

Evaluation of the Legal Framework for Environmental Infection Control in Nigeria

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Abstract

Following the menacing impacts of the Ebola Virus Disease outbreak in Nigeria, occasioned by the July 20, 2014 admission of an acutely ill traveller from Liberia to Nigeria, the relevance, adequacy and efficiency of Nigeria's legal regime on environmental infection control has come under intensive scrutiny. Gallons of juristic ink have been spilled by commentators and scholars on the need for new laws to prevent the admission and spread of infectious diseases in Nigeria. This paper argues that Nigeria already has robust environmental infection control laws which if holistically and effectively implemented could have prevented the menacing impacts of the Ebola outbreak in Nigeria. The paper reviews and examines how key provisions of the 1999 Constitution, Quarantine Act 1926, The Agriculture (Control of Importation) Act of 1964, The Factories Act of 1987, and the NESREA Act provide adequate legal foundation and basis for policy and regulatory intervention in preventing the introduction and spread of infectious diseases in Nigeria.

Introduction

On July 20, 2014 Nigerians witnessed the addition of a hitherto unknown disease into the national lexicon—the Ebola Virus Disease. This was when a Liberian diplomat, Patrick Sawyer, the man credited with ‘importing’ Ebola Virus Disease to Nigeria, beat the Nigerian immigration, custom, police or military checks and was admitted into the Murtala Muhammed International Airport, Lagos, Nigeria.¹ At the point of entry, due to his visibly ill

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¹ See Vincent Obia, ‘The Avoidable Import of Ebola from Liberia’ (This Day Newspaper, August 10, 2014) <<http://allafrica.com/stories/201408113253.html>> accessed June 12, 2015, also How Liberian Government Cleared Patrick Sawyer to Travel to Nigeria While Under Observation for Ebola (The Premium

appearance, officials at the Lagos airport allegedly asked him whether he had made contact with any person with the Ebola Virus, to which Mr. Sawyer denied.² Few hours later, Mr. Sawyer was acutely ill and on admission at the First Consultants Hospital in Obalende, one of the most crowded parts of Lagos, with a population of some 21 million inhabitants. Mr. Sawyer died of Ebola on July 24, 2014.³

The aftermath of this was a sporadic spread of Ebola in Nigeria with 19 confirmed cases of Ebola infection and eight deaths.⁴ On 19 August 2014, the doctor who gallantly diagnosed and treated Mr. Sawyer, Dr. Ameyo Adadevoh, died of Ebola disease. Her death further hurt a large section of the Nigerian nation resulting in several demands for legislative action, reform and rethink of Nigerian laws to prevent the introduction and spread of infectious diseases in Nigeria.⁵ In August 2014, Senator Clever Marcus Ikisikpo sponsored the *Public Health Bill*—a bill that seeks to repeal and re-enact Nigeria’s principal legislation on infectious diseases—the *1926 Quarantine Act*, to provide more stringent provisions preventing the introduction into Nigeria and from

Times, August 12, 2014) <<http://allafrica.com/stories/201408120233.html>> accessed June 12, 2015.

² Mr. Sawyer’s sister had died of the deadly virus on Monday, July 7, 2014 at the Catholic Hospital in Monrovia. On July 9, 2014, Mr. Sawyer informed his employers in Liberia that he had been exposed to the Ebola virus. See BBC News, ‘Nigeria ‘on red alert’ over Ebola death in Lagos’ (July 26, 2014) <<http://www.bbc.com/news/world-africa-28498665>> accessed June 12, 2015.

³ See Cable News Network, ‘Ebola outbreak kills an American’ <<http://www.cnn.com/2014/07/29/health/ebola-outbreak-american-dies/>> accessed June 12, 2015.

⁴ See Faisal Shuaib, et al., *Ebola Virus Disease Outbreak – Nigeria, July–September 2014*, 63(39) Mortality & Morbidity Weekly Report (MMWR) 1 (Oct. 3, 2014), Centers for Disease Control and Prevention website, at <<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6339a5.htm>> accessed June 12, 2015.

⁵ Former President Olusegun Obasanjo described Patrick Sawyer as “devilish”, while the former Minister of health Professor Chukwu, described Mr. Sawyer’s action as a “crime against humanity”. See Ebola Strikes at the Heart of Nigeria...Ameyo, Daughter of Kwaku Adadevoh, Great Grand Daughter of Herbert Macaulay, Dies (This Day Newspaper, August 20, 2014) <<http://www.thisdaylive.com/articles/ebola-strikes-at-the-heart-of-nigeria-ameyo-daughter-of-kwaku-adadevoh-great-grand-daughter-of-herbert-macaulay-dies/186843/>> accessed June 12, 2015.

Nigeria, dangerous infectious and communicable diseases, persons, organisms and agents.⁶ As important as these demands for a review and updating of Nigerian quarantine laws are, they arguably are knee-jerk and have predictably failed to yield any tangible positive action, several months after. Several commentators on the Nigerian Ebola catastrophe neglect the fact that Mr. Sawyer's successful introduction of Ebola into Nigeria is not due to the absence of laws, rather the lack of a holistic and coordinated implementation and enforcement of existing environmental and health laws. Despite global recognition of the critical linkages between environmental protection and human health, environmental and health institutions in Nigeria continue to function and operate as strange bedfellows with little or no institutional and legislative coordination.⁷ The result is the existence of several laws and institutions with inherent legislative powers and mandates to curb and stop the spread of any dangerous infectious disease, which however remain ill-equipped and most times ill-informed on their statutory mandates so to do.

