.org/Conventions>.

its size of members to 40.¹⁵⁵ The Maritime Safety Committee (MSC) is the highest senior technical body of the Organisation and comprised of all Member States. There are nine Sub-Committees in support of the MSC on technical fields of marine safety which incorporate; firstly, Safety of Navigation; another one is Radio-communications, Search and Rescue; a third is Standards of Training and Watch-keeping; a fourth is Stability, Load Lines and Fishing Vessels Safety; the fifth, Ship Design and Equipment; the sixth, Flag State Implementation; the seventh, Bulk Liquids and Gases; the eighth, Dangerous Goods, Solid Cargoes and Containers; and finally on Fire Protection. The Marine Environment Protection Committee (MEPC), which consists of all Member States, shares the same sub-committees of the latter four with the MSC. The Legal Committee consists of all Member States and basically deals with legal matters of the Organization. The Technical Co-operation Committee (TCC) is also made up of all Member States and considers matters of technical co-operation projects for which the Organization acts as the executing agency and any other matters related to the Organization's activities in the technical co-operation field. The Facilitation Committee includes all Member States and act as a subsidiary body of the Council dealing with IMO's work in eliminating unnecessary formalities and "red tape" in international shipping.¹⁵⁶

5.3.3 The mandate of IMO – the IMO Convention

The mandates of IMO were provisioned under Article 1 of the Convention of the International Maritime Organization since the operation of this convention in 1959. The mandate continues to expand due to the evolving circumstances pertinent and affecting the areas of IMO. For instance since the infamous incident of the Torrey Canyon oil spill in 1967 and the immense environmental damage it caused, there has been an increasing concern with the prevention and control of marine pollution by IMO. This is evident through amendments of Article 1 of the Convention on the International Maritime Organisation which had extended its scope to embrace this concern. Article 1(a) through (e) as it stands currently summarises the purposes or mandates of IMO as in;

¹⁵⁵ Convention on the International Maritime Organization Amendments 1993.

¹⁵⁶ IMO. Structure 2009, <http://www.imo.org>. August 2009.

To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade, and to encourage the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution from ships; and to deal with administrative and legal matters related to the purposes set out in this Article;¹⁵⁷

It is also aimed to encourage the removal of discriminatory action and unnecessary restrictions by Governments affecting shipping engaged in international trade so as to promote the availability of shipping services to the commerce of the world without discrimination; assistance and encouragement given by a Government for the development of its national shipping and for purposes of security does not in itself constitute discrimination, provided that such assistance and encouragement is not based on measures designed to restrict the freedom of shipping of all flags to take part in international trade;

The IMO is tasked to consider matters concerning unfair restrictive practices by shipping concerns in accordance with Part II;

It is responsible to provide for the consideration of any matters concerning shipping and the effect of shipping on the marine environment that may be referred to it by any organ or specialized of the United Nations;

And finally at 1(e) the IMO will facilitate the exchange of information among Governments on matters under its consideration.

The evolution of IMO over the years as evident in the extension of its activities or mandates to the present is accounted for by several driving forces. Firstly is the unprecedented advance of technology in all areas of shipping, which called for an active role to be played by IMO.¹⁵⁸ The massive growth in the size of tankers, bulk carriers, passenger cruise liners, the increasing multiplicity of ship types, and the extensive scientific studies on the marine pollution are the basis of this advance. There is evidence about the *Project Genesis*, a cruise liner which will be able to carry 5,400 guests, the world largest passenger ship ever, ordered by the Royal

¹⁵⁷ Convention on the International Maritime Organization 1959

¹⁵⁸ Henry, E.C., *The Carriage of Dangerous Goods by Sea*, (1985). Frances Pinter (Publishers) Limited. At page 42

Caribbean International and expected to be launched late 2009. Other recent findings include the ballast water management and the harmful anti-fouling system which has stretched further the embrace band of IMO. The second factor relates to the advent of globalization and the impact it caused on the advances in the contexts of trade, travel, and maritime safety. International trade and shipping goes hand in hand. It is accepted that more than 90 percent of global trade is carried by sea. The burgeoning of trade reflected on the increase in sea transport carriers. The figures in Table 1 and 2 illustrate this. This is similar to international travel. Over the past ten or fifteen years the cruise and passenger sector has become the industry's most vibrant sectors in terms of the growth of tourism impacting on the increase in the number of cruise ships (see Table 2). It is now a major force within shipping, both in terms of technological development and commercial success. Maritime safety is now viewed as a global context with many and varied dimensions.¹⁵⁹ It is considered to embrace the design, and construction of ships, their equipment for navigation and the handling of cargo, the establishment of standards for different levels of personnel manning the ship, the loading, stowage and handling of various kinds of cargoes, the development of procedures and rules for navigating ships of different types laden or in ballast under a variety of traffic and climatic conditions.¹⁶⁰ It also comprises the prevention of collisions at sea through the proper use of equipment on board and of sailing aids outside the ship.¹⁶¹ Finally it covers the development of procedures for handling emergency situations, such as those involving fire and related hazards.¹⁶² The overall aim is to protect and reduce damage to the ship, cargoes, crew, passengers and the environment.

