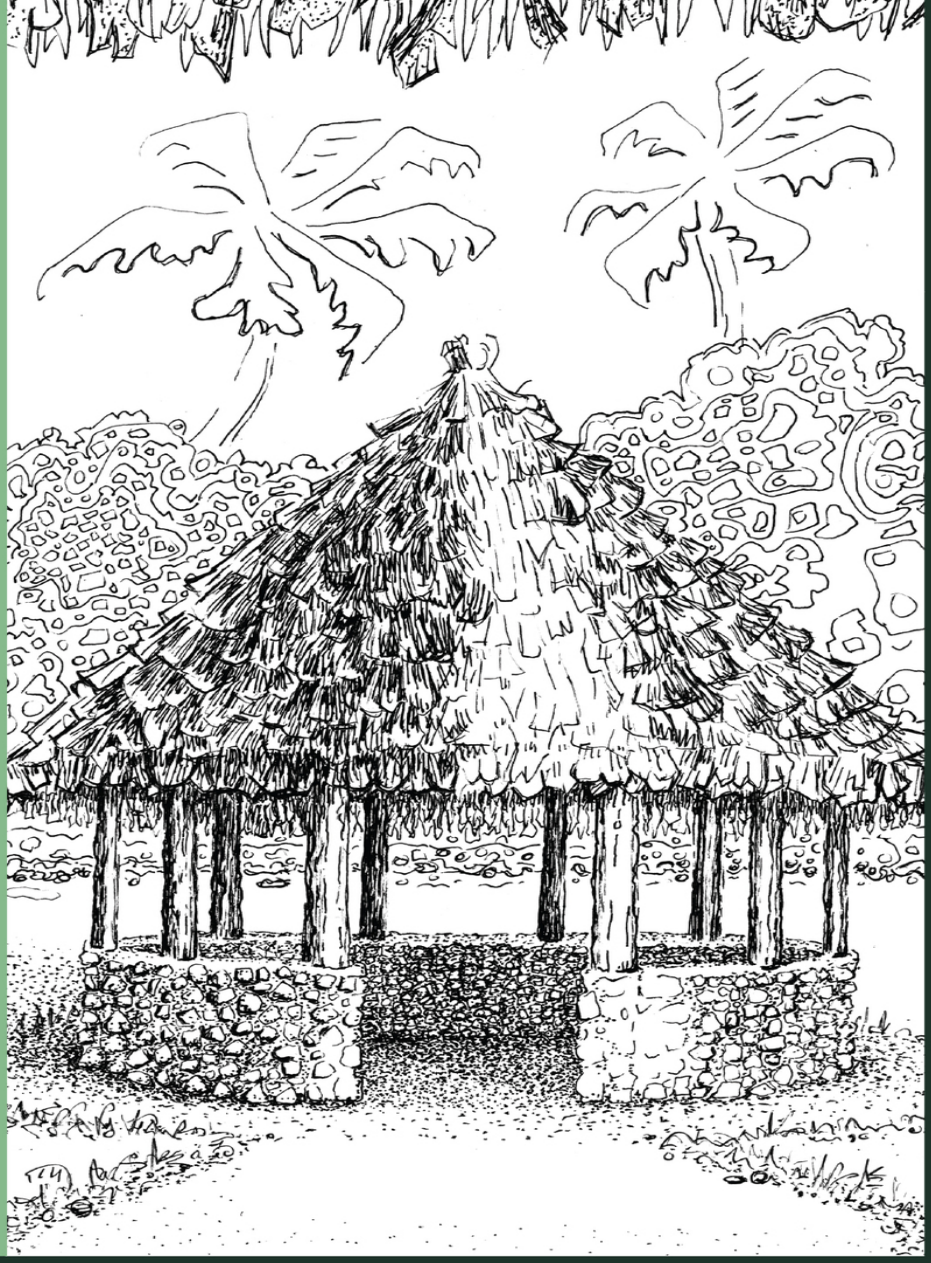

SOCIAL MOBILIZATION AND THE EBOLA VIRUS DISEASE IN LIBERIA

John Perry and
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Foreword

The phrase social mobilization in the title of this book refers to the most important reason why the Ebola epidemic came to an end in Liberia. The general public came to understand the gravity of the situation as well as the risk that, unchecked, the disease would devastate Liberia's population and way of life.

Along with this realization came a commitment to deal with the crisis. The words of posters seen throughout the country capture this group decision well: Let us kick Ebola out of Liberia.

Why the situation became so serious and how social mobilization happened will be discussed in what follows in the book. What we can and should learn from the Ebola crisis will also feature in the discussion.

There is one aspect of social mobilization in Liberia that is not dealt with in the book but needs to be addressed briefly. This is the possibility that the same social mobilization could be directed towards other pressing social needs.

Liberia needs foreign assistance to face its many developmental challenges now that Ebola is not the threat it recently was. For instance, the medical sector needs sustained and systematic attention. Food insecurity remains a long standing issue. Liberians at all levels of society need to take ownership of the 17 Sustainable Development Goals of the United Nations, the Paris Climate Change Document and other elements of the international development agenda.

President Johnson Sirleaf challenged Liberians to engage in a national dialogue "on how we can adapt the new global development goals to our own national priorities" and expressed the hope that social mobilization might be part of this process.[1]

If the social mobilization that was engaged during the Ebola crisis could be sustained with respect to the problems that preceded it and continue after it has passed, Liberia would have a realistic hope to become the middle income country it wants to be.

The cover of this book depicts a palava hut. It is within a palava hut that is a feature of Liberian culture where matters both large and small

are discussed. It represents one place where dialogue happens and where social mobilization can begin to happen. The palava hut will be an important site for dialogue and action on the global developmental goals.

Throughout its history Liberia has faced and overcome a number of challenges. The Ebola crisis is the latest. It is our hope that this small book will be a contribution to our understanding of how this crisis was faced and overcome.

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Chapter 1
Introduction
The Ebola Nightmare in Liberia and West Africa

Describing the low point of the Ebola epidemic in Monrovia in the summer of 2014 Colin Freeman, writing for The Telegraph newspaper in Great Britain, said the following:

> In Liberia's seaside capital, Monrovia, whose vast shanty towns are a giant petri-dish for disease, the virus spread anarchy as well as death. Doctors and nurses were dying in droves, nearly every hospital was closed, and health workers risked attacks by armed mobs. There wasn't even anywhere to dispose of the dead.
> I'll never forget the scene in one slum district, where an angry mob surrounded a family who was trying to secretly bury their teenage daughter, hidden in a rolled-up carpet in a wheelbarrow. All that stopped them getting attacked was the fear that they too were infected.
> And that was before things got really bad. A month later, in late September, I met brave but despairing Médecins Sans Frontières workers as the bodies of people they lacked the bed space to treat piled up outside their clinic gates.[1]

One purpose of this book is to describe the remarkable turn-around in the Ebola-induced chaos described by Mr. Freeman in Liberia. Many reasons were behind the defeat of Ebola in Liberia. The remarkable engagement of the United States was one. Great developments in laboratory screening and diagnostic efficiency were others. The construction of Ebola treatment units, which allowed infected persons to be isolated, and the virtual elimination of unsafe burials and the imposition of mandatory cremations were also important.[2] But the single most important key to the victory was the social mobilization of the Liberian citizenry. The public became engaged in fighting Ebola together and took the necessary steps under the direction of their

health authorities and local leaders to protect themselves from the disease.

The 2014-15 West Africa Ebola Virus Disease (EVD) epidemic is the largest ever recorded. As of Dec. 6, 2015 Liberia had recorded during the 2014-15 outbreak 10,675 cases with 4809 deaths. Overall throughout the world there have been 28, 637 cases and 11,315 fatalities, primarily in Liberia, Sierra Leone and Guinea.

Liberia declared a 90 day state of emergency on August 7, 2014. This was followed the next day by the World Health Organization (WHO) declaration of Ebola as a "public health emergency of international concern." By August 31, 2014 a total of 3,685 probable, confirmed or suspected cases in West Africa had been reported. In October 2014 Margaret Chan, Director-General of the WHO, described the Ebola epidemic in West Africa as the "most severe acute public health emergency in modern times." The disaster, she said, represents a "crisis for international peace and security of societies and governments in already very poor countries."[3] The fuel behind the Ebola outbreak in West Africa according to Margaret Chan is the one word "poverty."[4]

The slow response of the WHO to the outbreak has been heavily criticized. On Nov. 22, 2015, 19 international experts met under the auspices of the Harvard Global Health Institute and the London School of Hygiene and Tropical Medicine. The final report noted that while the 2014-15 Ebola outbreak "engendered acts of understanding, courage and solidarity," it also caused "immense human suffering, fear and chaos, largely unchecked by high-level political leadership or reliable and rapid institutional responses. The Ebola epidemic brought national health systems to their knees, rolled back hard-won social and economic gains in a region recovering from civil wars, sparked world-wide panic and cost at least several billion dollars in short-term control efforts and economic losses." The report stated "major reform (of the WHO) was essential . . . so that we do not witness such depths of suffering, death, and social and economic havoc in future epidemics."

The report concludes by saying that "[t]he Ebola outbreak is a startling reminder of the fragility of health security in an interdependent world . . . "[5]

Human security, especially health security, will be another important theme of this book. The thesis of the book is that robust and persistent self- mobilization and resilience not only helped to bring the Ebola epidemic under control in Liberia but will also go a long way to enhancing human and health security there in the future. But first we need to consider the virus itself.

Ebola belongs to the virus family Filovirides. It is the only virus type about which we still have great lack of knowledge.

Biomedicine first encountered this virus family with the appearance of Marburg virus in 1967. In the late 1970s the medical community was disconcerted by the discovery of the Ebola virus as the causal vehicle of major outbreaks of hemorrhagic fever in the Democratic Republic of the Congo (DRC) and the Sudan.In 1989, Ebola emerged in monkeys imported into a Reston, Virginia, primate facility outside of Washington, DC. The Reston Virus causes mild to asymptomatic infections in humans. Prior to the outbreaks in 2014 only 2345 human cases of EVD had been laboratory confirmed, relating to 1546 deaths.[6]

After Ebola hemorrhagic fever appeared in Africa in 1976-1979, it was not seen again among the human community until 1994 when it again reared its ugly head. During 1994-1996, no less than five independent Ebola infection sites were identified: Côte d'Ivoire in 1994, DRC in 1995, and Gabon in 1994, 1995 and 1996. Notable discoveries about the infection and protection against Ebola were discovered in Gabon. Among these findings are the important role of a dead, naturally infected chimpanzee in bridging the virus to humans, the rapid control of human transmission when barrier-nursing measures were instituted and the continual circulation of the virus without these precautions.

> Researchers often talk about a race between the Ebola virus and the people it infects. A patient wins the race only if the immune system manages to defeat the virus before it destroys most of his or her organs. A community wins the race if it can isolate the first few patients before the disease spreads. Humanity will win the race if it develops treatments and, ultimately, a vaccine, before the virus gains a permanent toehold in the cities of the globe.[7]

The Ebola virus is spread through contact with bodily fluids. There is considerable misunderstanding concerning the potential for aerosol transmission of filoviruses.[8] This is important since the epidemic would be far more deadly if it were transmitted from person to person through the air like the flu.

The search for the original site of the EVD has thus far remained inconclusive. David Quammen in *Ebola: The Natural and Human History of a Deadly Virus* has said although the scientific community has expended great efforts we have not yet tracked the Ebola virus to its source in the wild.[9]

Symptoms of Ebola infection include fever, muscle and joint pain, sore throat, headache and fatigue—followed by nausea, vomiting and diarrhea, which may include blood.