This paper argues that Nigeria already has robust environmental infection control laws which if holistically and effectively implemented could prevent the introduction into Nigeria and within Nigeria, dangerous infectious and communicable diseases, persons, organisms and agents. The paper reviews and examines how key provisions of the *1999 Constitution*, *The Quarantine Act 1926*, *The Agriculture (Control of Importation) Act of 1964*, *The Factories Act of 1987*, and *the NESREA Act* provide adequate legal foundations and bases for policy and regulatory intervention in preventing the introduction and spread of infectious diseases in Nigeria. The paper also discusses the need for a holistic implementation of these laws to effectively anticipate and prevent

⁶ A Bill for an Act to Establish the Nigeria Public Health (Quarantine, Isolation and Emergency Health Matters Procedure) Act (Public Health Bill) (2014), to provide for and regulate the imposition of quarantine, isolation and to make other provisions for preventing the introduction into and spread in Nigeria, and regulate steps for the containment in Nigeria, and the transmission from Nigeria, of dangerous infectious and communicable diseases, organisms and agents, and to repeal the *Quarantine Act, 1926*, cap. Q2, Laws of the Federation, 2004 <<http://www.nassnig.org/document/download/653>> accessed June 12, 2015.

⁷ See Oluchi Aniaka, 'Law and Ethics of Ebola Outbreak in Nigeria' (Canadian Institute of Health Research, Aug. 8, 2014), available on the Social Science Research Network, at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2477856> accessed June 12, 2015.

the spread of infectious diseases in Nigeria.

This paper is divided into five sections. After the introduction, section two discusses the international paradigm on environmental infection control as an approach that recognizes the linkages between environment and human health. Section three reviews and evaluates key legal instruments in Nigeria that provide legal basis for environmental infection control. It discusses implementation problems such as lack of inter-governmental coordination, regulatory overlap and lack of adequate capacity and training as significant reasons for the ineffectiveness of these laws. Section four discusses the need for an integrated approach to environmental infection control to address these problems. The paper concludes in section five.

International Approaches to Environmental Infection Control

Environmental issues and laws are essentially about human health. A clean environment plays an important role in the prevention of infectious diseases. Many environmental factors, including air quality, municipal waste management, proper sanitation, adequate water supply and screening of imported goods, can significantly reduce the transmission of infectious diseases.⁸ A clean environment prevents the spread of infection and diseases that could pose threats to human survival and health.⁹

Environmental infection control is therefore the integrated management of infection prevention and control programmes to reflect curative and preventive activities (such as good environmental practices, waste management, proper sanitation, and water quality control) as means of safeguarding public health. Under this approach, health care administrators understand the significance of a clean environment and safe management of wastes in hospitals and health care facilities as means of safeguarding public health and forestalling spread of contagious diseases; while environ-

⁸ C. Schuster-Wallace, Grover V., Adeel Z., Confalonieri U. and Elliott S.J., *Safe Water as the Key to Global Health* (Hamilton, Ontario, Canada: United Nations University: International Network on Water, Environment and Health 2008), also Nnamdi Ikpeze, 'Safe Disposal of Municipal Wastes in Nigeria: Perspectives on a Rights Based Approach' (2014) 3 (1) *Afe Babalola University Journal of Sustainable Development Law and Policy* 3-5.

⁹ See Damilola Olawuyi, *Principles of Nigerian Environmental Law* (Ukraine: Business Perspectives Publishers 2013) 2-4.

mental administrators also collaborate with public agencies to drive environmental protection programs by safeguarding surfaces, water, air, land and facilities to prevent the spread of diseases. This approach includes estimating the environmental media and routes through which diseases spread and designing holistic measures to block those routes.

The need for coherence cannot be over-emphasised. For example health agencies, ministries and programs in Nigeria focus mainly on protecting and curing individuals from diseases, while environmental agencies focus on protecting all elements of the ecosystem including land, air, water from contamination.¹⁰ Health and environmental agencies however have a common goal, which is, protecting the public from risk and harm. Furthermore, the scientific knowledge and training required to assess and control environmental pollution are, for the most part, the same skills and knowledge required to address health hazards. Toxicology, epidemiology, community health, occupational hygiene, ergonomics, safety engineering are the basic tools of environmental science and public health.¹¹ The process of risk assessment and risk management for disease control and environmental contamination are also the same: identify the hazards, categorize the risks, assess the exposure and estimate risk, evaluate control options, control the exposure, communicate the risk to the public and establish an ongoing exposure and risk-monitoring. Thus environmental protection and public health are strongly intertwined and linked by common methodologies, particularly in risk assessment and exposure control. By harmonizing environmental protection and public health programs, environmental infection control allows us to achieve a wider range of protection control that is anticipatory, holistic, coherent and less duplicative in terms of costs and resources.

¹⁰ For example, the Nigerian National Health policy does not mention environmental protection as part of its focus. Federal Ministry of Health, *National Policy on Integrated Disease Surveillance and Response (IDSR)* 3, 5, 13 & 14 (Dec. 2010), <http://www.fmh.gov.ng/images/PolicyDoc/FMOH_IDSR_Policy.pdf> accessed June 23, 2015.

¹¹ See A. Yassi and T. Kjellström, Environmental Health Hazards: Linkages between Environmental and Occupational health, *Encyclopedia of Occupational Health and Safety* (International Labour Office) <<http://www.ilocis.org/documents/chpt53e.htm>> accessed June 12, 2015.