Table 1: Development of World Seaborne Trade (selected years in million of tonnes)

| Year | Tanker cargo | Dry cargo | Main bulks^a | Total (all cargoes) |
|-------------|---------------------|------------------|-------------------------------|----------------------------|
| 1970 | 1442 | 1124 | 448 | 2556 |
| 1980 | 1871 | 1833 | 796 | 3704 |
| 1990 | 1755 | 2253 | 968 | 4008 |
| 2000 | 2163 | 3821 | 1288 | 5983 |

¹⁵⁹ Ibid at 42

¹⁶⁰ Ibid at 42

¹⁶¹ Ibid at 42

¹⁶² Ibid at 42

| | | | | |
|-------------------|------|------|------|------|
| 2006 ^b | 2674 | 4742 | 1828 | 7416 |
|-------------------|------|------|------|------|

(Source: UNCTAD Review of Maritime Transport 2007)

Table 2: Overview of world merchant fleet

| Shiptype Category | No | Dwt | GT | Age |
|-----------------------------|---------------|----------------------|--------------------|-----------|
| BULK DRY | 6,064 | 396,863,886 | 203,147,140 | 15 |
| CRUDE OIL TANKER | 2,080 | 296,898,583 | 160,322,152 | 11 |
| CONTAINER | 4,278 | 144,738,883 | 124,920,855 | 10 |
| GENERAL CARGO | 16,872 | 78,309,508 | 55,057,831 | 24 |
| CHEMICAL | 3,793 | 59,167,455 | 36,760,304 | 13 |
| OIL PRODUCTS TANKER | 4,966 | 50,268,490 | 30,202,483 | 23 |
| LNG TANKER | 253 | 17,500,080 | 23,157,420 | 11 |
| RO-RO CARGO | 2,416 | 17,296,341 | 38,079,947 | 18 |
| LPG TANKER | 1,099 | 12,493,049 | 10,662,837 | 17 |
| OTHER BULK DRY | 1,133 | 10,674,870 | 8,111,964 | 21 |
| REFRIDGERATED CARGO | 1,236 | 6,677,785 | 6,179,701 | 23 |
| SELF-DISCHARGING BULK DRY | 183 | 6,469,534 | 3,834,203 | 31 |
| PASSENGER RO-RO CARGO | 2,837 | 4,331,426 | 16,328,214 | 24 |
| BULK DRY/OIL | 97 | 4,284,494 | 2,535,691 | 22 |
| OTHER DRY CARGO | 214 | 2,720,533 | 2,467,830 | 27 |
| PASSENGER (CRUISE) | 485 | 1,656,404 | 13,400,752 | 22 |
| PASSENGER SHIP | 3,031 | 601,847 | 1,515,551 | 23 |
| PASSENGER/GENERAL CARGO | 338 | 277,917 | 538,221 | 33 |
| OTHER LIQUIDS | 163 | 131,462 | 87,265 | 32 |
| TOTAL CARGO CARRYING | 51,538 | 1,084,362,547 | 737,310,361 | 21 |

(Source: Lloyd's Register/Fairplay World Fleet Statistics 2007, p.15)

In light of the constant expanding scope or mandate of IMO and the general recognition of the global feature of the shipping industries plying across boundaries engaging a wide range of nationals, and oftentimes likely to invoke the application of laws from different jurisdictions; there is, therefore an over-arching logic in favour of the framework of international standards

to regulate shipping – standards which can be adopted, accepted, implemented, and enforced by all.¹⁶³

In respect of the above, IMO had concluded a wide range of conventions and codes to cater for all the concerns and pertinent issues embodied under its extended auspice. That is the conventions fall into 3 main categories; with maritime safety; on the preventions of marine pollution; and with the liability and compensation, with particular regards to oil pollution damage. Other relevant conventions deal with facilitation, tonnage measurement, unlawful acts against shipping and salvage, etc.¹⁶⁴ Refer to Appendix 3 for the list of conventions classified to their categories and which are enforced by IMO to date. As apparent this is the current stance of IMO politics as it works. Hence it leads us to our next question and i.e. what is maritime law and how does it relate to IMO in terms of its development?

5.3.4 Maritime Law

Maritime Law is defined into three purposes;

- a) It provides the legal framework for maritime transport, i.e. the carrying out of a State's foreign trade. In this it is necessary to regulate the relationship of all parties involved in maritime transport – cargo interests and shipowners, carriage of goods and passengers by sea, collisions, general average, liability and limitation of liability and mortgages and liens. This purpose could be obtained with efficient and therefore safe ships, manned with qualified and competent crews. It follows the rules pertaining to the construction and safety of ships, the manning of ships, the labour and working conditions and the safety of navigation serve this purpose.¹⁶⁵

¹⁶³ International Maritime Organisation; Maritime Knowledge Centre, *International Shipping and World Trade – Facts and figures*, Updated November 2008. At p.34. Accessed 23 September 2009.

¹⁶⁴ <http://www.imo.org>, accessed on 28 September 2009.