With the assistance of the WHO Liberia's Ministry of Health and Social Welfare (MOHSW) produced a case definition of Ebola that includes the following guidelines: A probable suspected case of Ebola was defined as an illness characterized by a history of acute fever in a person who has had contact with a person with a probable or suspected case definition in the past 21 days. A confirmed case of Ebola was defined as a suspected or confirmed case confirmed by laboratory testing.

Previous outbreaks of EVD in central Africa generally had fatality rates around 60-70% but sometimes as high as 90%.[10] Despite the somewhat lower mortality rate (58% in Liberia, based on case fatality of hospitalized patients), the recent epidemic was greater in magnitude because of vulnerable populations already coping with other endemic diseases such as malaria, inadequate infrastructure, distrust of government workers, and spread to major population centers. Cultural practices, such as washing corpses before burial and touching at funerals, played an important role in transmission of EVD.

Outbreaks of EVD and other hemorrhagic fevers are associated with highly vulnerable populations in post-conflict countries with poorly performing economies and inadequate public health systems. A human security analysis of the Liberian Ebola outbreak demonstrates that health insecurity can lead to a severe degree of human insecurity and

state failure. At the height of the epidemic, on Sept. 9, 2014, the Liberian Minister of Defence, Brownie Samukai, said, “Ebola is a serious threat to our national existence. The deadly Ebola virus has caused a disruption in the normal functioning of our state.”[11] The early history of the ineffective response to EVD in Liberia is a cautionary tale that needs to be taken seriously in order to prevent future health disasters.

While the weak infrastructure and a severe lack of finances, logistics and equipment (e.g. Personal Protective Equipment, chlorine, buckets, and even soap) hampered intervention opportunities by the Health and Social Welfare Department, the media were already discussing a potential state of emergency in late March.

When the GoL was later forced to ask the international community for financial assistance this confirmed what many had already suspected: Ebola was simply a fabrication by government officials to secure their personal wealth.[12]

> Authorities at the Ministry of Health and Social Welfare blew the Ebola trumpet loud announcing measures to prevent the spread of the virus and at the same time appealed to the international community for financial support.”
> In the wake of fresh cases resulting in five deaths in next door Sierra Leone a senior Senator in Liberia’s national Legislature, Senator Cletus Wotorson (UP, Grand Kru), believes the Ebola noise was much ado about [nothing] and intended to extort money from donors. Senator Wotorson during a regular Senate debate alleged that the pronouncement concerning Ebola outbreak in Liberia ‘was a ploy to attract donor funding.’[13]

Commenting on this faux pas the Liberian expatriate newspaper *The Perspective* said:

> Imagine that! I know it is difficult for some of you readers to imagine as it is for me. Did a real Senator actually say that? Was he actually denying the existence of Ebola. Had he not ever heard of this deadly disease that affected other parts of our world? Secondly, was he actually accusing fellow legislators of plotting to

> extort monies from international donors? Is this normal in the so-called Liberian legislature? Was the Senator speaking from experience?
> It is a pity that we have to be reminded of the caliber of people that call themselves lawmakers in our country. The country has degenerated to its lowest level at this crucial stage of our existence. [14]

Many Liberians initially saw the Ebola crisis as made up by the government to receive more donor aid, to be shared amongst those high up in government. The disease brought to the fore the deep inequalities within society and the deep distrust of the government. The disenfranchisement felt by many Liberians led them to be deeply distrustful of the messenger (the GoL), and if the messenger could not be trusted, the message could not be believed.

The Western media were soon discussing the news that Liberians were violating the GoL's orders but no one seemed to ask *why*. More than a century of government corruption and the years of war have taught Liberians not to trust public authorities. As they had never before experienced Ebola, they responded by placing their trust in the family and religious institutions, praying for salvation and mistrusting the GoL's recommendations.[15]

People were not treated with the respect and understanding they deserved. Many, both within Liberia and beyond, reacted with horrified amazement when family members demanded the return of the infected bodies of loved ones or retrieved their ill relatives from containment centers to bury or care for them at home. Centuries-old beliefs of the dead watching over the living were disrespected as the infected remains were burnt in crematoria, giving death a finality it never had previously enjoyed. Cultures with long-established practices of communal caring for the sick were suddenly set adrift, and established beliefs fractured by an invisible and mysterious enemy.[16]

Health promotion messages in Liberia focused initially on not eating bush meat. In July 2014 the GoL banned the hunting and sale of bush meat. This message was highly misleading. Although "spillover" from the

possible natural reservoir of Ebola in fruit bats may have led to the first case, subsequent transmission was entirely human to human. The inaccurate sensitization, which clashed with people's experience, was met with suspicion.

The EVD crisis in Liberia, Guinea and Sierra Leone began to fulfill what Priscilla Wald has called the "outbreak narrative."[17] In this story a disease emerges in a remote location and spreads across a world highly connected by globalization and air travel to threaten us all. A man infected with Ebola travelled from Liberia to Nigeria and infected medical staff there. The threat of exponential growth and subsequent infection of aid workers, a case in Senegal, and transmission in both Spain and the US turned Ebola into an international security threat.

President Obama sent 3,000 US troops to Liberia to build 14 Ebola Treatment Units, and establish a command center. The UK sent 750 troops, a ship, and helicopters to Sierra Leone, focusing on treatment and isolation units.

Ebola, then seen as a global existential threat, saw airlines halt flights into the worst affected countries making it difficult to get much needed medical personnel and essential goods into these countries. Several countries including Australia, the US and Canada imposed a mandatory 21 day quarantine on persons arriving from Ebola affected countries.

On the ground in West Africa new cases far outstripped available health workers, burial teams, contact tracers, laboratory staff and personal protective equipment. The social fabric was ruptured because every day routine intimacies such as hand shaking and hugging were feared and the social and moral good of caring for the sick and deceased brought sickness and death.

The failure of the health system was a hangover from internationally promoted structural adjustment programs in which state spending on public services was curtailed and health became a commodity and an individual responsibility.[18]

The global health response to the epidemic was top-down. It was based on the problematic assumption that public health experts and scientists possessed the knowledge needed to stop the epidemic and

that local populations did not. This led to an insistence on protocols and procedures that deny valuable input from communities. Funerals were one such area. The failure to engage with the question of why burial rites were so important to communities led to offensive interventions. The mass cremation of corpses in Liberia was an important reason why families hid their sick and deceased.

Ebola affected not merely Liberia, Guinea and Sierra Leone, the World Health Organization, the UN Security Council, and the Centers for Disease Control and Prevention in Atlanta Georgia but also West African popular culture. The rap groups D-12, Shadow and Kuzzy of 2 Kings produced the cautionary but popular song "Ebola in Town." Some of the lyrics include: "Something happen/something in town/Ebola in town. Don't touch your friend, No kissing, no eating something, it's dangerous." The remedy struck at the heart of Liberia's popular culture: "I know the medicine/Distant hugging/I say Distant shaking/Distant kissing, Don't touch me/Ebola in town."[19]

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Chapter 2
The Ebola Nightmare in Liberia and West Africa

BACKGROUND

The 2014-15 West Africa Ebola Virus Disease (EVD) epidemic is the largest ever recorded. As of Dec. 6, 2015 Liberia has recorded 10,675 cases with 4809 deaths. Overall throughout the world there have been 28, 637 cases and 11,315 fatalities, primarily in Liberia, Sierra Leone and Guinea.[1] In addition to these three EVD affected countries seven others include: Nigeria (20 cases with eight deaths), Mali (eight cases with six deaths), Senegal and Spain (one case each with no deaths), USA (four cases with one death), the United Kingdom and Italy (one case each with no deaths).[2]

> Post-conflict Liberia is one of the most socially fragile countries in Africa. Liberia, which now has a population of approximately 4.3 million, was embroiled in a civil war between 1989 and 2003 that destroyed much of its physical and social infrastructure. The war occurred in two phases as various armed factions gained control of the country, and the two conflicts led to more than 200,000 dead and 70,000 displaced Liberians. The wars produced a brain drain as skilled professionals, including most of the qualified doctors, took refuge from the fighting in other countries. Before the EVD outbreak Liberia could count on 0.014 doctors among 1000 people.[3] Or two doctors for every 100,000 Liberians. By way of contrast, the United States enjoys approximately 245 doctors for every 100,000 Americans.[4]

Liberia ranks 175 out of 186 countries on the latest Human Development Index, and among other disturbing ratings, boasts a Gross National Income per capita of US$752; 84% of the population is living on less than US$1.25 per day.[5] Less than half of the population was

actually literate, a third of the country's women had never even paid a visit to a classroom, and less than five percent of families could, by African Development Bank criteria, be labelled as middle class.[6]

Liberia was vulnerable to EVD before its outbreak due to the scarcity of its health services which rendered its population vulnerable to multiple interacting stressors which included food insecurity, and climate change. Districts having the highest social vulnerability lie in the north and west of Liberia in Lofa, Bong, Grand Cape Mount and Bomi Counties. Three of these counties together with the capital Monrovia and the surrounding Montserrado and Margibi counties experienced the highest levels of EVD infections in Liberia. Many rural Liberians suffer food insecurity and many cannot reach a medical clinic in less than 80 minutes.

The first cases of Ebola were reported in Guinea on March 25, 2014 with information about 86 suspected cases, 59 of which resulted in death.[7] The index case of the outbreak was likely a two year-old named Emile, who belonged to the Ouamouno family from the village of Meliandua. Emile died on December 6, 2013. Certain family members and some health care workers had contact with these family members. One of the affected health care workers activated the spread of the virus to three other districts of Guinea.[8]

Liberia experienced two waves of the Ebola outbreak. The first was in the rural border town Foya in Lofa County in late March, 2014. After two periods of 21 days with no new Ebola cases reported Liberia, and the international community, wrongly believed that EVD was no longer a problem. The second wave occurred in Monrovia, Liberia's capital, in which around 30% of its population resides. The outbreak of EVD forced health care centers, hospitals, clinics to shut down as health care workers, including doctors, were stricken by the virus.[9]

Let us consider the virus itself. The species of Ebola that has invaded Liberia and its neighbors belongs to the Zaire Ebola virus (ZEBV) which is an enveloped, negative single stranded RNA virus and is the most virulent of the other five Filovirides: Sudan (SUDV), Tai Forest (TAFV), Bundibugyo (BDBV), and Reston (RESV).[10] Filovirides is a virus type about which we still have profound ignorance.

Biomedical science first encountered this virus family when the Marburg virus appeared in 1967. In the late 1970s the international community was startled by the discovery of the Ebola virus as the causative agent of major outbreaks of hemorrhagic fever in the Democratic Republic of the Congo (DRC) and the Sudan.In 1989, Ebola appeared in monkeys brought into a Reston, Virginia, primate facility outside of Washington, DC. The Reston Virus causes minor asymptomatic infections in humans. Prior to the outbreaks in 2014 only 2345 human cases of EVD have been laboratory confirmed, relating to 1546 deaths.[11]

After Ebola hemorrhagic fever appeared in Africa in 1976-1979, it was not seen again among the human community until 1994, when it again reared its ugly head. During 1994-1996, no less than five independent Ebola infection sites were identified: Côte D'Ivoire in 1994, DRC in 1995, and Gabon in 1994, 1995 and 1996. Notable discoveries about the infection and protection against Ebola were discovered in Gabon. Among these findings are the important role of a dead, naturally infected chimpanzee in bridging the virus to humans, the rapid control of human transmission when barrier-nursing measures were instituted and the continual circulation of the virus without these precautions.

The Ebola virus is spread through contact with bodily fluids. There is considerable misunderstanding concerning the potential for aerosol transmission of filoviruses.[12] This is important since the epidemic would be far more deadly if it were transmitted from person to person through the air like the flu.