Curbing the spread of infectious diseases is arguably therefore not a role for health practitioners or institutions alone. The linkages between environmental protection and the attainment of good health have consequently gained strong recognition in international law. Since 1994, the Organization for Economic Co-operation and Development (OECD) has vigorously advocated the need for countries to adopt the Pressure-State-Response (PSR) framework as the basis for integrating environment and health institutions.¹² Though not legally binding, the PSR framework encourages governments to reflect how environmental concerns such as trans-boundary movement of hazardous wastes, oil pollution, water pollution, air pollution, climate change and stratospheric depletion of the ozone layer exert various “pressures” on human health, and affects its “state” (quality) (for example, changes in ambient pollutant levels, habitat diversity, water flows, etc.). Society must then develop legal and policy “response” to prevent, reduce or mitigate pressures and/or environmental damage.¹³ While this framework has been criticized as being linear and uni-directional, it has been increasingly adopted by countries such as the United States, Canada and Australia as normative basis for developing two-pronged responses to environmental and health issues. This has resulted in a proliferation of environmental infection control instruments and policies at international, regional and national levels. In the United States for example, the federal Environmental Protection Agency (EPA) exercises its public health protection mandate by providing curative and preventive environmental standards, which public institutions must adhere to disinfect environmental surfaces in order to prevent the spread of non-enveloped viruses (for example norovirus, rotavirus, adenovirus, and poliovirus).¹⁴ Although EPA was established as an environmental agency, it provides regular guidelines on how to keep the

¹² See OECD (2013), “Framework of OECD work on environmental data and indicators”, in *Environment at a Glance 2013: OECD Indicators*, OECD Publishing.

<<http://dx.doi.org/10.1787/9789264185715-3-en>> accessed June 12, 2015.

¹³ Ibid.

¹⁴ See Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus developed by EPA and the US Centers for Disease Control <<http://www.cdc.gov/vhf/ebola/healthcare-us/cleaning/hospitals.html>> accessed June 12, 2015.

land, air, water and public spaces free from contamination and diseases.

Internationally, the human right to health has been recognised in Article 12 of the ICESCR, which explicitly provides for ‘the right of everyone to the enjoyment of the highest attainable standard of physical and mental health’.¹⁵ The ICESCR also defines steps that states should take to realize progressively the ‘highest attainable standard of health’, including the improvement of all aspects of environmental and industrial hygiene. Though not legally binding, Article 25 of the Universal Declaration on Human Rights (UDHR) provides that everyone has the right to a standard of living adequate for the health and well-being of themselves and their family.¹⁶ At the regional level, Article 16(1) of the African Charter on Human Rights provides that every individual shall have the right to enjoy the best attainable state of physical and mental health. Article 12 of the European Social Charter recognises the ‘right of everyone to the enjoyment of the highest attainable standard of physical and mental health’¹⁷ while Article 10 of the First Protocol to the American Convention on Human Rights provides that ‘everyone shall have the right to health, understood to mean the enjoyment of the highest level of physical, mental and social wellbeing’.

In order to foster the protection of the right to health, states are to take public health measures to prevent epidemic, endemic, occupational or environmental diseases.¹⁸ This has been interpreted to include removing as far as possible, all causes of ill health.¹⁹ This places an obligation on countries to harmonize environmental contamination and disease so as to safeguard public health and safety at all times. It also includes the duty of states to remove

¹⁵ See B. Toebes, *The Right to Health as a Right in International Law* (Hart 1999).

¹⁶ Universal Declaration on Human and Peoples Rights, adopted on December 10, 1948) G.A. res. 217A (III), U.N. Doc A/810 at 71 (1948).

¹⁷ See also European Convention for the Protection of Human Rights and Fundamental Freedoms (Signed 4 Nov. 1950, entered in to force 3 Sept. 1953, 213 UNTS 221, ETS 5).

¹⁸ See Art. 12(2), International Covenant on Economic Social and Cultural Right (Adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3, reprinted in 6 ILM 360 (1967).

¹⁹ See A. Chapman, ‘Core Obligations Related to the Right to Health’ in A. Chapman, S. Russell, eds. *Core Obligations: Building a Framework for Economic, Social and Cultural Rights*. (Intersentia 2002) 85-216.

projects, substances, activities or policies that could affect public health.

In the 2006 case of *Sawhoyamaxa Indigenous Community v Paraguay*, the Inter-American Court of Human Rights unanimously found Paraguay in violation of rights to health, life, and property of the Sawhoyamaxa indigenous community for failing to remove projects that caused pollution, ill health and diseases in these indigenous communities.²⁰ The Court called on the State to demarcate the indigenous lands and provide a development fund, among other remedies.²¹ This case demonstrates that the right to health imposes a positive duty on countries to take public health measures to prevent epidemic, endemic, occupational or environmental diseases through environmental infection control.

Despite the critical linkages between environmental protection and human health, environmental and health institutions in Nigeria continue to function and operate as strange bedfellows with little or no institutional and legislative coordination. This is due to a weak understanding of the legislative functions and mandates with respect to the prevention of infectious diseases in Nigeria. Environmental institutions have failed to effectively integrate public health awareness and mobilization programs into their activities, while health institutions only pursue curative mandates as opposed to integrated preventive actions underpinned by proper implementation of environmental standards.²² Such piecemeal and sectorial approach to environmental infection control in Nigeria arguably fly in the face of existing laws in Nigeria that provide legal authority and basis for health and environmental institutions to work together to safe guard public health and prevent the spread of infectious diseases. In order to address this lack of coordinated and harmonized enforcement of environmental infection measures in Nigeria, it is important to understand how current legal

²⁰ *Case of the Sawhoyamaxa Indigenous Community v. Paraguay*, 2006 Inter-Am. Ct. H.R. (ser. C) No. 146, 248(1)–(3) (Mar. 29, 2006).

²¹ *Ibid.*, 239-241.

²² Oluchi Aniaka, *Law and Ethics of Ebola Outbreak in Nigeria 2* (Canadian Institute of Health Research, Aug. 8, 2014), available on the Social Science Research Network, at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2477856> accessed June 12, 2015.

frameworks could underpin and support an integrated public health management approach in Nigeria in which environmental agencies and public health bodies can reflect curative and preventive activities that could eradicate the introduction and spread of infectious diseases in Nigeria.