¹⁶⁵ *Guide-lines For Maritime Legislation*; 2nd edition, (1982) United Nations, Economic and Social Commission for Asia and the Pacific, Bangkok. At 1

- b) It implements the basic objectives of a State as port State and coastal State to ensure the safety of ships calling on a State's ports or navigating along its coasts, to prevent accidents involving those ships and to prevent pollution from those ships.¹⁶⁶
- c) It may serve general economic objectives of a State to the need to expand a State's merchant fleet whether in the carriage of national ocean trade or in cross-trading.¹⁶⁷

5.3.5 Developing Maritime legislation

Policy

- It is paramount important that before starting to draft the maritime legislation the relevant policy issues are clearly defined and brought into line. This will secure the necessary consistency of both policy and law and therefore prevent situations whereby a particular law serves a particular policy objective, but runs counter to other objectives.
- It should be noted that the need to define a maritime policy may arise before the need for lawmaking at the national level. *After all, many areas of maritime law are developed first in international instruments. Under the auspices of International Maritime Organization (IMO) many important technical shipping conventions have been concluded.*
- Another material that may be adopted into national legislation is examples of maritime legislation in other countries. However it should be noted that foreign laws are not necessarily designed to serve the same purposes or serve national objectives.

1. *Do legislative action required or not as the policy have been developed?*

The answer varies from one State to another, depending on the State's legal system and the policy-matter at stake.

2. *Adoption of a convention – if considered – two situations may occur*

¹⁶⁶ Ibid at 1

¹⁶⁷ Ibid at 1

- Monistic view of international law – convention becomes part of the law through the act of ratification or accession. In principle, the implementing legislation required is limited.
 - The dualistic par of international law – convention becomes part of the national law only after full-scale implementing legislation has been adopted.
 - Though the matter may be different depending on the convention itself. Some conventions contain self-executing provisions, which are directly binding on natural and legal persons in the ratifying or acceding State. As such, self-executing provisions need not be implemented.
3. *Legal institutional framework also has an important bearing on the need for legislative action.* In some States, the conduct of business activities is governed by contract law primarily of a predominantly non-mandatory character. Other States assist and regulate economic activity to a greater extent. The later policy involves more detailed legislative action than the former.
 4. The same legal institutional framework will decide what emphasis is given to appeal procedures for decisions of the government and, consequently, the amount of legislative work involved

General Responses – Embargoes and Travel Advisories

Generally the most effective response aside from maritime related measures and other relevant measures is the embargoes facilitated under the trade agreements, and the travel bans, e.g. the WHO infamous travel advisories issued out to travellers during the wake of SARS in 2002-2003. This had been observed with hostility from the commerce sector and considered as interference with the freedom to trade and movement of traffic. From experience it had caused adverse impacts on many economies and therefore considered unacceptable. Consequently, alternative measures to reduce and contain the spread of infectious disease without or with limited interference on trade and traffic have to be developed. The national, regional, and international responses are to be formulated within this context and these could be all reflected in the legal and institutional framework prepared by countries, regional blocs, and international organizations involved in the global fight against the international transmission of infectious diseases. This was why the International Health Regulations came into place, as

to monitor and balance the public health measures countries apply to ensure no interference of international traffic incurred.

The maritime practice prior to the inception of IMO and IMO's legal and institutional responses to reduce and control global spread of infectious diseases is detailed here.

The Ancient Maritime Quarantine

Historically prior to the existence of IMO, the efforts to control human disease on ships, and from transmitting, traced back to the Middle Ages when in 1377, Venice and Rhodes denied access to ships carrying passengers infected with the plague and the term "quarantine" was devised. On arrival travellers were detained in isolation for 40 days before they were allowed to proceed to their final destination.

The 40 days period of quarantine was long gone as the complexities of human right, commercial losses from the delays, the advance scientific understanding of diseases and their incubation periods, and etc burdened the scene. However, hitherto the maritime quarantine at points of entry (the ports) remained and legalised at the national level through domestic laws of most countries as a mean to control and minimise the spread of infectious diseases to their countries. The quarantine law is not purely a maritime response, but it has provisioned the immense relevance of maritime through the Port Authorities involvements in inspecting and disinfecting of the vessels, facilitating the required documents from vessels, and the usage of port areas.

The effect of maritime quarantine had been a cause for debates through many research works. One review provided the mortality data of the 1918-1919 influenza pandemic for 11 South Pacific Island jurisdictions.¹⁶⁸ Four of these appear to have successfully delayed or excluded the arrival of pandemic influenza by imposing strict maritime quarantine.¹⁶⁹ They also experience lower excess death rates than the other jurisdictions that did not apply quarantine measures.¹⁷⁰ Nevertheless many public health experts agreed that the effect of

¹⁶⁸ Baker, M., McLeod, M. A., Wilson, N., et al; *Protective Effect of Maritime Quarantine in South Pacific Jurisdictions, 1918-19 Influenza Pandemic.* (2008) Vol 14 No 3.

¹⁶⁹ Ibid.

¹⁷⁰ Ibid.

maritime quarantine is challenged with the advent of aircraft travelling which enable people and microbes to cross countries and continents in hours shorter than the incubation periods of some diseases such as SARS and other influenza types. An infected person without knowing that she or he is ill may travelled from one country and arrive at the other in a few hours without being detected though later after exposing to the community realised that she was infected and had spread the disease. This remains the debate by experts in the field of health.