The search for the original source of the EVD has thus far remained inconclusive. Karl Johnson, the former head of the Viral Special Pathogens Branch at the US Centers for Disease Control (CDC) has said that "despite arduous efforts by some intrepid scientists, Ebola virus has never been tracked to its source in the wild."[13]

There is only one reported study of any search for the originating site. A 2005 story in *Nature* titled "Fruit Bats as Reservoirs of Ebola virus" is the primary source for assertions that the Ebola virus resides in fruit bats, even though the authors made it clear their findings were inconclusive.[14]

Symptoms of Ebola infection include fever, muscle and joint pain, sore throat, headache and fatigue—followed by nausea, vomiting and diarrhea, which may include blood.

> How quickly and completely Ebola overwhelms an individual depends on at least two factors: the amount of virus involved and how it first enters the body…Many Ebola victims apparently become infected after preparing an infected relative's corpse for burial. Wiping the vomit from a patient's chin or cleaning up after an infected child's bout of diarrhea can also transmit the virus which gains entry into people's bodies after caregivers touch their own eyes, lips, or mouth with their own contaminated hands.[15]

With the assistance of the WHO Liberia's Ministry of Health and Social Welfare (MOHSW) produced a case definition of Ebola that includes the following guidelines: A probable suspected case of Ebola was defined as an illness characterized by a history of acute fever in a person who has had contact with a person with a probable or suspected case definition in the past 21 days. A confirmed case of Ebola was defined as a suspected or confirmed case confirmed by laboratory testing.

Sexual transmission of Ebola by survivors of the disease has led to further WHO (interim) advice.[16]

- Until such time as their semen has twice tested negative for Ebola, survivors should practice good hand and personal hygiene by immediately and thoroughly washing with soap and water after any contact with semen, including after masturbation. During this period used condoms should be handled safely, and safely disposed of, so as to prevent contact with seminal fluids.
- All survivors, their partners and families should be shown respect, dignity and compassion.

Previous outbreaks of EVD in central Africa generally had fatality rates around 60-70% but sometimes as high as 90%.[17] Despite the somewhat lower mortality rate (58% in Liberia, based on case fatality of

hospitalized patients), the recent epidemic was greater in magnitude because of vulnerable populations already coping with other endemic diseases such as malaria that spread to major population centers, inadequate infrastructure, and distrust of government workers. Cultural practices, such as washing corpses before burial and touching at funerals, played an important role in transmission of EVD.

Outbreaks of EVD and other hemorrhagic fevers are associated with highly vulnerable populations in post-conflict countries with poorly performing economies and inadequate public health systems. A human security analysis of the Liberian Ebola outbreak demonstrates that health insecurity can lead to a severe degree of human insecurity and state failure. At the height of the epidemic, on Sept. 9, 2014, the Liberian Minister of Defence, Brownie Samukai, said, "Ebola is a serious threat to our national existence. The deadly Ebola virus has caused a disruption in the normal functioning of our state."[18] The early history of the ineffective response to EVD in Liberia is a cautionary tale that needs to be taken seriously to prevent future health disasters.

The confused and weak initial response of the Liberian government to the EVD epidemic cannot be explained by calling Liberia a "failed state." The epidemic was neither a result of bad luck nor was it inevitable. Rather, it is a consequence of a specific set of decisions about post war reconstruction priorities. It should be understood, in part at least, as the human made result of international natural resource extraction and local exploitation.

In practice Liberia's health system was something of a façade. Much of the health surveillance and maintenance of health facilities was performed by international NGOs many of whose non-essential personnel were withdrawn at the time of the disease's outbreak.

The EVD epidemic has links with the region's history of violence. Lack of trust in government and suspicion of elected officials is a frame for this interpretation of personal and family misfortune.[19]

The initial response of the Government of Liberia (GoL) and its citizens made the spread of EVD inevitable and created some seemingly irresolvable issues. For instance, as the GoL provided little information, Liberia's media began filling the information vacuum with rumors. News

changed daily: one day Ebola was confirmed in Liberia; the next day it was in Monrovia; and a day later the Ministry of the Interior declared that Ebola had not entered Liberia at all. When the GoL finally intervened most Liberians no longer knew what to believe or whom to trust. [20] The GoL's slow response revealed both a lack of both resources and interest. The leadership, mostly based in Monrovia, carried on as usual while residents and health care workers died in Lofa in March, April, May and June 2014. Officials, including President Ellen Johnson Sirleaf, continued to travel for conferences abroad as if this deadly disease could be denied and ignored. [21] Until the death in Dallas, USA on July 25, of an Ebola infected government employee, Thomas Eric Duncan, and until two American aid workers, Dr. Kent Brantly and Nancy Writebol, became ill the Liberian government basically ignored a virus that would test all its assets and flaws, threaten the nation's solidity and erode all that had been achieved since the end of the civil war.[22]

While the weak infrastructure and a severe lack of finances, logistics and equipment (e.g. Personal Protective Equipment, chlorine, buckets, and even soap) hampered intervention opportunities by the Health and Social Welfare Department, the media were already discussing a potential state of emergency in late March.

Many Liberians initially saw the Ebola crisis as a government fabrication to receive more donor aid, to be shared amongst those high up in government. The disease brought to the fore the deep inequalities within society and the profound distrust of the government. The disenfranchisement felt by many Liberians led them to be distrustful of the messenger (the GoL). If the messenger could not be trusted, the message could not be believed.

In January 2015 the *Daily Observer* of Monrovia published an open letter by an American Professor of plant pathology, Dr. Cyril Broderick, that claimed that Ebola and the AIDS virus were genetically modified organisms to be used as bio-weapons in an attempt to reduce Africa's population. "Reports narrate stories of the funding of Ebola trials on humans, trials which started just weeks before the Ebola outbreak in Guinea and Sierra Leone," the letter said .[23]

While Dr. Broderick's conspiracy theory claims that Ebola was developed as a bio-weapon to be inflicted on Africans lacks credibility, the fact that Ebola was and is a bio-weapon is sadly true. The failure of Mapp Pharmaceutical to have their drug ZMapp ready to meet the Ebola emergency in Africa, which was natural and not man-made, represents a failure in preparedness of the United States government.

Mapp Pharmaceutical was supported exclusively through US federal grants and contracts that go back to 2005. However, the antibody mixture hasn't yet passed its first phase of human clinical trials despite the fact that it was used in 2014 on an emergency basis and it may have saved the lives of two American health workers who had contracted EVD in Liberia.

Although it received federal funding this was not sufficient for ZMapp to reach the beginning of clinical trials, which is an expensive process. The ZMapp treatment came into the hands of a little known Pentagon agency in later 2010 and sat there dormant, waiting for a contract, for two years.

This was despite the well- founded fear that Ebola could become a weapon of bioterrorists. "In the 1990s, after revelations of the Soviet biological and chemical weapons programs and the 1995 sarin gas attack in the Tokyo subway, the US handed its defensive drug making to the Pentagon. After 2001, the Pentagon budget for biological and chemical defense rose from $880 million to $112 billion. Since then roughly a third of its total budget has been dedicated to a classified list of 'biological threat agents.' Although the list is classified, we know that it now numbers 18, according to a 2014 analysis by the US Government Accountability Office. Ebola is almost certainly on this list, and likely near the top. The Soviet Union had an Ebola program, and Aum Shinikyo, the cult that released the sarin gas in Tokyo, sent doctors in 1993 to what's now the Democratic Republic of the Congo on an unsuccessful mission to get an Ebola sample."[24]

Mapp pharmaceutical was looking for more money. Started in 2003, the San Diego-based business had nine workers and no external stockholders outside of the Pentagon. For about a decade, it has taken an approach to Ebola that had been largely ended by other researchers.

Rather than develop a vaccine, which triggers the body to create its own antibodies—defenses against a virus-Mapp worked to develop monoclonal antibodies, a ready-made supply that can be introduced into the body as a treatment after infection.[25]

Dr. Broderick's frightening claims about the origin of Ebola and those who were to blame were sadly typical of many others. In late October 2014 it was reported that harassment of gay Liberians in Monrovia was occurring after some church leaders said that "God was angry with Liberians over corruption and immoral acts such as homosexuality, and that Ebola was a punishment." The harassment included car windows being smashed and some homosexuals being forced from their homes and into hiding.[26]

Some Christians attribute the outbreak of EVD to the visit to Liberia by the "Queen of Sheba," a woman whom they claim is from the "dark world and who is the devil incarnate" and who has practiced Satanism for the past 46 years. She arrived at the invitation of certain groups and traditional leaders.[27]

According to Wilmot Kotati Bobbroh, the Presiding Bishop of Living Water Pentecostal Church International-Liberia, the rumor that the Queen of Sheba was in Liberia at the invitation of the Government of Liberia and its President was false. Bishop Bobbrah said that President Ellen Johnson-Sirleaf was not the cause of Ebola. Rather the outbreak was a national curse and was God's doing so that people could repent from their sinful acts.[28]

The local Liberian media were not alone in discussing the causes of the epidemic. The Western media was soon discussing the news that Liberians were violating the GoL's orders but no one seemed to ask *why*. More than a century of government corruption and the years of war have taught Liberians not to trust public authorities. As they had never before experienced Ebola, they responded by placing their hope in the family and churches, praying for salvation and distrusting the GoL's recommendations.[29] "The ultimate solution" to the Ebola epidemic crisis, according to President Ellen Johnson Sirleaf, was for the nation to turn its attention to Almighty God "through fast (sic) and prayer."[30]

Ebola disintegrated a weak health care system that had long been financially and physically remote to ordinary people, many of whom often sought traditional medical solutions. As Liberians' personal anxiety increased with the spread of Ebola the population responded with disbelief, dread, disavowal, rage or confusion. Some were unwilling to bring their sick relatives to Ebola care facilities fearing they would never see them again because funeral rites were prohibited or that their condition might worsen due to the lack of food and potable water in the facilities. Ebola patients were frequently refused entry due to overcrowding as a result of an ill-equipped health sector. The risks to unprotected health care workers led to a nurses' strike. [31]

The GoL made a number of errors in its early response to the outbreak. The state of emergency was ineffective. The health authorities allowed the dumping of bodies into community wetlands giving rise to fear about water contamination. How, if and to whom ZMapp that was used on an emergency basis to treat some health workers who were evacuated from the outbreak region, had been distributed was unclear. The World Health Organization has allowed treating at least some patients with blood from survivors. The dangerous decision to allow the clinical use of this unapproved therapy, known as the convalescent serum therapy, showed how desperate the situation had become in West Africa.[32] Only in February 2015, after the worst of the epidemic had run its course, did the National Institutes of Allergies and Infectious Diseases announce the first clinical trial of ZMapp.[33] A failed attempt to impose a quarantine on the largest slum in Monrovia, West Point, resulted in violence, and the death of a 16 year old boy.

People were not treated with the respect and understanding they deserved. Many, both within Liberia and beyond, reacted with horrified amazement when family members demanded the return to them of the infected bodies of loved ones or retrieved their ill relatives from containment centers to bury or care for them at home. Centuries-old beliefs of the dead watching over the living were disrespected as the infected remains were burnt in crematoria, thereby giving death a finality it had never previously enjoyed. Cultures with long-established

practices of communal caring for the sick were suddenly set adrift, their established beliefs fractured by an invisible and mysterious enemy.[34]

In late July 2014 during a visit to a family of Ebola orphans, a health employee was chased away by the orphans' uncle. The uncle explained to the health worker that their mother had contracted Ebola from a relative, who had died. When their mother showed signs of Ebola, the family called an Ebola hotline at the Ministry of Health for several days, but no one came to take her to an ETU. She died, and a burial team came to take her body away. Soon after, her husband, the children's father, became ill. The family again called the hotline for days, but no one came. The father died, and a few days later, a burial team came and took away his body. The uncle noted the early signs of Ebola among the children and said to the health worker, "Your Minister for Health cares more for the dead than for the living."[35] In a tragically literal application of "structural violence"[36] the Liberian state became an avenue of disease. Ebola hotlines are created, but no one answers the phones.