Legal Framework for Environmental Infection Control in Nigeria

The section reviews and examines how key provisions of the *The 1999 Constitution*, *Quarantine Act 1926*, *The Agriculture (Control of Importation) Act of 1964*, *The Factories Act of 1987*, *The Animal Disease (Control) Act of 1988* and the *NESREA Act* provide adequate legal foundation and basis for holistic environmental infection control in Nigeria to prevent the introduction and spread of infectious diseases.

The 1999 Constitution

Section 305 (3) of the 1999 Constitution provides legal basis for the President to unilaterally or at the request of a state governor declare a state of emergency in any part of Nigeria.²³ This includes when: there is actual breakdown of public order and public safety in the Federation or any part thereof to such extent as to require extraordinary measures to restore peace and security; there is a clear and present danger of an actual breakdown of public order and public safety in the Federation or any part thereof requiring extraordinary measures to avert such danger; there is an occurrence or imminent danger, or the occurrence of any disaster or natural calamity, affecting the community or a section of the community in the Federation; or there is any other public danger which clearly constitutes a threat to the existence of the Federation.²⁴ While these are emergency powers, they provide legal basis for the President to immediately control and check the spread of infectious diseases whenever introduced to any part of Nigeria. The President may evoke this provision to ensure that all laws relating to environmental infection control are implemented and to ensure that health centers, national airports and public institutions are properly staffed during an outbreak of a deadly infectious disease

²³ Constitution of the Federal Republic of Nigeria C23, Laws of the Federation of Nigeria, 2004.

²⁴ Ibid.

like Ebola.

In 2014, following the confirmation of seven Ebola infections in the country, former President Goodluck Jonathan exercised this constitutional authority by declaring the control and containment of the Ebola virus a national emergency.²⁵ President Jonathan directed all relevant federal and state authorities to “work together to make sure that all necessary steps were taken to suppress the spread of Ebola”. In addition, he approved a Special Intervention Plan and the immediate release of 1.9 billion Naira to fight the virus. The result is that Nigeria was able to curtail the spread of the disease in what the World Health Organization described as a ‘spectacular success story’.²⁶ WHO noted that the most critical factor in Nigeria’s successful response to the Ebola outbreak was “leadership and engagement from the head of state and the Minister of Health,” followed by generous allocation and quick disbursement of government funds.²⁷ This intervention made possible by Section 305 (3) of the Constitution lends credence to the fact that the Constitution provides legal basis for the President to ensure environmental infection control and curtail the spread of infectious diseases. One notable defect of this constitutional provision however is that, it is an emergency provision and extraordinary measure applicable only to prevent the spread of infectious diseases. It does not provide adequate basis for integrating environmental infection control to prevent external introduction in non-emergency cases.

²⁵ See ‘Nigeria’s Jonathan Declares State of Emergency over Ebola’, Reuters (Aug. 8, 2014), <http://www.reuters.com/article/2014/08/08/us-health-ebola-nigeria-jonathan-idUSKBN0G81WB20140808>; Ebola: Jonathan Declares National Emergency, Approves N2BN Special Intervention Fund, Embassy of Nigeria, Seoul South Korea (Aug. 21, 2014), <[http://www.nigerianembassy.or.kr/ebola-jonathan-declares-national-emergency-approves-n2bn-special-intervention-fund-2/Embassy of Nigeria, Seoul South Korea](http://www.nigerianembassy.or.kr/ebola-jonathan-declares-national-emergency-approves-n2bn-special-intervention-fund-2/Embassy%20of%20Nigeria,%20Seoul%20South%20Korea)> accessed May 21, 2015.

²⁶ See R. Dixon, ‘Ebola-free Nigeria hailed as ‘success story’ in battling outbreak’ (October 20, 2014) Los Angeles Times < <http://www.latimes.com/world/africa/la-fg-nigeria-ebola-20141020-story.html#page=1>> accessed June 23, 2015.

²⁷ Ibid.

Quarantine Act of 1926

Apart from emergency situations, the *Quarantine Act* contains robust statutory provisions that seek to prevent the introduction and spread of infectious diseases in Nigeria.²⁸ The essentially old but still valid 1926 *Quarantine Act* is the primary law governing the prevention and suppression of dangerous infectious diseases in Nigeria. The Act, in its preamble declares that it aims to regulate “the imposition of quarantine and to make other provisions for preventing the introduction into and spread in Nigeria, and the transmission from Nigeria, of dangerous infectious diseases.” Under Section 2, dangerous infectious disease means ‘cholera, plague, yellow fever, smallpox and typhus, and includes any disease of an infectious or contagious nature which the President may, by notice, declare to be a dangerous infectious disease’.²⁹ Pursuant to Section 4, the President may make regulations to declare any infectious disease a dangerous infectious disease, declare any area in or outside of Nigeria an infected area, and to prevent the spread of any dangerous infectious disease. The violation of any regulation is punishable with a fine or a term of imprisonment or both.

Furthermore, the President may make regulations: (a) prescribing steps to be taken within Nigeria upon any place being declared to be an infected local area; (b) prescribing the introduction or transmission of any dangerous infectious disease into Nigeria or any part thereof from any place outside Nigeria; (c) preventing the spread of any dangerous infectious disease from any place within Nigeria, to any other place within Nigeria; (d) fixing the fees and charges to be paid for any matter or thing to be done under such regulations; and (e) generally for carrying out the purposes and provisions of the Act. State governors are accorded the same powers as the President to categorize diseases as dangerous infectious diseases, declare a particular location an infected local area, or issue regulations for any of the above-stipulated purposes in the absence of presidential action on a particular matter.³⁰

In exercise of powers to make regulations under the Act, the *Quarantine (Ships) Regulations* was issued on 4th December

²⁸ Quarantine Act of 1926, Laws of the Federation of Nigeria, Cap. Q2 (rev. ed. 2004), available at <<http://www.placng.org/new/laws/Q2.pdf>> accessed June 8, 2015.