Despite the above distinct perspectives on the effect maritime quarantine, hitherto all countries persist to use as a control measure in the maritime point of entries. Moreover there is no question to the understanding that it is effective amid other various measures and responses put together, but not as a stand-alone response entirely to protect, control and reduce the global spread of infectious diseases.

The IMO legal and institutional responses

International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) 2004

The IMO assembly has accordingly adopted generally non mandatory guidelines to prevent the introduction of bacterial and viral pathogens in ballast water and sediment. The IMO resolution traced this concern in part to the 1973 International Conference on Marine Pollution, in which the parties called for WHO, in collaboration with IMO, "to carry out research into the role of ballast water as a medium for the spreading of epidemic disease bacteria."¹⁷¹ This led to the adoption of the *International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM)* in 12 May 2004.¹⁷² The standards and procedures set under this convention for the ships' compliance particularly ensures safety on the ship and avoid competing environmental problems. It will also have a substantial impact to reduce and combat the transmission of infectious diseases whether at a national, regional, and international level. The Marine Environment Protection Committee at its 58th session in October 2008 adopted *guidelines for approval of ballast water sampling and*

¹⁷¹ Kimbal, A. M. and Plotkin, B. J; *Designing an International Policy and Legal Framework for the Control of Emerging Infectious Diseases: First Steps*, Available at <http://www.cdc.gov/ncidod/eid/vol3no1/downplot.htm>. Accessed on 30 June 2009.

¹⁷² <http://www.imo.org/>. Accessed on 28 September 2009.

Revised Guidelines for approval of ballast water management system, intended to assist in the implementation of the convention.¹⁷³ The convention is not yet in force to this date. This is one of a significant legal response from IMO as a regulatory organization that will contribute to the fight against global spread of infectious diseases therefore it is crucial for member states to ratify it.

Essentially the understanding is that, *albeit* the convention adopted catered to control and reduce the transmission of infectious diseases, its emphasis reflected principally on preventing pollution for the marine environment. As evident it was organised and adopted through the Maritime Marine Environment Committee. The understanding that the (BWM) Convention is adopted for health issues become an issue for debate at the forefront of the public health sector and the maritime sectors.

Passenger Ships

With respect to Passenger ships and infectious diseases' transmission aboard and globally this is the current legal framework of IMO on such ships. Passenger ships (inclusive ferries and cruise ships or liners) – usually defined as a ship carrying more than 12 passengers – on international voyages must comply with all relevant IMO regulations, including the SOLAS, Load Lines Conventions, MARPOL, etc.¹⁷⁴ These ships in operation today are subject to a vast array of regulations and standards covering every aspect of the ship and their operation.

In 2006 the IMO through its Maritime Safety Committee (MSC) had completed a major work on passenger ship safety by adopting a package of amendments to SOLAS. The amendments provided for improvements in safety requirements including those relating to fire safety measures – such as escape routes and fire protections systems for the large atrium typical of cruise ships – and life-saving appliances and arrangements.

Despite the fact that passenger ships subject to IMO regulations and the substantial work done by IMO through MSC on passenger ship safety, it is important to note that regulations to address the technical deficiencies on cruise ships which had contributed to increase the spread of the infectious diseases on board these ships and to the international community is scarce. There have been attempts, proposals and responses from public health sectors mainly;

¹⁷³ *ibid*

¹⁷⁴ Available at <http://www.imo.org/safety>. Accessed on 1 October 2009.

international organizations (WHO), regional bodies (EU), and national institutions (US-CDC), however without association with IMO. The gap is enormous and it is necessary to bridge in IMO to enable integration of the relevant issues of infectious diseases at the maritime sector in order to work out the responses effectively.

This is no difference in the case of cargo ships. IMO has no response legally and institutionally to reverse the global spread of infectious disease of legionnaire it contribute to transmit on cargo ships.

The above words indicate the current stance of IMO in respect of the absence of responses or “the no action” to the control and reduction of global spread of infectious diseases. The instant legal and institutional framework for IMO is insufficient to accommodate the issue on infectious diseases. There is a need to add infectious diseases to the responsibilities of the IMO and enhance the collaboration between IMO and WHO on this issue.

5.3.6 The reasons for “the no action”

It is difficult to determine the reasons that may curb the IMO’s efforts to respond constructively and collaborate with other relevant organizations e.g. WHO to jointly control the global spread of infectious diseases, *albeit* it had played a role in amplifying the international transmission of the diseases. However two points became clear and worthy to discuss in this paper. The first is that the mandate falls short to cover the issue of infectious diseases. The second concerns the existing gaps or lack of cooperation between IMO and WHO in the work against these diseases.