Structural violence refers to the way institutions and practices inflict avoidable harm by impairing basic human needs. Damage is done unequally and often in a manner which comes to be taken for granted. This was not done by a single social institution but by a complex overlapping of institutions that have produced interlaced inequalities, and insecurities. The rich natural and human resources of Liberia have long been extracted for elite and foreign profit—as opposed to being developed for the benefit of the majority of its population. The result has been a legacy of distrust and governments that have been unable to provide basic services, health included.[37]

Health promotion messages in Liberia focused initially on not eating bush meat. In July 2014 the GoL banned the hunting and sale of bush meat. This message was highly misleading. Although "spillover" from the possible natural reservoir of Ebola in fruit bats may have led to the first case, subsequent transmission was entirely human to human. The inaccurate sensitization , which clashed with people's experience, was met with suspicion.

On the ground in West Africa new cases far outstripped available health workers, burial teams, contact tracers, laboratory staff and personal protective equipment. The social fabric was ruptured because every day routine intimacies such as hand shaking and hugging were feared and the social and moral good of caring for the sick and deceased brought sickness and death.

The failure of the health system was a hangover from internationally promoted structural adjustment programs in which state spending on public services was curtailed and health became a commodity and an individual responsibility.[38]

The global health response to the epidemic was top-down. It was based on the problematic assumption that public health experts and scientists possessed the knowledge needed to stop the epidemic and that local populations did not. This led to an insistence on protocols and procedures that deny valuable input from communities. Funerals were one such area. The failure to engage with the question of why burial rites were so important to communities led to offensive interventions. The mass cremation of corpses in Liberia, for example, was an important reason why families hid their sick and deceased.

The EVD outbreak could have been worse in Liberia. Potentially what might have happened could have created a Hobbesian nightmare —a war of all against all. Writing about the HIV/AIDS epidemic Philip Strong presents thoughts and observations that are germane to the later EVD outbreak.

A major outbreak of a novel, fatal epidemic disease can be followed by further plagues of alarm, terror, mistrust and shame; and by mass outbursts of moral arguments, of potential solutions and of many different causes that spring up.[39]

Three types of psycho-social epidemic phenomena can be identified: fear, explanation and moralization, and action or proposed action. Waves of individual and collective panic can be followed by outbursts of interpretation as to why the disease has occurred, moral controversy and competing control strategies, aimed either at containing the disease itself or else controlling its progression into epidemics of fear and social dissolution.[40]

The epidemic of fear is also an epidemic of distrust. Close behind this irrationality comes a wave of stigmatization. The result is exceptionally unstable. People must decide whether or not a new disease or a new outbreak is insignificant or whether it is something which is very important. There is a collective disorientation generated by a toxic mix of scientific ignorance and paranoia, fear driven suspicion and the ostracism of whole classes of people.[41]

> One morning in July, 2014, Satta Watson woke up to see about 150 people standing outside of her house in Monrovia. Seven people had died in her neighbor's family across the street in the previous month, but many in the community doubted that Ebola was the cause of the deaths. That morning the community gathered to prevent representatives of the Ministry of Health accompanied by local politicians, from taking away another ill neighbor.
> Watson, like many other Liberians, initially believed that the government was exaggerating the outbreak for political reasons. 'I was hearing people tell me that what was happening wasn't Ebola, that whatever it was had been created in labs to kill Liberians,' she said. 'That it was a way the government could get money from the World Health Organization so that it could then put the money in its pocket.' Now Watson accepts that Ebola is in the country—but doesn't trust the government is handling the response effectively, or even properly identifying when people have Ebola.[42]

This distrust by Liberia's people of their government health officials and community leadership was an unintended consequence of the effort to contain the epidemic. The distrust of the Liberian government is rooted in its history.

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Chapter 3

History of Liberia

In 2014 the Ebola Virus Disease quickly became a threat to Liberia's national survival. This situation repeated one that had occurred in its recent history. On Christmas Eve 1989 the National Patriotic Front of Liberia (NPFL) of Charles Taylor attacked a government outpost in eastern Liberia. Soon Taylor's attempt to overthrow the President, Samuel K. Doe, led to a 14 year civil war characterized by total state collapse and a war of brutal, heedless violence. Liberia became the first sovereign state to degenerate into a newly invented classification: the failed state.[1]

Out of a prewar population of approximately 2.5 million, by 1996 Liberia had suffered more than 200,000 casualties (mostly civilians), had 750,000 international refugees in neighboring West African countries and more than 1.2 million internally displaced people.[2] A second war took place in Liberia for a duration of four years, from 1999-2003, and led to an additional 50,000 deaths.[3]

The origin of Liberia's descent into a failed state during its civil war lies in part in its share in the malign inheritance of slavery. The West African slave trade reached the Grain Coast, which in due course became Liberia, by the middle of the seventeenth century. The unforeseen repatriation and overseas settlement of freed American slaves two centuries later, closed this dreadful circle. With independence in 1847, the supreme power of freed-slaves, "Americo-Liberian settlers," methodically and completely deprived the Liberia's indigenous majority of equal access to land, education, justice, wealth, and political power, who fiercely fought the inevitable series of revolts that followed.[4] Until the *coup d'état* of 1980 that brought an end to the ascendancy of the Americo-Liberians with the revolt of the "country people," also known as the indigenous majority, their oppression had been by and large successful.

Liberia is located on the west coast of Africa, in the western part of what was known as Upper Guinea. Before it took the name of Liberia it was called the Grain Coast because from it were taken the grains of

“Melegueta Pepper,” once a popular spice in Europe. Liberia has a seaboard of 350 miles from the Mano River on the west to the Cavalla River on the east and covers an area of approximately 43,000 square miles.[5]

Historians believe many of the native people of Liberia arrived there from the north and east between the 12th and 16th centuries AD. Portuguese travelers established contact with the inhabitants as early as 1462.[6]

From around 1800, in the United States, those who resisted slavery were planning ways to liberate more slaves and ultimately to eliminate the institution. At the same time slave-holders in the South did not want free blacks living with them in their communities, because they believed the very presence of these freed slaves endangered their slave societies.

Some abolitionists and owners of slaves deliberated about the idea of creating a colony in Africa as a place to move freed African-American slaves. As a result they tried to engage colonists from among populations of free blacks and free people of color. Most of these potential colonists resisted relocation because they had been born in and had rights to live in the United States.[7]

An organization was founded to implement this project called the American Colonization Society (ACS). Founded in 1817 by a Virginia politician, Charles F. Mercer, and a Presbyterian minister, Robert Finley, of New Jersey, the goal of the ACS was to settle free blacks outside of the US by relocating them to Africa.

A further goal was inspired by the Evangelical mission. Referring to Liberia, Henri Emmanuel Wauwermans (1825-1902) wrote: “From this little state…will go forth the best imaginable missionaries to extend over the Black Continent the benefits of civilization and to found the free United States of Africa, sufficiently powerful to defy the covetousness of white men and to make justice reign, so far as it can reign among men.”[8]

The first ship left for West Africa from New York on Feb. 6, 1820 carrying 86 settlers. Liberia expanded gradually from its nucleus at Monrovia inland as immigrants continue to settle up to the first decade of the twentieth century. By 1900, about 15,000 Black settlers from

America[9] and over 300 from the West Indies[10] had thus[11] settled in Liberia forming about 20 settlements on the Atlantic coast, arranged into five counties for administration purposes.

Between 1822 and 1841 the Liberian settlements were consigned to white American governors, chosen by the ACS and helped by some Liberian officials and by a legislative council elected by the colonists. The final power rested with the Board of Managers of the Society in Washington, DC, which approved, altered or cancelled laws framed for the colony by the Governor and legislative council.

By buying plots of public land, all male settlers possessed the right to vote. They also occupied most of the positions in the executive, legislative and judiciary bodies of the state, and controlled the government service. Actual authority lay in the hands of important members of certain leading settler families or lineages. Thus, the settlers were the leaders, who ran the Liberian Government, in much the same way as the British and the French established themselves the rulers in neighboring colonial territories such as Sierra Leone and the Ivory Coast. [12]

From the beginning, the colonists were harassed by the indigenes who originally occupied the land. In addition they suffered from illness, the harsh weather, lack of food and drugs, and poor accommodations. [13]

Despite the challenges the ACS administrators gradually gave the maturing colony more self-governance. In 1839 it was renamed the Commonwealth of Liberia and in 1841 the Commonwealth's first black Governor, J.J. Roberts, was appointed.

From the early 1840s the influence of the ACS in Liberia substantially declined. The ACS was effectively bankrupt, and Liberia had become a financial burden. Furthermore, the Society faced an assault by abolitionists in the US who questioned its intentions and actions and charged the managers with seeking to prolong slavery in America.

In 1846, the ACS directed the Americo-Liberians to proclaim their independence prompting Governor Roberts to declare Liberia to be Africa's first Republic on July 26, 1847 with 3000 settlers.

Representatives drew up a constitution developed after that of the United States.[14] Three distinctive features of the Liberian Constitution, that differ from its American model, are that Liberia was based upon Christian principles, that slavery was absolutely prohibited throughout the Republic and citizenship was limited to negroes or persons of negro descent. In the original constitution the wording was confined to "persons of color," but when questions arose about who should be considered "persons of color" an amendment was adopted changing the expression to "negroes or those of negro descent." The indigenous African people were not assigned any political privileges or citizenship rights by Liberia's Independence Constitution of July 1847.

Three coordinate branches were established in the Constitution: the executive, legislature and judiciary. The legislature consists of two houses: the Senate and the House of Representatives. The judicial branch consists of a Supreme Court with a Chief Justice and circuit courts under the direction of the Supreme Court. The President and Vice President are elected; all other officers of the state are chosen by the President, subject to the approval of the Senate.[15] This configuration is still in place today.

The settlers on whom the Government of Liberia devolved from 1841 were fundamentally American rather than African in their viewpoint and preferences. They retained a robust emotional attachment to the US, which they regarded as their native land. They wore the western garb with which they were familiar in America notwithstanding the obvious fact that this dress was inappropriate for Liberia's tropical weather: a black, silk topper and a long, black frock coat for men, and a Victorian silk dress for women. They preferred American food like flour, cornmeal batter, lard, pickled beef, bacon, and American grown rice, large quantities of which they brought in annually over African food like cassava, plantain, yams, palm-oil, sweet potatoes, and country rice grown by Africans in the Liberian neighborhood.[16]

The Liberian settlers regarded their own culture as superior to that of the African population. They disapproved of the negligible dress worn by many of the Africans who they referred to as semi-nude, "untutored

savages". They despised African forms of religion as paganism, heathenism and idolatry.

The local inhabitants, for their part, disapproved of, and despised many aspects of the settlers' way of life. In particular, many pointed out the settlers' slave background of the settlers which they considered socially lower than themselves.[17]

Americo-Liberians were Christian, spoke English as their mother tongue, and practiced monogamy. They did not intermarry with the indigenous people. Although never constituting more than five percent of the population of Liberia they controlled key resources allowing them to dominate the local native peoples.

They also organized: access to the ocean, modern practical skills, literacy, and higher levels of education and maintained valuable relations with many United States institutions. Through a system of racial segregation like the system they had left in the United States, the Americo-Liberians created a cultural and racial caste system with themselves at the top and indigenous Liberians at the bottom.

They believed in a form of racial egalitarianism by which they meant all residents of Liberia had the potential to become "civilized" through adaptation of Christianity and western-style education.[18]

This assimilation policy was applied towards the approximately 5000 recaptured Africans taken away from slavers in the Atlantic by American naval ships particularly between 1845 and 1862. Recaptured Africans apprenticed for a term of years to Americo-Liberian families who maintained them with funds supplied by the United States Government. After their apprenticeship, most of them lived in the Americo-Liberian settlements. The rest settled in "Congo Towns" adjacent to these settlements.