²⁹ Ibid.

³⁰ Ibid, section 4.

1968.³¹ *The Quarantine (Ships) Regulations* authorize a port health officer to take a number of measures to prevent an “infected ship” from entering Nigeria. Section 2 defines a ship to include any sea-going or an inland navigation vessel making an international voyage.³² An infected ship is defined as: a ship which has on board on arrival a case of human cholera, plague, small-pox or yellow fever; a ship on which a plague-infected rodent is found on arrival; or a ship which has had a case of cholera, small pox, or human plague on board during its voyage. Whenever a person in a ship approaching Nigeria is suffering from an infectious disease or there is suspicion of the presence of an infectious disease onboard, the master must contact the port health authority and provide a specific list of information necessary for the officer to determine, among others, the gravity and origin of an infection, if any. The officer may clear the ship to proceed to its intended destination if, on the basis of the information provided by the master, he is satisfied that the arrival of the ship will not result in the spread of an infectious disease. Until and unless the ship is given clearance, no one may board or leave the ship without the permission of the officer except the pilot. The master of the ship is required to fully cooperate with the officer, including by answering all questions regarding health conditions on board the ship and notifying him of anything that may lead to an infection or the spread of a quarantinable disease.

Despite the comprehensive provisions of the Regulations, a significant defect is that they fail to discuss the introduction of infectious diseases to Nigeria by other means of international transportation, most especially airlines, regional buses, or trains. It also vests the Nigerian Ports Authority (NPA) significant oversight and responsibilities without mentioning the roles of other transportation agencies in Nigeria most especially the Nigerian Civil Aviation Authority (NCAA). Furthermore, the list of infectious diseases in the Act and its Regulations are very narrow (cholera, plague, yellow fever, smallpox and typhus) leaving out very deadly diseases such as Ebola, H1N1 flu virus, severe acute respiratory syndrome (SARS), Avian Influenza, and Escherichia Coli (*E. coli*) all of which have recently been in the news for

³¹ Subsidiary Legislation, Declaration of Dangerous Infectious Disease, (page 3). <<http://www.placng.org/new/laws/Q2.pdf>> accessed June 8, 2015.

³² *Ibid.*

resulting in the loss of lives and animals in monumental proportions across the world.³³ The above concerns with the *Quarantine Act* are however understandable given that the Act and Regulations have been around several decades ago when the new diseases had not emerged in the horizon, and when ship was the dominant source of international transportation. The appropriate response will be to update the archaic law to reflect modern realities, rather than throwing away the baby with the bath water.

The Public Health Bill

Following the menacing impacts of the Ebola Virus Disease outbreak in Nigeria, the adequacy of the *Quarantine Act* has come under intense public scrutiny. Since 1926 when the Act was enacted, successive governments have failed to establish adequate policy and institutional frameworks to update or implement the Act. The 2014 Ebola outbreak was a national wakeup call and trigger on the need for effective quarantine laws in Nigeria to prevent the introduction and spread of infectious diseases. In view of this, *The Public Health Bill (SB 210)* was sponsored to repeal and re-enact the *Quarantine Act*. The bill if passed will repeal the *Quarantine Act* and provide more stringent provisions preventing the introduction into Nigeria and from Nigeria, dangerous infectious and communicable diseases, persons, organisms and agents.³⁴ The Bill will also streamline public health response by establishing a commission that will prepare a plan for prevention and containment of public health emergencies, including ensuring that all tiers of government are duly prepared for such events.³⁵

While the *Public Health Bill* is a proactive step, it only reinvents the wheel without necessarily moving the paradigm of environmental infection control in Nigeria forward to reflect a more holistic coordinated and coherent regime as advocated under

³³ See Public Health Agency of Canada, Infectious Diseases, <<http://www.phac-aspc.gc.ca/id-mi/index-eng.php>> accessed June 23, 2015.

³⁴ A Bill for an Act to Establish the Nigeria Public Health (Quarantine, Isolation and Emergency Health Matters Procedure) Act (Public Health Bill) (2014), to provide for and regulate the imposition of quarantine, isolation and to make other provisions for preventing the introduction into and spread in Nigeria, and regulate steps for the containment in Nigeria, and the transmission from Nigeria, of dangerous infectious and communicable diseases, organisms and agents, and to repeal the *Quarantine Act, 1926*, cap. Q2, Laws of the Federation, 2004 <<http://www.nassnig.org/document/download/653>> accessed June 12, 2015.

³⁵ *Ibid*, sections 5 and 6.

the PSR framework. Generally, it contains provisions that update the Quarantine Act and also aggregates other disease control regulations in other statutes without necessarily provide legal and normative frameworks for their coherence and systemic integration. The most fundamental drawback of the bill is that just like the Quarantine Act it intends to replace, it also fails to discuss possible inter-agency coordination between environmental institutions such as NESREA and public health bodies such as the NPHCDA, NAFDAC, NEMA and the NMA. The result is that the 40 sections of the Bill fail to mention or discuss environmental protection or agencies, neither does the Act recognise the linkages between environmental protection, sanitation and disease control. Instead Section 39 (b) of the Bill provides that “in the event of a conflict between this Act and other Federal, State or local laws or regulations concerning public health powers, the provisions of this Act apply”. The effect of this provision will be to erode the public health mandates and responsibilities of several other agencies such as the NPHCDA, NAFDAC, NEMA, NMA and NEMA established under valid and subsisting laws.