IMO Limited Mandates

As indicated earlier the key mandates of IMO are stipulated under Article 1 of the IMO Convention. The provisions of Article 1 do not cover the obligation to prevent, control and reduce the increase in global spread of infectious diseases. And as far as the above incidents or experiences recorded, there is no question that there is a need to amend the existing mandate to encapsulate the task on infectious diseases. This is in line with Lord Devlin’s approach to the question of need in the Torrey Canyon case where he concluded that there was a need for a new international treaty to regulate the new type of claim raised in the Torrey case. The IMO Resolution A.777 (18) of 1993 elaborated further to provide that, the Legal Committee, like

the other IMO Committees, has been reminded that “proposals for new conventions or amendments to existing conventions be entertained only on the basis of clear and well-documented compelling need”. In our case the above documented incidents underlies our proposal for recommending a need for an amendment to Article 1 of the IMO Convention to incorporate the need for regulations to control and reduce the global spread of infectious diseases in which the causes for transmission involves substantially with maritime affairs.

IMO Lack of Collaboration with the WHO

The information regarding the interfaces between IMO and the WHO is very limited. In January, 2002 WHO had solicited IMO’s support in reviewing the current International Health Regulations (IHR) 1969, from an operational and technical viewpoint. A number of subprojects that would benefit from the input of IMO were identified.

The first part (1A – 1L) of the revision project deals with Permanent /Routine Measures. IMO was listed as partner on subprojects 1A – 1G, 1I & 1J (9 sps’) –:

- 1A – Core Capacities – Develop national model for urgent and routine public health services at ports;
- 1B – Carry-over procedures for cholera, plague and yellow fever – Develop and test interim procedures for continuing with the listed diseases;
- 1C – International Health measures for travellers – Review existing procedures if required, develop new ones based on good science, balancing health protection with rights of travellers;
- 1D – Protocols for conveyances and goods – Review and develop protocols for conveyances and good to prevent disease spread while minimising interference with world traffic. Review port sanitation requirements;
- 1E – Ship owner/operator responsibilities for sanitation – Review and define need for Member States’ compliance inspections on foreign-flagged ships. Define ship operator sanitation obligations;
- 1F – Cargo ship operations guide – review and update operational guidelines to sanitation for International ships;
- 1G – Cruise ship guide – develop cruise ship guidelines to include all key hygiene areas;

- 1I – Health documents and charges for public health activities – review varying service charges for conveyances related to IHR requirements. Develop new rules and protocols for consistent application to prevent misuse;
- 1J – IHR certificates and declarations for ships – review existing IHR certificates: International health sections of Maritime Declaration of Health, vaccination certificate for travellers and deratting certificate.

The second part relates to the outbreak management components. It contains 7 subprojects from 2A – 2G. IMO is listed as partner for work in 2A – 2F (6sps’).

- 2A – Public health measures during international health events – test public health measures during urgent international health events and recommend response measures for publication in IHR;
- 2B – Identification of urgent/international public health events – develop a tool (algorithm) enabling Member States and WHO to assess whether national disease events meet both urgent and international parameters;
- 2C – Provisional (confidential) notification process – Draft and test a process for ending provisional – confidential notification;
- 2D – Core capacities for IHR surveillance/notification/response – develop templates or models that define core capacity needs, especially for developing member states to contain and control urgent national public health risks and international spread;
- 2E – WHO Secretariat process for risk assessment for urgent disease events – define, develop consistent, transparent process for: 1) WHO verification; 2) When and why WHO will recommend selected measures; 3) how WHO will modify or end measures;
- 2F – Scope of IHR application – develop rationale as to whether the scope of the IHR should cover infectious diseases only or expand to hazardous goods and environmental accidents.

IMO was also invited in the review of the WHO Guide to Ship Sanitation, which is directly referenced in the IHR. Secretariat attended a meeting in Miami on 3- 4 October 2001 and

contributed to the discussions on proposed amendments to the Guide with the aim of ensuring no conflicts with existing or proposed IMO requirements.

There is no further information aside from this MSC meeting's minute, as to facilitate and indicate the constant cooperation between these two organizations in terms of the above reviews and IMO participation in the proposed sub projects. The lack of collaboration is also evident with the IMO legal and institutional regime which apparently insufficient to regulate the containment and minimisation of international transmission of infectious diseases. All the requirements and standards specified under the WHO Guide to Ship Sanitation 2006, and the International Health Regulations IHR 2005, have not been reflected or applied and implemented on the maritime (IMO) legal regime.

In light of the above reasons it is recommended that an amendment to Article 1 of the IMO Convention should be effected to expand the mandate to embrace combating and reducing infectious diseases as it relates to maritime to enable IMO to address on the issue with discretion. It is also crucial for both organizations to bridge their existing gaps and fix the differences, and work together as a team to tackle this global issue of communicable diseases.

5.3.7 The Projects – Proposed Responses

US- CDC Vessel Sanitation Programme (VSP)

In 1975, in response to several large gastrointestinal disease outbreaks on cruise ships, the US Centre for Disease Control and Prevention (CDC) established the Vessel Sanitation Programme (VSP), a joint cooperative programme with the cruise industry to establish and maintain a high level of sanitation and hygiene on cruise ships.¹⁷⁵ VSP encourages the cruise industry to establish and maintain a comprehensive sanitation programme, and is also actively engaged in the design and construction of new ships as well as retrofitting older ones to enhance facilities and provisions that promote shipboard sanitation and environmental control.