They received from the Liberian Government almost equal civil rights with the settler population including the right to vote in elections, and, having lost contact with their earlier homes in west and central Africa, they eventually became very closely assimilated into the cultural milieu of the Liberian settlers, speaking English, wearing the settler mode of dress and practicing monogamy and the Christian Faith.[19]

The Americo-Liberians and their recaptured and integrated Africans, who became known as “Congos”, was a very religious community. The Bible was read with devotion; and theology was traditional and unbending. The style of religious expression was demonstrative. Revivals were common and were accompanied by extravagant displays of devotion that once were common among blacks of the southern states of the US and among the white population of the north. Certitude of sin and the attainment of glory were the two chief ends sought in these revitalizing efforts.[20]

A series of revolts among the indigenous Liberian population took place between the 1850s and the 1920s. As the settlers were dedicated to ending the slave trade on the shores adjacent to the colony, they sought by alliances or by force of arms to induce slave trading chiefs to give up the trade and to co-operate with Liberian troops and British and American naval squadrons to break up slave depositories and to get rid of their European owners.

Liberia also engaged in border disputes with French and British colonialists in French Guinea and Sierra Leone. However, the presence and protection of the United States Navy in West Africa until 1916 forestalled any military threat to Liberian territory or independence.[21]

Some of the Governors and leading settlers hoped that by territorial expansion the settlers would create a great, “civilized” Christian state on the west coast of Africa that would disperse “light” and “knowledge” over the “barbarism” and “paganism” of Africa.[22]

Generally during acquisition of territory by the Liberian Government the African people were required to accept the dominion of the Liberian Government over their tribal governments, in return for defense from slave traders and schools which the Government would provide them.

They were also required to acknowledge the laws of Liberia as being also binding on themselves; to refer all inter clan and intertribal disputes to the Liberian authorities for settlement, the offenders being punishable according to the laws of Liberia; to repudiate the slave trade and “uncivilized” customs like trial by sassywood ordeal that involved drinking a poisonous liquid to determine innocence, if the person

survived, or guilt if they did not; and finally never to go to war against one another without first consulting the authorities of Liberia.[23]

The national currency, the Liberian dollar, collapsed in 1907, and subsequently Liberia began to use the United States dollar as its currency. Due to ongoing economic difficulties the government in Monrovia became reliant on foreign loans at high rates of interest.[24] Five times in the late 19th Century and early 20th Century Liberia sought loans of foreign assets. The first instance is typical of the others in that Liberia was not well served. In 1870 a loan of $500,000 was retained in London but in fact Liberia received less than $75,000 for which it paid back nearly $500,000 in interest.[25] In 1912 the United States arranged a 40-year international loan of $1.7 million, against which Liberia was forced to agree allowing the US, Britain, France, and Germany to control Liberian Government proceeds for the next 14 years, until 1926.[26]

In World War I despite its large German trade Liberia was forced to declare war on the side of the Allies. One incentive was a loan promised to Liberia by the United States Government. However, before this went through the agreement process the War was over and the US Congress refused to authorize the loan.[27]

In 1926, Firestone, an American rubber company, started the world's largest rubber estate in Liberia thanks to a 99 year agreement for a million acres (to be chosen by the company anywhere in the country) at a price of 6 cents per acre.[28] This industry created 25,000 jobs and rubber became the mainstay of the Liberian economy. In the 1950s rubber made up 40% of the national budget.[29] Meanwhile the Great Depression began to move across the world and greatly affected Liberia. The price of rubber fell from 72 cents to five cents. Far from needing a million acres in Liberia Firestone took only 50,000.

To make matters worse for Liberia it was then accused by the United States, Great Britain, France and other countries of engaging in the slave trade to supply workers for the Firestone plantation, to the French colony of Gabon, and to the Spanish colony of Fernando Po. A case was lodged against Liberia before the League of Nations.

Labor supply for a modern industry such as the production of rubber resembles slavery because it is bound up with the clan

organization of the tribes. In the African tribe there is no individual labor contract. Only the tribal chief can allocate followers of the tribe to work, and this brings widespread misconception of slavery among those not conversant with African ethnology.

The Liberian Labor Bureau supplied laborers for the Firestone Company, and for this service labor fees were paid to the chiefs. Accusations were raised that important Liberian government officials were also involved in these transactions.

The United States drew Liberia's attention to the charges of slave trafficking in June 1929, and in September of that year Liberia agreed to allow an International Commission of Inquiry under the League of Nations to investigate these charges.

The Commission tabled its report in 1930. The Commission had made a thorough investigation and showed that household slavery existed among the more primitive Liberian tribes; that there were children involved; and laborers were recruited among these tribes and sent out of Liberia to Gabon, and Fernando Po. Furthermore, military power had been used in the recruitment process, and President Charles D.B. King (1875-1961), Vice President Allen N. Yancy (1881-1941) and some other government officials were involved in profit sharing from the proceeds of this slave trade.

Vice President Yancy was then impeached in the legislature and President King and other officials were compelled to retire from their offices. Edwin Barclay (1882-1955) was selected to complete President King's unexpired term as President. Barclay took the oath of office on December 3, 1930.[30]

Between 1946 and 1960 exports of natural resources such as iron ore, timber and rubber rose again strongly. In 1971, Liberia had the world's largest rubber industry, and was the third largest exporter of iron ore. After 1948, ship registration was another important source of state revenue. However, throughout the 1970s the price of rubber in the world's commodities market became depressed, which put further pressure on Liberian state finances.

During World War II thousands of indigenous Liberians migrated from the nation's rural interior to the coastal region in search of jobs.

The Liberian government had long opposed that kind of migration, but was no longer able to control it. Growing economic disparities caused increasing hostility between indigenous groups and Americo-Liberians. This eventually led to some social change in Liberia.

Towards the middle of the twentieth century the political, economic and social barriers that had been erected by the early settlers began to be removed by then President William Tubman (1944-1971) and his "unification policy." He tried to foster tolerance and a sense of oneness between the two groups of people in Liberia. To that end, in 1945 the Liberian Constitution was amended to extend voting rights to all adult, African males who paid the Government tax imposed on a household basis known as the "hut tax," and to provide for one representative in the Liberian Legislature for each of the three hinterland provinces.

This "Policy of Integration" was Tubman's greatest achievement in national unification. Under the policy Liberia's African population rose to the status of citizenship in that they themselves now managed their own affairs, administered their own courts, and chose their own representatives in the national legislature.

The collective occupancy of land in the hinterland was respected, and no property or educational qualifications were required for African voters. Despite these changes, the African people were, even by the end of 1960, still subjected to various political, economic and social incapacities usually associated with colonial status.[31]

During the Second World War, in 1942, Liberia and the United States signed a Defense Pact. Rubber was a strategically important commodity, and Liberia could assure the US and the Allies all the natural rubber they would need. Furthermore, Liberia allowed the US to use its territory as a bridgehead for the transport of soldiers and war supplies, to construct military bases, airports, to develop the Freeport of Monrovia, and build roads to the interior.

After World War II Liberia joined the US in resisting the expansion of Soviet influence in Africa during the Cold War. Liberian President Tubman was amenable to this policy especially because between 1946 and 1960 Liberia received more than $500 million in unrestricted foreign

investment, mainly from the US. From 1962 to 1980 the US donated $280 million in aid to Liberia.

In the 1970s, under Tubman's successor, President William R. Tolbert. Jr. (1913-assassinated 1980), Liberia tried to achieve a more non-aligned and self-reliant posture, establishing diplomatic relations with the Soviet Union, Cuba and Eastern bloc countries. On the other hand, Liberia supported American engagement in Vietnam.[32]

Unhappiness over government plans to raise the price of rice in 1979 led to protest demonstrations in the streets of Monrovia. Without consulting his own security forces Tolbert accepted military assistance from neighboring Guinea and ordered these troops to fire on the demonstrators killing 70. Rioting ensued throughout Liberia. A subsequent inquiry into the circumstances of the riot was inconclusive.

Finally a military *coup d'état* took place on the 12th April 1980. Tolbert was killed during the coup, and several of his ministers were executed soon afterwards. This marked the end of Americo-Liberian ascendency in the country.

The conspirators behind the coup were non-commissioned officers and other ranks of the Armed Forces of Liberia (AFL) who belonged to the indigenous majority of Liberia. Their leader was Samuel Kanyon Doe, a 28 year old, semi-literate Master Sergeant who belonged to a small ethnic community, the Krahn.

He had undergone a variety of training programs in the Army including one with the US Special Forces, also known as the Green Berets.[33] Like other indigenous Liberians, Doe resented the privileges and power enjoyed by the Americo-Liberians.

Doe and his co-conspirators established a military regime called the People's Redemption Council. They enjoyed good relations with the United States, especially after US President Ronald Reagan took office in 1981. Reagan augmented financial assistance for Liberia from the $20 million it had been in 1979, to $75 million and later to $95 million per year. Liberia became again a significant Cold War partner of the US. Doe agreed to a change in the mutual defense pact with the US which granted landing rights on 24-hour's notice at Liberia's sea and airports for the US Rapid Deployment Force.[34]

Doe survived seven coup attempts between 1981 and 1985. In August 1981 he had Thomas Weh Syen and four other PRC members arrested and executed for allegedly conspiring against him. Then, unexpectedly, Doe's government declared a pardon for all political prisoners and exiles, and released 60 political detainees.

But convinced that threats against him by his former confreres were real, Doe began to systematically eliminate PRC members who challenged his authority, and to place people belonging to his own Krahn ethnic community in key positions, which generated popular anger directed against him and his fellow Krahns. Meanwhile, the economy deteriorated precipitously, and popular support for Doe's government evaporated.

Doe and the PRC suspended the Constitution until 1984 when a new constitution was drafted and then approved by referendum. In 1985 he won a presidential election that was denounced as a sham by many observers.[35] Despite the flawed electoral process Doe only won by a narrow margin. As a result of his continued illegitimacy Doe was obliged to maintain his position by ever increasing levels of oppression.

He faced growing opposition both at home and abroad, where his regime was denounced as corrupt and brutal, and made the civil war beginning in the 1990s all but inevitable.[36]

Doe's use of his ethnic Krahn brethren as a palace guard and brutal security apparatus led to more violence, coup attempts, ethnically based reprisals, ultimately creating sufficient chaos in Liberia to induce Charles Taylor, an Americo-Liberian, to attack.[37] Taylor was a former cabinet minister in Doe's government. Accused of corruption, Taylor fled to the United States where he was imprisoned pending extradition back to Liberia, and escaped[38] to Libya where he and some confreres were trained in guerilla tactics which he put to use during his invasion of Liberia at the end of 1989.

Very quickly, Taylor's bid at a take-over led to the first, seven year long civil war which was characterized by total state collapse and a campaign of sadistic, wanton violence. By August 1990 President Doe had been tortured, mutilated and killed, and Taylor's armed faction, the National Patriotic Front of Liberia (NPFL), had split into a splinter faction,

the Independent National Patriotic Front of Liberia (INPFL), soon to be joined by several other new factions and what remained of the government army, the AFL. Amidst the confusion and carnage a West African Peacekeeping force, ECOMOG, was quickly assembled, led by Nigeria. This escalated the conflict into a regional one with ECOMOG exacerbating the war by arming and supporting Liberian splinter groups and effectively occupying Liberia for the next seven years.[39]

According to the annual report for 1996 of the US Department of State, which did not mince its words, the conflict was hellish.[40]

> The factions committed summary executions, torture, individual and gang rape, mutilations, and cannibalism. They burned people alive; looted and burned cities and villages; used excessive force, engaged in arbitrary detention…particularly of children under the age of eighteen; severely restricted freedom of assembly, association and movement; and employed forced labor.