Furthermore, the Bill discusses only the powers of relevant bodies and the President to take extraordinary measures during public health crises and emergencies. Unlike the Quarantine Act, it fails to provide robust mechanisms through which the introduction of disease into Nigeria could be prevented and controlled in non-emergency situations. For example, it does not address powers of airport, ports and land authorities to search aircraft, ships or vehicles in order to prevent an infected passenger from entering Nigeria. Unlike the Quarantine Act, which contains robust provisions empowering a port health to inspect and stop any ship already in the port or on arrival about the possible presence of an infectious, the Bill is silent on such anticipatory and preventive methods. The Bill also fails to address how lack of inter-agency coordination and response between environment and public health bodies aid the introduction spread of environmentally infectious diseases in Nigeria. It fails to recognize or assign any roles to environmental agencies such as NESREA in ensuring environmental sanitation and infection control. The proposed repeal of the *Quarantine Act* is therefore arguably a knee-jerk demand.

The Bill attempts to solve the entrenched problem of infection control in Nigeria simply by layering several overlapping

provisions that will arguably not enhance an integrated and coordinated management of environmental and public health risks in Nigeria. As discussed above, the Quarantine Act already contains robust provisions which if properly implemented could have prevented the Ebola outbreak. For example, the powers vested on the President to prevent infectious disease are very broad and expansive enough to underpin federal policies on environmental infection control. Apart establishing curative measures through which the President and State Governors may prevent the introduction and spread of infectious diseases, section 6 of the Quarantine Act also empowers them to construct sanitary stations, buildings and equipment necessary to prevent the introduction and spread of diseases. This provision provides legal authority and basis for national and state governments to design curative and preventive activities and infrastructure such as public toilets, wash hand basins, disinfecting stations, municipal waste disposal stations, and water purifiers that can prevent the introduction and spread of infectious diseases. A more proactive approach therefore would be to amend and update the Act and Regulations to reflect modern realities and best practices such that environmental and health agencies in Nigeria may be provided adequate infrastructure, training and resources to safeguard public health.

The National Environmental Standards Regulatory and Enforcement Agency (Establishment) Act of 2007 (NESREA Act)

The *NESREA Act* is currently Nigeria's principal legislation on environmental protection. Most importantly, the Act establishes an Agency—*The National Environmental Standards Regulatory and Enforcement Agency (NESREA)* to replace the Federal Environmental Protection Agency (FEPA). NESREA is the principal federal agency tasked with regulating and enforcing environmental standards, regulations, laws, policies and guidelines in Nigeria. One of the Agency's key but less canvassed mandates is to safeguard public health in Nigeria. Section 25 of the Act empowers NESREA to "make regulations for the purpose of protecting public health and promotion of sound environmental sanitation" in Nigeria.³⁶ Section 7 (d) empowers NESREA to

³⁶ The National Environmental Standards Regulatory and Enforcement Agency (Establishment) Act of 2007), Laws of the Federation of Nigeria 2004, c N164.

enforce compliance with policies, standards, legislation and guidelines on environmental health and sanitation, including pollution abatement in Nigeria. These provisions provide legal basis for NESREA to (like the US Environmental Protection Agency) exercise public health protection mandates by prescribing curative and preventive environmental standards, which public institutions in Nigeria should adhere to safeguard and disinfect environmental media such as air, land, water and environmental surfaces from the introduction and spread of infectious diseases. For example, during the Ebola outbreak, one would have expected NESREA to play a leading role in sponsoring public health awareness programs on curative and preventive environmental practices in public places. NESREA could have released environmental health and sanitation guidelines on adequate safe water supply; appropriate cleaning practices; adequate hand washing practices; adequate ventilation for high-risk areas such as shopping malls, public transit and intensive care areas, etc; appropriate protective gears to protect against direct skin and mucous membrane exposure to infections; appropriate waste management facilities and practices; and adequate sanitation practices such as damp dusting and cleaning public places. Instead of going to hibernation and watching from the sidelines, NESREA could have played its statutory role of safeguarding environmental health and sanitation in Nigeria by working closely with relevant health ministries and agencies to ensure environmental infection control.

This lack of intergovernmental coordination is a significant concern that must be addressed through an integrated management approach that focuses on inter-governmental linkages, rather than by establishing another preambular recital or quarantine law. Furthermore, Section 28 also empowers NESREA to work with all relevant agencies in Nigeria to remove any hazardous substances from Nigeria or to take such action as may be necessary to minimize or mitigate damage to the public health or welfare, ecology and natural resources of Nigeria from such substance. Section 37 defines “hazardous substance” to include ‘any chemical, physical or *biological* (ie. living) and radioactive material that poses a threat to human health and the environment... and includes any substance designated as such by the President of

the Federal Republic of Nigeria by order published in the Federal Gazette'.³⁷ A combined reading of these sections arguably suggest that any living material, infected person, ship, object, animal or human may be removed from Nigeria by NESREA. NESREA may also remove any substance or living organism declared by the President to be hazardous to public health and safety in Nigeria. For example in the US, the Ebola virus was classified by EPA as a "Category A hazardous substance" regulated under the *Hazardous Materials Regulations*.³⁸ In Nigeria however, the lack of an expansive understanding by NESREA of the boundaries of its statutory roles meant that despite the state of emergency declared by former President Jonathan, NESREA remained muted on the side-line without any reported enforcement effort by NESREA to declare Mr. Sawyer hazardous and to remove him from Nigeria.

The Factories Act of 1987

The *Factories Act* provides a legal framework for occupational health, welfare and safety of factory workers in Nigeria.³⁹ It makes general provisions on the standards of cleanliness, crowding, ventilation, lighting, drainage of floors, and sanitary conveniences for all places or businesses statutorily defined as "factories" in Nigeria. The Act establishes the office of the Director of Factories to keep a register of all factories in Nigeria. Before any person(s) occupies or uses any premises as a factory, they are expected to apply for the registration of such premises by sending an application to the Director of Factories for approval. Any person who not having been issued a certificate of registration occupies or uses any premises as a factory is guilty of an offence liable on conviction to a fine not exceeding ₦2,000 or to imprisonment for 12 months or both.⁴⁰ The Act in its provisions on health requires that factories be kept clean and free from dust, dirt and odours. It also requires that there be no overcrowding, adequate ventilation be provided, proper drainage of floors be provided, and sanitary conveniences be provided and maintained for workers. The Act provides that every factory shall be kept in a clean state, and free from effluents arising from any drain, sanitary convenience or nuisance. It amongst other things

³⁷ Ibid.