¹⁷⁶

Official shipboard sanitation inspections are conducted in ports in the United States and its territories and cover environmental health control measures, including 1) water supply,

¹⁷⁵ Available at; <http://www.cdc.gov/nceh/vsp>. Accessed on 20 June 2009.

¹⁷⁶ Ibid.

storage, distribution, disinfection, and protection; 2) food-handling practices, including storage, preparation, and service; 3) product temperature control; 4) potential contamination of food, water, and ice; 5) personal hygiene and sanitation practices followed by crew members; 6) general cleanliness, facility repair, and vector control; and 7) training of programmes in environmental and public health practices.¹⁷⁷

EU: Shipsan Trainet Project

In 2006, the European Union project SHIPSAN was established in order to assess the usefulness for an integrated common programme for communicable diseases surveillance and hygiene inspections in Europe.¹⁷⁸ In the frame of this project, public health risks that may occur on passenger ships were assessed and a review of the relevant legislation and literature on infectious diseases outbreaks was conducted. This resulted in proposals prepared for the prevention and control of communicable diseases on passenger ships. The SHIPSAN partnership proposals on what needs to be done in the EU included: standardised syndromic surveillance for influenza like illness (ILI) on board passenger ships, outbreak management guidelines for port health authorities and crew members, web-based communication between ports and hygiene standards and protocols. These proposals are now being implemented within the EU SHIPSAN TRAINET project which commenced in 2008 and will be completed in May 2011.

This project foresees the development of: a) harmonised communicable diseases surveillance including ILI syndrome by using standardised reporting forms, b) a manual providing hygiene standards (e.g. for disinfection and cleaning), and outbreak management guidelines for airborne diseases, c) training of port health personnel and crew members on hygiene issues and outbreak management and d) a communication network for collection and sharing of surveillance and ship inspection data among competent authorities.¹⁷⁹ An expert working group consisting of participants from EU Member States, international organisations (WHO) and communicable diseases surveillance networks has been established in order to

¹⁷⁷ Ibid.

¹⁷⁸ Available at; <http://www.shipsan.eu> & www.eurosurveillance.org. Accessed on 29 June 2009.

¹⁷⁹ Ibid.

develop the manual, the reporting forms and the network operating specifications anticipated to be delivered in 2010.¹⁸⁰

It is necessary for IMO to consider the above projects when framing its regulations or resolution on the issue of infectious diseases with emphasis on cruise ships. This may be possible after the appropriate amendments made and, collaboration is improved between IMO and WHO.

5.4 The Maritime Labour Convention 2006

The Maritime Labour Convention marked an historic achievement of the International Labour Organization in their work to improve the welfare of seafarers. The Convention provides comprehensive rights and protection at work for the world's more than 1.2 million seafarers. It set out seafarer's right to decent conditions of work on a wide range of subjects. It covers also the health issues of seafarers, including not only attending to the ill but it also provides preventative measures to protect the health of seafarers from other diseases.

The Convention has not been enforced pending the required number of maritime quota countries to ratify before it could be enforced.

In the meantime the former laws and regulations on seafarers are applicable.

¹⁸⁰ Ibid.

6 Regional Responses

6.1 Mauritius Declaration and the Mauritius Strategy for the Further Implementation of the Programme of Action for Sustainable Development of Small Island Developing States (MSI)

The Mauritius Strategy for Implementation was signed and adopted in Port Louis, Mauritius in 2005 after the constructive review of the Barbados Programme of Action for Sustainable Development of Small Island Developing States (BPOA). The work on the MSI had expanded to encompass emerging issues which are not previously covered by the BPOA. One of the emerging issues highlighted for SIDS was a major concern on the increasing incidence of such health challenges as HIV/AIDS, tuberculosis, drug resistant, malarial strains and other new and emerging diseases.

Part XVII of the MSI (clause 75) encourage the strengthening and further development of cooperation and experience-sharing among small island developing States. Clause 76 committed the SIDS, with necessary support of the international community, to addressing HIV/AIDS, which is prevalent in many countries. It affirms that other communicable diseases will continue to have significant impacts on the health of small island developing States communities for the foreseeable future. The experience of many regions has shown that failure to effectively control such diseases as HIV/AIDS will have substantial negative impacts on future sustainable development in the SIDS nations.

The issue of the ID as a crucial issue affecting the health of SIDS population their economy and sustainable development is well expressed under the MSI. The specific diseases associated with ships or the seafarers were not included. There is no specific provision under the issues on maritime sector that cover measures to combat and minimise the spread of the ID. The implementation of these clauses by SIDS countries is targeted around the health sector and not maritime.

6.2 The Pacific Plan

The Pacific Plan was endorsed in October 2005 at Port Moresby by Forum Leaders at their Pacific Islands Forum Meeting. The purpose of this Plan is to propose a new innovative approach to the unique challenges that Pacific Island Countries (PICs) encountered, through a framework of greater cooperation and integration.

Under the Plan the initiatives developed around four pillars; economic growth, sustainable development, good governance, and security. The plan was a direct implementation of the BPOA and the MSI in the sub-group level of Pacific Islands.