Just as the timely resolution of the Ebola Virus Disease in early 2015 came as a happy surprise to many, so too was the Comprehensive Peace Agreement signed in Accra, Ghana, in August 2003 following 13 previous short-lived agreements. It was an unexpected resolution to what had become an increasingly intractable and violent conflict not only for Liberia but also for the rest of West Africa.

Prior to the intervention of the Economic Community of West Africa (ECOWAS) there was a lack of credible international response to the Liberian crisis.[41] Into this vacuum local actors responded to the evolving humanitarian disaster that threatened to engulf not only Liberia but also the entire area of the Manos River Basin (MRB). Hence the Inter-Faith Mediation Council (IFMC) comprising of the National Muslim Council (NMC) and the Liberian Council of Churches (LCC) marshalled resources and made serious efforts to restore peace and justice to Liberia.

ECOWAS initiated its effort to broker cease fires and peace agreements. Between November 1990 and August 1996 there were seven such ECOWAS sponsored agreements signed before the Cotonou Accord (July 1993) which until that time was the most complete and

thorough such treaty. Before the Cotonou Accord the ECOWAS sponsored agreements were the Bamako Ceasefire of November 1990, the Banjul Joint Statement of December 1990, the February 1991 Lomé Agreement and the Yamoussokro I-IV Accords of June-October 1991.[42]

ECOWAS was established in May 1975 as an organization to promote the economic development of the region of West Africa. For 15 years ECOWAS did not deviate from this mandate. But this stance changed in 1990 when the leaders of ECOWAS decided to intervene in the civil war that had broken out in Liberia. Its strategy to resolve the conflict followed two parallel but mutually interactive channels-making and enforcing peace. The former involved negotiations and arbitration. The latter involved the deployment in August 1990 of a 3000 strong multinational force to supervise the ceasefire. Nothing in the history of ECOWAS had prepared it for either of these roles.[43]

ECOWAS, like similar regional bodies, was not initially intended to be a collective security institution. At the outset it was seen as a mechanism for promoting regional economic integration.

The competing interests of Nigeria, the most powerful nation in West Africa and the creator of the ECOWAS Cease-fire Monitoring Group (ECOMOG), and those of Côte d'Ivoire and Burkina Faso brought to the fore long standing political tensions. This not only impeded the effectiveness of the whole peace process, but also strained the cohesion of ECOWAS.

The initial approach of ECOWAS was to create a standing mediation committee (SMC) comprised of the Gambia, Ghana, Mali, Nigeria and Togo with Guinea and Sierra Leone as observers. The mandate was to establish the facts in the Liberian crisis. On the advice of Nigeria the committee created an intervention force with troops from Nigeria and Ghana, and from Liberia's immediate neighbors, Guinea and Sierra Leone.

In 1970 France sponsored the formation of the Communité économique de l'Afrique de l'Ouest (CEAO) embracing the French-speaking countries of Burkino Faso, Côte d'Ivoire, Mali, Mauritania, Niger, and Senegal. From the perspective of Nigeria, CEAO was a neo-colonial organization aimed at intensifying the dependence of

francophone West Africa on France. In response it promoted ECOWAS as a way to bridge the colonial division of the region in order to enhance the potential for meaningful development.

The fact that nearly all the francophone members of ECOWAS had bilateral defense and security arrangements with France helps explain why Nigeria saw the hand of Paris behind the support being offered to the NPFL by Côte d'Ivoire and Burkino Faso as unacceptable. They also saw Charles Taylor as a protégé of Gaddafi, and therefore feared Libyan encroachment into West Africa. Neither France nor Colonel Muammar Gaddafi could be allowed to use the NPFL as a vehicle to further their interest in Nigeria's geo-political orbit. The intervention in Liberia was initiated because the war had developed, according to Nigerian Vice President Augustus Aikomu, the potential for "massive….interference and destabilization of the sub-region."[44]

ECOWAS' protocols on defense and non-aggression did not envisage conflicts like the one in Liberia. Nevertheless they were used to provide a legal framework for the peacekeeping operation. President Babangida of Nigeria noted that Article 52 of the UN Charter recognized the right of regional organizations to take action to maintain international peace and security.

Although Nigeria contributed most of the peacekeeping troops and nearly all of the $50 million operating budget, it allowed a Ghanaian, General Arnold Quainoo, to assume command. This was a tactical move aimed at de-emphasizing Nigeria's own political interest in dealing with Charles Taylor and the NPLF in order to demonstrate that ECOMOG was a collective operation.

In July 1990 the Standing Mediation Committee of ECOWAS met in Banjul, Gambia, with representatives of the Doe Government and Taylor's NPFL to discuss the proposals for an immediate ceasefire, to be supervised by ECOMOG, and the creation of an interim government to conduct elections in 12 months. At its second meeting on 6 August 6, 1990 the Committee decided to begin implementing the plan. Two weeks later the peacekeepers landed in Monrovia. At the end of that month under ECOWAS supervision various political parties and civilian interest

groups elected the Interim Government of National Unity with Amos Sawyer as President.[45]

The agreement was signed in Bamako, Mali, on November 28, 1990. This was the first substantive agreement to end the Liberian conflict brokered by ECOWAS. The three warring factions at the time: NPFL, INPFL, and the AFL all signed the agreement.[46] The ECOWAS peace plan had four overall objectives: (a) provision for conflict prevention and management; (b) an immediate ceasefire among warring parties; (c) a commitment by all parties to keep the peace and restore law and order; and (d) firm support to establish and deploy ECOMOG in Liberia.

Unfortunately, it soon became apparent that the key actors in the Liberian conflict at the time were not prepared to accept the terms of the ECOWAS peace plan. Doe refused to hand over his power to the Interim Government. Taylor not only ignored it, but also broke his promise to respect the ceasefire and ordered his troops to attack the peacekeeping force.

ECOMOG ought to have responded according to its mandate in a peace enforcement capacity. But this did not happen. This was mainly due to the absence of political will. The view that Nigeria was attempting to impose a unilateral settlement in Liberia was shared not only by the NPFL but also by the Francophone countries of ECOWAS.

Doe's death created an opportunity for new diplomatic initiatives to build an Anglo-francophone consensus for ECOMOG. Senegalese and Malian troops joined the force to reflect the community's diversity, and in June 1991 the heads of Côte d'Ivoire, the Gambia, Guinea-Bissau, Senegal and Togo were appointed as an ad hoc Committee of Five to help shift the responsibility for implementing the peace plan to the francophone states.

The next peace accord was signed at Lomé, Togo, on February 13, 1991. The presence of three francophone leaders at the talks, Blaise Compaoré of Burkino Faso, Moussa Traoré of Mali, and the host Gnassingbé Eyadéma as well as President Jawara of the Gambia who was attending the talks in his role as Chairman of the Standing Mediation Committee (SMC), marked a shift in the search for peace. Up until the Lomé talks the anglophone and francophone leaders had been

divided not only on where to hold the peace negotiations but also on the issues to discuss with the factions. For the first time all the factions at the time agreed to disarm to ECOMOG. Rather than endorse Sawyer's Banjul created and Monrovia based IGNU the meeting in Lomé proposed that an All-Liberian conference should be held in March 1991 to discuss the formation of a new broad based government acceptable to the majority of the Liberian people.

As in earlier agreements, Taylor again undermined the provisions of the Lomé Accord shortly after signing it. Taylor said he felt angry and cheated by the Lomé Accord and said that the meeting ought to have given him the presidency of the Interim Government because his forces already controlled 90% of the country. Taylor also stated he would not recognize the IGNU because it had been imposed on the people of Liberia by ECOWAS working in collusion with Liberian politicians who had no mandate from the Liberian people.

President Eyadema tried to save the Lomé Accord and convened an urgent reconciliation meeting from 27 February 27 to March 1, 1991. At the end of the meeting all the parties involved signed a joint declaration promising to cooperate with ECOWAS in planning and holding an All-Liberian Conference on March 15. The Joint Statement also said that the NPFL, INPFL and AFL, the three warring factions at the time, would refrain from taking any action that might be prejudicial to the arrangement being made to ensure the successful convening of the Conference.

As in previous agreements, however, Taylor continued to issue statements contradicting the provisions of the Lomé Accord. He also continued to violate the ceasefire by attacking ECOMOG positions.

The pre-Contonu diplomatic process was revived in June 1991 with the signing of the Yamoussoukro I Accord. This agreement secured an apparent rapprochement between the NPFL and IGNU and established the basis for the three later accords of the same name signed by these parties. Orchestrated by the late President Houphouët-Boigny of Côte d'Ivoire, the Yamoussoukro agreements were under-written by a newly formed ECOWAS Committee of Five which was led by the Ivoirians. They were also facilitated by the Atlanta based International Negotiation Network (INN) led by former US President Jimmy Carter.

At a series of meetings in Yamoussoukro, Côte d'Ivoire, and in Geneva, attended by Sawyer, Taylor and the leader of the latest rebel faction the United Liberation Movement of Liberia for Democracy (ULIMO) and the Committee of Five negotiated the so-called Yamoussoukro Accords.[47] On June 17, 1993 the IGNU, the NPFL, and ULIMO signed the Geneva II agreement which their leaders ratified a week later during the ECOWAS summit in Cotonu, Benin.

As usual, the agreement called for the disarmament and encampment of all rebel forces, and a ceasefire to take effect on August 1, 1993. Since the NPFL had made it clear that it would not surrender its weapons to the Nigerian-led ECOMOG, this process was to be supervised by a 300 member UN Observer Mission and by OAU troops from Tanzania, Uganda, and Zimbabwe which were dispatched to reinforce an expanded ECOMOG.

Mutual suspicion and recrimination meant that two issues were in contention: an acceptable formula for sharing political offices in the transitional government, and a strategy for disarmament. An all-party meeting held in Monrovia on February 15, 1994 resolved the first of these problems in the so-called Triple 7 Agreement, making it possible for the Liberian National Transitional Government (LNTG), chaired by Professor David Kpomakpor, to assume power on March 7, 1994.

No solution could be found for the more important question, the strategy for disarmament. The LNTG could not, therefore, exercise power beyond the confines of Monrovia. Taylor's forces now controlled 95% of Liberia.

The Cotonou peace process was also important because it set the stage for a major involvement of the international community in finding a lasting solution to the Liberian crisis.[48] The United Nation became involved in the peace process through the appointment of Mr. Trevor Livingstone Gordon-Somers by the UN Secretary General in November 1992 as his special representative to Liberia. The Special Representative of the Secretary General (SRSG) after his appointment sought consensus on possibilities of UN involvement in the Liberian peace process. The countries visited by the SRSG included Benin, Burkina Faso, Côte d'Ivoire, the Gambia, Guinea, Nigeria, Senegal and Sierra Leone. The

SRSG outlined three main areas in which the UN could play a role: political reconciliation, humanitarian assistance and electoral assistance. The OAU was represented by Reverend Cannan Banana who also involved himself in the UN-led negotiations leading to the signing of the Cotonou Agreement.

The Cotonou Peace Agreement was signed by all warring factions on July 25, 1993 in Cotonou, Benin, after the UN-sponsored peace talks held from July 10-17, 1993 in Geneva, Switzerland.

This agreement was the most comprehensive accord that had been signed until that time in efforts to end the civil war. All subsequent agreements merely clarified or amended it.[49] The agreement made provision for a schedule of implementation (an Implementation Agreement), and contained 19 articles on the ceasefire, disarmament, demobilization, the structure of the transitional government, elections modalities, repatriation of refugees, and general amnesty. The agreement was facilitated by ECOWAS in collaboration with the United Nations and the OAU. It was signed by IGNU, ULIMO, and the NPFL whose military setbacks including Operation Octopus launched on October 15, 1992 had forced their return to the negotiating table.