³⁸ (HMR, 49 C.F.R., Parts 171-180).

³⁹ *The Factories Act of 1987*, Laws of the Federation of Nigeria 2004, c F1.

⁴⁰ Ibid. See generally, ss 7-12.

provides that the accumulations of dirt and refuse shall be removed daily by a suitable method from floors and benches of workrooms, and from the staircases and passages; the floor of every workroom shall be cleaned at least once in every week by washing or, if it is effective and suitable, by sweeping or other method; all inside walls and partitions, and that all ceilings or tops of rooms; and all walls, sides and tops of passages and staircases shall be kept in a clean state at all times.

There are in addition to these, standards set for the training and supervision of inexperienced workers, safe access to any work place, prevention of fire and safety arrangements in case of fire and provision of first aid boxes. The Factory Act provides a legal framework that could prevent the spread of infectious diseases in the work place and from one part of Nigeria to the other. For example, during the Ebola outbreak, a number of infected people exacerbated the situation by moving from one state to the other thereby infecting work colleagues.⁴¹ A robust implementation of the Factories Act could prevent the situation. It could provide a legal basis for corporations to put in place adequate sanitary facilities to prevent the transmission and spread of infectious diseases.

The Agriculture (Control of Importation) Act of 1964

The aim of this Act is to control and prevent the spread of plant diseases and pests through imported items. Section 4 gives the Minister powers to make regulations prohibiting, restricting or laying down conditions for the importation of plants, seeds, soil, containers, straw, artificial fertilizers, and any other similar items.⁴² Section 6 authorizes officers to destroy, or order the treatment of any plants, seeds, soil, containers, straw or other items that are or may be infected with any plant disease or pest. Under the Act, it is a criminal offence to molest or hinder an officer from destroying infected items. Section 8 establishes a fine of ₦400 and one year imprisonment for this and any other violation or non-compliance with provisions of the Act. Pursuant to the power to

⁴¹ See The Ebola Situation in Port Harcourt, Nigeria, WHO (Sept. 3, 2014), <<http://www.who.int/mediacentre/news/ebola/3-september-2014/en/>> accessed June 23, 2015.

⁴² The Agriculture (Control of Importation) Act, Laws of the Federation 2004, c A93.

make regulations conferred on the Minister by section 4 of the Act, *The Plants Etc (Control of Importation Regulations) of 1970* were issued.⁴³

Regulation 2 sets out regulatory tools to control the import of disease or pest bearing plants, seeds and other materials. These include an absolute prohibition, under which such items shall not be imported into Nigeria in any circumstances, and if found may be destroyed, treated or sent back to their country of origin; and issuance of permits permitted, under which it may be imported on a permit issued by an authorized officer. Articles 3 and 4 set out the contents of the permit and the conditions under which it will be issued to include the inclusion of a phytosanitary certificate completed and signed in the country of origin by a competent authority. Under article 5(3), it is an offence for an importer to fail to destroy or export any plants, seed or soil imported in contravention of the Regulations when an authorized officer orders their destruction. This Act provides adequate legal framework to prevent the importation of infected food items such as the mad cow disease into Nigeria. Despite the important provisions of this law, foodborne diseases through imported food items remain a significant threat to public health in Nigeria. It is very evident from the foregoing that the introduction and spread of infectious diseases in Nigeria is not due to the absence of laws that address and prevent the problem. Rather it is essentially due to a lack of holistic and integrated implementation of these laws by relevant agencies and institutions to ensure effective environmental infection control.

Promoting Environmental Infection Control in Nigeria

As demonstrated in the last section, Nigeria already has robust environmental infection control laws which if holistically and effectively implemented could prevent the introduction into Nigeria and within Nigeria, and immediate removal of dangerous infectious and communicable diseases, persons, organisms and agents. Several problems of implementation (some of which have already been highlighted above) however sound the death knell on integrated environmental infection control and management in Nigeria. In this section we shall examine how the problems facing

⁴³ The Plants Etc (Control of Importation Regulations) of 1970 Laws of the Federation of Nigeria 2004.

integrated policy response to environmental infection control can be addressed. They are:

Update archaic provisions in existing laws: As already highlighted, some of the discussed laws have been around for many years. They therefore prescribe fines and penalties that will not serve as deterrence in the present day and time. For example, fines of ₦200, and ₦400 in some of the above laws are simply outdated and irrelevant as punitive measures for the spread of diseases. It is therefore important to review and update these laws to reflect current realities. There is also a need to update the *Quarantine Act* to cover other means of international transportation, most especially airlines, regional buses, or trains and to recognize regulatory functions of agencies such as the NESREA, NAFDAC, NPHCDA, NEMA, NMA and NCAA.

Furthermore the 1999 Constitution should be updated to grant more constitutional powers to the President to prescribe environmental infection measures even without emergency situations. For example, apart from the emergency provision, the Constitution does not discuss the importance of environmental infection control in Nigeria. Section 20 addresses the functions of the State to protect and improve the environment and safeguard the water, air and land, forest and wild life of Nigeria. While Section 17 (3) (c) provides that the State must safeguard the health, safety and welfare of all persons in employment. Aside from the fact that these sections are non-justiciable, they do not provide direct and enforceable provisions that require the State to safeguard public health and prevent the introduction and spread of infectious diseases. A review of the Constitution and the above-described laws could provide opportunities to reflect international best practices on environmental infection control and proactive legal response to the spread of diseases in Nigeria.