The health strategies are covered under sustainable development. Though this is potentially beneficial to the work of the public health sector it does not specifically provide for the work to fight the ID global transmission from the maritime sector.

6.3 The Secretariat of the Pacific Community (SPC)

The Secretariat of the Pacific Community is a regional organisation that mandated to facilitate technical and policy advice, training and research services to the Pacific Island countries and territories on areas such as health, human development, agriculture, and marine.

The work on health issues are centred under the SPC Public Health Programme (PHP) which made up the Social Resource Section. The Public Health Surveillance and Communicable Disease Control (PHS&CDC) Section is part of PHP. The section which is based in Noumea is also a focal point of the Coordinating Body of the Pacific Public Health Surveillance Network (PPHSN).

6.3.1 The Pacific Public Health Surveillance Network (PPHSN)

The Pacific Public Health Surveillance Network (PPHSN) was created in 1996 under the joint auspices of SPC and WHO. It is a voluntary network of countries and organizations dedicated to the promotion of public health surveillance and appropriate response to the health challenges of the Pacific Islands and Territories. The first priority of PPHSN is communicable diseases, especially the outbreak-prone ones. The target diseases at present included; dengue, measles, rubella, influenza, leptospirosis, typhoid fever, cholera, SARS, and STIs.

PPHSN had been active in facilitating tremendous work through the five strategies in assisting the Pacific Islands particularly public health departments in their effort to execute their obligations under the IHR e.g. to develop , strengthen and maintain a public health national capacity to be able to respond sufficiently to any incidence of transmission or outbreak.

The list of priority diseases for PPHSN does not include the IDs of concern in this paper. With the bulk of the work done on the control of the ID international spread from PHP, PHS&CDC, and PPHSN it is interesting to note that there is no work on the problem of ID global spread by ships or seafarers. The logic understanding may be because this issue is not covered under the IHR. All the current work by public health departments are aligned to the IHR. The causes involve technical maritime matters e.g. the design and construction of a ship, and therefore it should fall under the auspices of the maritime sector.

7 Kiribati Infectious Disease and Maritime Laws and Institutions

7.1 Public Health Institutions

Kiribati as a small island developing State has a narrow base income and is vulnerable to external natural or environment shocks. The impact of the global spread of the ID or a pandemic will be devastating. It is necessary for Kiribati to contain or even reduce the chances of a global endemic in order to protect its population which is its main resource if it has to achieve sustainable development for better and quality life for the present and future population.

The primary institution which is responsible for the task on combating the ID is the Ministry of Health and Medical Services (MHMS), department of communicable disease control. The responses from MHMS to tackle the ID are potentially through the implementation of the International Health Regulation (IHR) 2005 which is the main legal framework on the containment of the disease. Implementation involves executing certain obligations set out in the Regulations. Under the IHR the parties which Kiribati is, are obliged to establish focal points to facilitate the efficient and effective communication of matters pertinent to any disease or outbreak within and outside the country. It also obligates Kiribati to establish a certain national public health capacity to enable Kiribati to provide public health response when needed. This involves infrastructure work as in, establishing laboratories, research, and diagnosis facilities. This would be costly for a country like Kiribati; therefore there is a need to work in partnership with development partners to meet these obligations. To enable a concession on funding for support, Kiribati is required to translate the obligations into strategies so that they are used as indicators to goals and objectives it seeks to achieve. The obligations discussed here are still in the process of development.

Another task is to establish, strengthen a port health authority at the port premises for purposes of isolation and medical examination of suspect or infected cases. This is also another problem with national capacity to perform the requirement of the IHR 2005.

7.2 The National Public Health Legislations

7.2.1 Public Health Ordinance 1977 (Cap 80)

The Ordinance which is most appropriate legal framework to regulate the control of the ID and to safeguard the health of the Kiribati community is over 30 years old, is in need for review to update with the current international regulations such as the IHR (2005). The same issue will rise as to the capacity to fulfil the obligations that have been included in the domestic laws. The issue of weak capacity could be a reason that hinders the amendment and review of laws.

The Ordinance remains to apply however, problems of disparity and conflict in updated public health laws could happen.

7.2.2 Quarantine Ordinance 1977 (Cap 85)

The Quarantine Ordinance require revision and conformance to the provisions of the IHR (2005) and other relevant international regulations.

7.3 National Maritime Laws and Institutions

7.3.1 Ministry of Communications, Transport, and Tourism Development (MCTTD)

The MCTTD administer matters of maritime, as in shipping and seafarers. To respond to the issue of global spread of STIs and HIV/AIDS through seafarers the Ministry has to lobby for the ratification of the Maritime Labour Convention 2006. It may form synergies with the Ministry for Labour and Employment and Ministry of Health and Medical Services to jointly work on the promotion of this Convention to expedite the Government ratification. Workshops to promote awareness on the useful content of the Convention may assist on the lobby from various front including the private sector and seafarers union.