Though detailed and comprehensive, the Cotonou Agreement was undermined by logistical and financial shortcomings coupled with the delayed deployment of UNOMIL, and the new battalions of ECOMOG responsible for monitoring the implementation of the agreement. The logistical problem and financial shortcomings of ECOWAS could be partly explained by the exit from power of the Nigerian President General Ibrahim Babangida who had been very much committed to the Liberian peace process and had supported ECOMOG since its initial intervention in Liberia in 1990. This delay allowed ULIMO to split along ethnic lines into ULIMO-K and ULIMO-J and for the AFL sponsored Liberian Peace Council (LPC) and the Lofa Defence Force (LDF) to emerge by the end of 1993. The appearance of these new warring factions raised new challenges for the Cotonou Peace Agreement given the fact that these factions had been neither foreseen nor accommodated for in the original peace process.

Burkina Faso continued to back the NPFL while Nigeria, Guinea, and Sierra Leone continued to associate themselves with ULIMO and the LPC. All these factors made it difficult for the LNTG to function effectively.[50]

The arrival of UNOMIL in September 1993 along with peacekeepers from within and outside of the ECOWAS region (from Tanzania and Uganda) in January 1994 failed to achieve the disarmament of the warring factions. The three remaining agreements (the Akosombo Agreement, Accra Clarification Agreement and the Abuja Accord with its supplement) amended, clarified and supplemented the comprehensive Cotonou Agreement.

In September 1994 at a peace conference in Ghana sponsored by the UN Special Envoy, two of the armed factions – Alhaji Kroma's ULIMO K and Charles Taylor's NPFL – and General Hezekiah Bowen, the AFL Chief of Staff, signed the Akosombo Accord. Whereas previous agreements had maintained the principle that none of the war lords would be rewarded with political office in the transition program, and that they had to seek power in popular elections, the new accord now allowed them to participate directly in the transitional government. The reasoning behind this was that this was the only way to achieve effective disarmament, the major stumbling block to ending the conflict.

The Akosombo Accord was fatally flawed in its conception and composition.[51] It excluded the LNTG and other civilian members of the National Conference, not to mention the other armed factions, ULIMO J, the LDF, the LPC and the NPFL dissidents. Furthermore the AFL was supposed to be the national army and therefore under the control of the government, but its chief of staff, General Bowen, was treated instead as the leader of one of the warring factions.

A new agreement was expected to remedy these anomalies. It was signed on December 21, 1994 and was called Akosombo II. While maintaining the philosophy of the previous accord it expanded its composition to embrace other civilian groups and armed factions. It created a five-member Council of State to be constituted by the leaders of the NPFL, the unified ULIMO, a neutral member to be appointed jointly by both forces, and one representative of the National

Conference and an amorphous group called the Coalition made up of the AFL, the LPC, the LDF and the NPFL dissidents.

The Council was scheduled to be inaugurated on January 14, 1995 following the establishment of a ceasefire on December 28, 1994. The primary responsibilities of the Council of State were to co-ordinate the disarmament and reconstitution of the military forces with ECOMOG and prepare the country for elections in November.

Like its precursors, Akosombo II was also derailed. The inauguration could not take place because the factions were unable to agree on the representatives.

West African states, and, indeed, the entire international community, had become increasingly frustrated with the failure of all 12 previous peace accords. The players in the Liberian conflict had also apparently run out of options and were unable to offer any new initiatives when they met the Committee of the Nine in Abuja in May 1995, even though the ECOWAS leaders had made it clear that this meeting offered the last opportunity for a peaceful resolution of the conflict.[52]

Thanks to the intervention of the late Sani Abacha, then President of Nigeria, and President Jerry Rawlings of Ghana, the Abuja agreement of August 19, 1995 was agreed to at an all-party conference attended by all the Liberian leaders at the time. Although the Abuja agreement was based on the framework and implementation mechanisms worked out for Akosombo II it increased the membership of the Council of Five to six, five of whom were given equal status as vice chairmen: Charles Taylor, Alhaji Kromah and George Boley. As well, two civilians, Oscar Quiah representing the Liberian National Council and Tamba Taylor, a 90 year-old paramount chief were included in the Council. Under pressure from Abacha and Rawlings, the three war-lords nominated Professor Wilton Sankawulo, a neutral in the conflict, as the Chairman.

Under this new agreement, the AFL reverted to its original status as the national army, which meant that neither Bowen nor Tom Woewiyu, a former nominee of the coalition, could be a member of the Council of State. Bowen, Woewiyu, Roosevelt Johnson of ULIMO and François Massaquoi of the LDF were compensated with ministerial positions in

the 16 member cabinet along with the other factional leaders who had signed the new agreement.[53]

The new Liberian National Transition Government (LNTG) charged with the responsibility for disarmament, national reconciliation and national elections, was inaugurated in Monrovia on September 2, 1995 amid much public rejoicing.

The peace process as envisaged in the Abuja Accord involved agreement among the six factions and the Government of Liberia to disarm and demobilize the rebels, to establish a transitional government that included the main warlords, to accept verification by ECOWAS and the United Nations and to hold internationally supervised elections

One distinctive feature of the Abuja agreement is that members of the Council of State could contest the elections scheduled for August 1996 if they had vacated their seats three months earlier and they could name their own replacements. Only the Chairman of the Council was barred from contesting the presidential and parliamentary elections.[54]

In August 1997, after winning with a 75% majority an election that was deemed to be relatively free and fair Charles Taylor was inaugurated as Liberia's President. This ended the seven-year war that had preceded this election which had set off another deadly civil war in Sierra Leone and caused instability in Côte d'Ivoire and Guinea.

The paradox of the apparently successful 1995 Abuja Accord was that a second civil war broke out in Liberia in 1999.

Three months after Taylor's election, the UN mission declared its mandate fulfilled, and then departed. The ECOMOG troops returned home a year later.[55] In his final report on the mission to Liberia, the UN Secretary-General celebrated: "the successful peace process" and the ability of "the international community to assist in bringing peace to Liberia."[56]

Two years after this declared success, in April 1999, rebels based in Guinea launched attacks on the Liberian town of Voinjama in Lofa County. This marked the onset of what would become Liberia's second civil war.

The main rebel groups in this war were the Liberians United for Reconciliation and Democracy (LURD), made up of many former

members of ULIMO-K, and later the Movement for Democracy in Liberia (MODEL).[57] The formation of LURD was motivated by its members' opposition to what they viewed as a persistent pattern in the Taylor government of ethnic bias, political exclusion, human rights abuses and corruption.[58]

In addition to the April 1999 attack near the Guinean border, the Government of Liberia claimed that a second attack in August 1999 led to the capture by LURD of five towns in the northern county of Lofa.

This unfolding situation was of serious concern to ECOWAS, which engaged itself in diplomatic efforts to address the crisis. Meanwhile the United Nations created the International Contact Group in Liberia (ICGL) on September 17, 2002 at its headquarters in New York. International attention began to focus once again on Liberia. The ICGL was tasked with finding the ways and means of ending the conflict through a ceasefire agreement. As co-chair with the European Union, ECOWAS tried to begin the negotiations for a renewed peace process in Liberia.[59]

The ECOWAS Executive Secretary initiated talks with LURD and representatives from President Taylor's National Patriotic Party (NPP). LURD was determined not to accept any cease-fire agreement that left President Taylor in power. LURD's initial reluctance to accept a ceasefire led to various meetings to agree on a framework for peace talks.

Meanwhile a group had broken away from LURD which added a new complexity to the renewed Liberian conflict. The group known as the Movement for Democracy in Liberia (MODEL) invaded Liberia from Côte d'Ivoire in the south west.

Following MODEL's attack, political opposition groups and rebel forces called for the postponement of the elections scheduled for October 14, 2003. This prompted a joint United Nations, African Union and ECOWAS response calling for a multi-party needs assessment in Monrovia in May 2003. This committee concluded that the prevailing conditions were not conducive for holding elections in October. That meant the only option left was an unconditional cessation of hostilities and the convening of peace talks.

The Accra Comprehensive Peace Agreement (CPA) was signed on August 18, 2003 in Accra, Ghana, and brought to an end the second

Liberian civil war. It followed the signing of the Accra Ceasefire Agreement on the June 17, 2003, the fruit of intensive negotiations, which had begun on June 4 at Akosombo in Ghana.

The CPA called for the establishment of a post-war transitional government which consisting of 76 members: 12 each from the three warring parties; 18 from political parties; seven from civil society and special interest groups and one from each of Liberia's 15 counties. LURD, MODEL, the opposition parties and civil society groups agreed to share ministerial portfolios and employment opportunities in the cabinet and parliament. Elections were to be held no later than 2005. The former Head of State of Nigeria, General Abdulsalami Abubakar, facilitated the negotiations that led to the agreement.

During the peace talks, the Special Prosecutor of the Special Court of Sierra Leone, David Crane, announced the indictment of Charles Taylor for war crimes committed during Sierra Leone's 11 year civil war.

David Crane described his decision to unseal the indictment as a deliberate move to discredit Taylor in front of his West African colleagues, and to make it impossible for him to continue to play a role in the peace talks. He thought it was important to do this at the beginning of the talks so that everyone involved would be aware of the charges, which would suggest that Taylor would not be an appropriate partner or sponsor for any peace deal. Given Taylor's record of violating previous peace accords and also evidence that a shipment of more arms was soon to arrive for Taylor's forces in Monrovia, Crane felt sure that unsealing the indictment would support the peace process. If he had thought otherwise, he would have postponed unsealing the indictment. But he also knew it was uncertain whether Taylor would actually be handed over to the Court by the Ghanaian authorities.[60]

It seemed unlikely at the time that Ghana would hand over Taylor to the Court. He was in Ghana as a guest of the government there, and his removal would have been a violation of African hospitality. West Africans saw the indictment in political terms. "Africans would never have allowed Europeans and Americans to come to Africa and arrest a sitting president," said one rebel faction leader.[61]

The indictment order nearly destroyed the ongoing peace talks, given the uncertainty of Taylor's status and possible arrest. This led to Taylor's immediate departure from Ghana back to Liberia. The peace talks were relocated to Akosombo in Ghana where the warring parties were invited to study a draft ceasefire agreement prepared by ECOWAS, the United Nations, Ghana and the United States. LURD capitalized on Taylor's indictment by attacking Monrovia and in the process escalated the conflict into a serious humanitarian crisis.

As part of its mediation efforts, an ECOWAS mediation team arrived in Monrovia on June 17, 2003 to enter into discussions with President Taylor. These talks eventually yielded some results among which was the ceasefire agreement negotiated on June 30, 2003 and which called for the formation of a national government within 30 days of the ceasefire. It also stipulated President Taylor's exclusion from the transitional government. But like other cease fire agreements before it, this one held for less than a week before the launch of an attack that brought the rebels into Monrovia's industrial area.[62]

The June 17 Ceasefire Agreement between LURD, MODEL and representatives of the Taylor government called for a West African led "Stabilization Force" of more than 2000 troops to be on the ground within 60 days of the signing of the agreement.

Parties in the peace talks finally signed the CPA on August 18, 2003 after more than two months of ECOWAS mediation and negotiations. The CPA meant an immediate end to the war and provided for the establishment of a national transitional government for Liberia.

Liberians celebrated the tenth anniversary of the signing of the CPA in August 2013. Since the CPA was signed there have been a number of indicators that after so many failed attempts at establishing cease fires and peace accords, some measure of success had been achieved and the dire predictions that Liberia would end up as a failed state were proven wrong.

Two positive benchmarks stand out: two free and fair presidential and legislative elections in 2006 and 2011 have taken place and there is an ongoing reform of Liberia's security sector.