Improve intergovernmental coordination: Different government ministries, organizations and state parastatals have prominent roles to play in environmental infection control and prevention. For example, the Ministry of Environment and NESREA have statutory roles to play in safeguarding public health and sanitation, while the Ministry of Health has roles to play establishing

guidelines of health agencies and facilities to curb the spread of infectious diseases. The Ministry of Internal Affairs, Ministry of Foreign Affairs, Ministry of Aviation, Ministry of Transportation, and border services agencies such as the Nigerian Immigration, Nigerian Custom, Nigerian Ports Authority, Nigerian Civil Aviation Agency and the Nigerian Police also have key roles to play to prevent the admission and importation of infected travellers into the country. Not forgetting the important public health mandates of the NAFDAC, NPHCDA, and NEMA. This underscores the importance of coordination among these agencies and ministries. An integrated control approach takes into account all the sectorial activities that a problem could touch on and propose solutions that are dynamic, multidisciplinary and iterative.

An integrated approach generally recognizes that many existing complex health and environmental problems can only be resolved through the integration of objectives, institutions, sectors, and levels of administration. Single media programs may only shift the problem from one media to another failing to delineate the entire scope of the problem. For example a adopting a quarantine law might neglect the economic and commercial aspects of such regulation leading to the elimination of a problem and the creation of one or two other new problems.⁴⁴ Rather than this arguably old system of treating the symptom; an integrated approach manages the problem in a holistic way.⁴⁵ With solid intergovernmental coordination, environment and public health agencies will avoid overlap, role duplication, cost and ineffectiveness in spotting and preventing the importation and spread of infectious diseases in Nigeria. Sadly, such intergovernmental linkages are very weak in Nigeria. This failure of the Nigerian government to strike a meaningful coordination between these ministries and agencies must be addressed to ensure systemic coordination and harmonization of regulatory functions and roles.

Strengthen institutional capacity: One of the key problems facing environmental infection control in Nigeria is the lack of adequate

⁴⁴ B. David, R. Ferrier & J. Paugh, *The U.S. Environmental Industry* (Washington D.C.: U.S. Dept of Commerce, Office of Technology Policy, 1998).

⁴⁵ D.J. McGlashan, *Coastal Management and Economic Development in Developing Countries: The Fourth Estuary Forum* (2002) 30 COASTAL MANAGEMENT 221 at 224.

training and capacity by border officers to spot, handle and prevent the introduction of infectious diseases into Nigeria. The importance of such capacity is easily buttressed by the heroic intervention of the British-trained Dr. Adadevoh who was able to curtail the spread of Ebola in Nigeria. Perhaps she could have been alive today if Mr. Sawyer was not allowed to enter the country in the first place. Without adequate training and capacity, the mere enactment of another quarantine law will only produce the same moribund effect. There is a need to properly train and equip border officials, hospital staffs, NESREA officers and key officers in other agencies and ministries to be able to adopt, implement and propagate environmental infection control programs and measures. Robust guidelines and plans must also be put in place for emergency preparedness for health and environment officials. Staff who will implement such guidelines must undergo formal training on how to identify and handle infected individuals, how to implement preventive measures such as cleaning, sterilization and disinfection. The level of training must be appropriate for the level of responsibility that the staff member is expected to undertake.

Promote local and decentralized implementation: To successfully implement environmental infection control in Nigeria, there is a need for broad based policy and legislative action across federal, state and local government levels. In true federal states such as the United States and Canada, the allocation of responsibilities between the federal, state and local governments are based on the principles of separation and limitation of government powers through political pluralism and decentralized policy making. State Governments must play more active roles in promoting environmental infection control measures. For example, key provisions of the *Quarantine Act* invite State Governors to adopt measures to prevent and control the spread of infectious diseases and to construct sanitary stations, buildings and equipment necessary to prevent the introduction and spread of diseases at state levels. Governments at state levels must accept this invitation by spearheading health and environmental sanitation infrastructure and programs that complement efforts at the federal level.

Conclusion

Anticipating and preventing the introduction and spread of infectious diseases such as Ebola, H1N1 flu virus, SARS, avian influenza, and e. coli amongst others in Nigeria cannot be simply layered into existence through yet another recital or legal instrument. Rather, legal and regulatory interventions for the prevention and management of infectious diseases would need to be integrated and mainstreamed through holistic environmental infection control policies that emphasise the impacts of environmental pollution on the spread of diseases. Without a clean environment, infectious diseases could easily be spread through water, air, land, airport and hospital surfaces. There is therefore a need for innovative reappraisal of current environmental laws in order to ensure that environmental agencies and public health bodies in Nigeria work coherently and harmoniously to adopt sound environmental infection control policies. For example there is a need for NESREA to wake up to its environmental sanitation and public health protection mandates under the law by playing more active roles in enforcing the adoption of sound sanitation practices and policies in public institution and places, and to ensure that hand sanitizers, disinfecting stations, public toilets and water purifiers and dispensers become widespread and common practice at all factories, banks, hospitals and public institutions.

The National Assembly also has prominent roles to play in updating all archaic environmental infection control laws to reflect modern realities, best practices and more relevant penalties for violation. Existing laws would need to be reinterpreted and updated in a fashion not envisaged at the time when they were enacted in order to meet modern realities. Therefore, rather than throw away the baby with the bath water or duplicate regulatory functions by creating a new quarantine agency, the Quarantine Act should be updated as discussed in this paper to provide legal and normative basis for the institutional and systemic integration of NESREA, NAFDAC, NACA, NPHCDA, NEMA, NPA, NMA and other relevant institutions to ensure that environmental and health policies are conscientiously linked and geared towards providing anticipatory, coherent and harmonized platforms for promoting sound environmental infection control in Nigeria.