The MCTTD is also responsible to encourage the ratification of the International Convention for the Control and Management of Ship's Ballast Water and Sediments (BWM) 2004. A concerted effort with the Ministry of Environment and Social Development and Ministry of Health and Medical Services and Ministry of Natural Resources Development will assist to speed up the ratification of the (BWM) Convention.

On the issue of global spread of foodborne, waterborne, and airborne diseases on the cruise line or cargo ships it may be appropriate to set up a task force with the Ministry of Health, Ministry of Phoenix, and the Kiribati Port Authority. It is necessary to acknowledge and understand the prevalence of these diseases, the causes of their transmission and, clearly identify who are the relevant ministries or sectors to deal with the issue.

7.3.2 Shipping Act 1990

The Shipping Act 1990 needs preparatory work to align its provisions with the Maritime Labour Convention 2006, and the BWM Convention 2004 so that it is in the position to incorporate changes once both Conventions are ratified by the Government. This Act

7.3.3 Environment Act 2002

This Act should be reviewed in light of the BWM Convention 2004.

There is no maritime legislation in Kiribati that covers the cases of transmission of waterborne, airborne, and food borne diseases which are linked to the technical defects of the ship's design and construction. Maritime legislations in Kiribati are framed on the provisions and contents of international maritime conventions, and regulations. The incorporation of this issue onboard the IMO auspice may warrant changes in the domestic legislations.

8 Conclusion

The issue as identified in this work is that the global spread of infectious disease via the maritime sector had posed a significant threat on the health of the human population. The advent of globalization in particular, the advances in technology in the shipping industry, the increase in international travel, the burgeoning in the cruise tourism industry had accelerated the tendency for infectious diseases to transmit to different parts of the world more rapidly.

There are three maritime factors that implicated to spread the diseases around the world;

- 1) The transmission of cholera from the discharge of ballast water and sediments from ships;
- 2) The global spread of Norwalk-like-virus (NLV – a gastrointestinal disease) on board cruise ships and into the countries of cruise destinations;
- 3) The international transmission of Chlamydia (STIs) through seafarers;

The spread of infectious diseases if not contained will result in a pandemic or global endemic. The global nature of its transmission makes infectious disease a significant international issue because its control and reduction involves had gone beyond sovereignty to involve the international community. Further the unpopular impacts of pandemics on the health of the human population and national economies significant international threat especially on the least developed states or small island developing states such as Kiribati.

Because of its imposing threats of devastating impacts, and the ability to cross borders, it is imperative on Governments and the International Community to reduce and combat their global transmission.

The responses as relevant on all levels comprising, international, regional and national were listed in Chapter 7. Since the causes of transmission of the infectious diseases indicated in this work are maritime-related this paper place emphasis to explore legal responses to reduce and contain the global spread of these diseases from a maritime perspective.

The analysis on the responses examined posit distinctively on the above three diseases listed in the table below.

FIGURE 3 LIST OF INTERNATIONAL LEGAL RESPONSES

| The Diseases | IMO Responses | WHO Responses | ILO Responses |
|--|---|--|----------------------|
| 1) Global spread of cholera from the ballast water and sediments of ships | International Convention for the control and Management of Ship' Ballast Water and Sediments (BWM) 2004 – is yet to be enforced to become effective so the status is still pending. | International Health Regulations (IHR) 2005 | |
| 2) Norwalk-like-virus (NLV) global transmission aboard cruise ships and to cruise destinations – <i>transmission factor was the poor design and construction of the water storage on the ship.</i> | No response identified from the IMO. | International Health Regulation (IHR) 2005 WHO Guide to Ship Sanitation | |
| 3) Global spread of Chlamydia from | | | Maritime Labour |

| | | | |
|-----------|--|--|---|
| seafarers | | | Convention 2006 – pending enforcement to make it effective. |
|-----------|--|--|---|

The maritime response to the international transmission of cholera from ballast water and sediment is in the adoption of the International Convention for the Control and Management of Ship's Ballast Water and Sediments (BWM) 2004. Though the Convention is premature to be applied it will be effective once the enforcement is progressed.

In the same case as the global spread of Chlamydia through seafarers the maritime response to reduce and contain incidences of outbreaks is through the adoption of the Maritime Law Convention 2006 by the International Labour Organization. The convention is from ILO however the provisions accommodated maritime issues.

With regard to the global transmission of a gastrointestinal disease (NLV) on board passenger ships and around the ports visited, no response is identified from the maritime sector which is in this case the IMO. The argument put forward on this issue is that the IMO had limited mandate under Article 1 of the International Maritime Organization Convention to encapsulate the control of global spread of infectious diseases. It is recommended that Article 1 is amended to allow for the expansion of IMOs' coverage to the control of global spread of infectious disease which is caused or maritime related.

It is perceived that the problem of global spread of the ID via cruise ships is a maritime safety in nature. The proposal is to incorporate the ID issue as one area on the maritime safety committee of the IMO.

Another recommendation is in the need to establish synergies or cooperation as provided under Article 14 of the IHR 2005, of IMO, WHO and other relevant organization to define the extent and degree of what they could do on a cooperation level to control the problem of the ID which is related to maritime.

The regional and national maritime responses on reducing and controlling the ID will reflect on the international maritime responses particularly from the IMO.

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