Before the leaders of LURD, MODEL and the Government of Liberia met in Accra in 2003 the word "intractable" had been used to describe the situation in Liberia following the failure of the Abuja Accord and the onset of the second civil war in 1999.

Two reasons seem to have been crucial to the success of the CPA. First, there was Charles Taylor's resignation as President following his indictment for war crimes by the Special Court in Sierra Leone. And, secondly, the various leaders of the two warring factions accepted offices in the transitional government and a truth and reconciliation commission in lieu of trials for war crimes.

While the past 12 years following the CPA have been by no means easy, until the onset of the Ebola Virus Disease crisis in 2014 the notion that Liberia could be described as a failed state has not been discussed.

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Chapter 4

How the Ebola Fight Was Won in Liberia

As 2014 neared its end things looked bleak for Liberia. Miatta Zenabu Gbanya, Head of the Health Care Sector Pool Fund, a health care financing scheme, remembers this time well:

> July, August, September—hoo! We lost the best we had. We spent a lot of nights crying and a lot of mornings saying, 'We must go ahead.' Even at the ministry there were days when we were just too worried. There were dead bodies everywhere! Our phones never stopped ringing, Ambulances all night! For eight months, none of us slept.[1]

The worst case scenario projected for EVD was 1.4 million cases by January 2015.[2] The new cases spawned by an infected individual were 1.2 to 2.2. While this is a serious threat it is much lower than that of many other communicable diseases such as measles. Measles is so contagious that if one person has it, 90% of those close to that person who are not immune will become infected.[3]

Hypothetically the epidemic would begin to diminish in intensity and eventually come to its end if approximately 70% of those with Ebola were in medical care facilities or ETUs. If these settings were at capacity, seven out of 10 persons testing positive for Ebola would be in a non-ETU setting with a reduced risk for disease transmission. These settings might include quarantine in the community or at home. In another hypothetical model every 30-day delay in increasing the percentage of patients in ETUs to 70% was associated with an approximate tripling in the number of daily cases that occur at the zenith of the contagion; however the EVD crisis would still eventually end.[4] Starting an intervention on September 23, 2014 such that initially the percentage of all patients in ETUs are increased from 10% to 13% and thereafter including steady rises until 70% of all patients are in an ETU by December 23, 2014 results in peak of 1,335 daily cases and <300 daily

cases by January 20, 2015. Putting off the start of the intervention until October 23, 2014 results in the peak increasing to 4,178 daily cases. Delaying the start further, until November 22, would result in 10,184 daily cases by January 20, 2015.

By August 31, 2014, a total of 3,685 probable, confirmed or suspected cases in West Africa had been reported. If these developments had continued without a significant increase of effective interventions, by Sept. 30, 2014 Sierra Leone and Liberia would have had 8,000 cases. A possible underreporting correction factor of 2.5 was also included in these estimates. Reported cases in Liberia were doubling every 15 to 20 days.[5]

These dire predictions failed to occur. Beginning sometime in September 2014 the situation began to change. Ebola virus epidemics are regulated by quickly separating symptomatic persons, locating their contacts, interring or cremating victims, and changing public behavior toward better defensive practices. These measures intended to control infections necessitated not only increased medical and hospital or ETU capacity but also the backing and collaboration of the public.[6] During the Ebola outbreak in Monrovia prevention included (1) a sharp increase in the quantity and specificity of community based training to prevent Ebola infection; (2) improved hygiene, sanitation and the distribution of cleaning and protective materials; (3) the creation of a system of surveillance; (4) safely transporting infected individuals from the community into hospitals and ETUs; (5) removal of the dead; and (6) establishing a community-based infrastructure to care for people who were sick with Ebola.[7]

The narrative of 22 year old Fatu Kekula underlines the urgent need for enhanced medical and hospital capacity. An almost iconic figure representing the movement towards wide-spread social mobilization this young woman operated an ETU in her own home where her father, mother, sister and cousin fell ill with Ebola. Singlehandedly and without contracting the virus herself, she fed them, cleaned them and gave them their medications. Three out of four members of her family survived thanks to Fatu’s nursing care.

Fatu's own survival was despite the fact she did not have the personal protective equipment (PPE) including goggles that had become crucial to patient care in Ebola treatment units.

Fatu, who is in her final year of nursing, designed her own equipment. Several times every day, for several weeks, Fatu put green garbage bags over her stockings and tied them over her calves. She wore a pair of rubber boots with another set of garbage bags over the boots. She covered her hair with a pair of stockings and over that put another garbage bag. Finally she put on a raincoat, four pairs of gloves, and a mask. All of this took a long time, but Fatu never cut corners.

Fatu had called for an ambulance asking for help during these two weeks. None came. "No one came near me. No one! I were (sic) all alone, all alone," she said.[8]

UNICEF spokeswoman Sarah Crowe described Fatu as amazing. "Essentially this is a tale of how communities are doing things for themselves. Our approach is to listen and work with communities to do the best they can with what they have."[9]

Fatu Kekula had to improvise her Ebola containment equipment out of necessity. Ideally a community with well-financed health care resources would not be reduced to making use of trash bags as protective equipment. Such a community was the Firestone plantation in Harbel. On March 30, 2014 the Ministry of Health and Social Welfare (MOHSW) of Liberia alerted health officials at Firestone Liberia Inc. of the first confirmed case of EVD inside the Firestone rubber tree plantation.

To prevent a large outbreak among Firestone's 8,500 employees, their dependents, and the surrounding population, the company responded by:

1. Starting an event supervision structure;
2. Beginning measures for the timely identification and separation of Ebola patients; insisting on observance of ordinary Ebola infection rules, and
3. Delivering varying degrees of supervision for contacts depending on their exposure, including possibilities for voluntary isolation in the home environment or in specialized facilities.

Most importantly, the company created a vigorous threat communication, deterrence, and public deployment operation to enhance community consciousness of EVD and information of how to stop its spread. The social mobilization made use of wireless communications and public gatherings.

Among the 121 communities in the Firestone plantation area, 110 community supervisors and an additional 360 influential community leaders were trained and financially compensated to serve as community leaders in identifying suspected Ebola cases. Some community members self-reported signs and symptoms of Ebola, encouraged by high community acceptance of the quarantine and patient treatment facilities. This was met with success thanks to the education, social mobilization and reintegration programs, as well as the visibility of supervisors and leaders in the community.

During August 1 to September 23, 2014, a period of intense EVD transmission in the surrounding areas, 71 cases of EVD were identified among the 80,000 Liberians for whom Firestone provides health care. About 57 of the cases were verified in laboratories, with 38 resulting in death.[10]

The WHO has underlined the lessons learned from the success of the Firestone community in containing the EVD epidemic. Communication and social mobilization are central elements in the response to the current Ebola outbreak.[11] There is an urgent need for practical messaging and engagement of individuals, families and key stakeholders in a community.

These messages should inform individuals, families and communities in clear, practical terms, about how they can minimize their risk of catching the disease, and help them to support their families and community members safely and humanely.

The WHO presented clear guidelines for communication on Ebola during an EVD outbreak. These include:

- Transparent and simple messages in the mother tongue of the target group;
- Communication of the same messages to avoid confusion and rumors;

- Precise, clear and simple language;
- People trusted by the community should be responsible to pass the message to others;
- Health education program for Ebola survivors.[12]

A principle on which these efforts are based is to change risky behavior related to traditional practices and misinformation. Messages designed to correct perceived misunderstandings include: Ebola is caused by a virus. Ebola is not caused by a curse or by witchcraft;[13] "science and medicine are our only hope"[14] ; "traditions kill"[15] . Such messages follow logically from clinical and epidemiological presentation of the contagion. However, they pay little or no attention to the historical, political, economic, and social contexts in which they are delivered.[16]

Several questions could be raised concerning some of the assumptions made about Ebola mobilization strategy prior to the Firestone success. First, will improving biomedical knowledge of Ebola lead to the desired behavior changes? Efforts to change what people do through biomedical information can be ineffective. Biomedical information on risk might not have much relevance to those trying to care for sick loved ones or to attend to the dead. Community priorities need to be considered when attempting to influence health related activities.

Second, should local activities be considered as "exotic behavior"[17] ? Caring for the sick fundamentally is a practical activity. Public health framings of Ebola, however, often portrayed caring practices as irrational.

In Liberia and Guinea burial practices are not irrational vis å vis the population's own thinking. Guinea has passed laws against transporting bodies of Ebola victims, but some were getting around these restrictions any way they could. There were reports that residents of Guinea were transporting bodies to Liberia on public transport to get them back to their home villages. In some cases, they were sitting the deceased erect wearing dark glasses in a taxi between other passengers to make it look like he or she was still alive.[18]

The practice of burying the dead in consecrated soil is deeply rooted in Liberian culture. But burial rituals carry great risks of spreading Ebola from the dead to the living. During the peak of the outbreak, the GoL decreed that all dead bodies should be cremated because of both lack of space in the existing cemeteries and the risk of transmission of the pathogen. The number of secret burials rose. Some of these were victims of Ebola. The transmission of the virus continued unabated. Relatives who washed and dressed bodies according to traditional practices were infected by the deadly disease.

The only way to put a stop to the practice of hiding bodies and burying them in secret was to start burying the dead openly, in a safe and controlled way. The GoL decided the dead should be buried by specially trained burial teams. The community of Disco Hill, near the international airport of Monrovia, designated a parcel of land as a final resting place.[19]

This step was an important one for families who wanted a dignified funeral for their loved ones. These funeral practices incorporate procedures to distribute inheritance and to ensure the deceased an afterlife. Failure to conduct funerals correctly may cast family members in a negligent light or foster suspicion of malicious causes of death.

Funerals are important social events. It is not an individual who organizes a funeral. It is the family/household as a united group. Families usually use funerals to get support from and solidarity with the community.[20] These concerns can override health considerations. Genuine respect and empathy for the bereaved precludes inflexibility.

As well as developing a safe and dignified burial process for Ebola victims it was also important to raise social awareness about how the disease was spread, and to ensure that families made the all-important call to health facilities when someone was sick or had died was critical. Social mobilization workers went door to door across Liberia to raise awareness. Two targeted radio dramas focusing on safe burials developed by UNICEF were aired on radio stations.[21]

Third, how helpful is the message that biomedicine is the only effective way to understand and respond to Ebola? Health facilities have been the source of Ebola transmission and many patients admitted to

treatment centers do not survive. How can trust and collaboration be established if local people are expected to accept ideas that are not consistent with their own observations and experiences?

Fourth, are standardized public health messages about Ebola appropriate? Protocols are often developed at national or international levels rather than collaboratively with the people who are expected to change their behavior. Standardization that aims to deliver "right" or "correct" health information does not encourage adaptation, does not encourage engagement with social realities, and ignores how people will interpret public health messages according to the local political and social circumstances in which they live.

Health care actors who have the task to ask people to change practices and activities associated with Ebola transmission should be permitted the time and flexibility to negotiate mutually agreed changes that are locally practical, socially acceptable, as well as epidemiologically appropriate. Respect for the local population and its priorities are not optional.[22]

In a Kissi community an Ebola response team ran into opposition over the burial of a mother carrying a fetus. This represents a transgression of the socio-ecological orders that could harm those left behind.

The removal of the fetus was too risky for the medical teams. Village discussions organized by an anthropologist revealed that the transgression could be mitigated with a reparation ritual. A very old man in the village had inherited the ritual involving a goat, 12 yards of white tissue, salt, oil and rice. The World Health Organization provided these resources for the ritual and the woman was safely buried.[23] This example indicates that respectful dialogue can successfully address both public health and community concerns.[24]

An important grass roots study conducted in September 2014 in Monrovia, one of the epicenters of the Ebola outbreak, illustrated the local coping strategies and methods of community mobilization and included findings from 15 focus groups with 386 community leaders.[25] This study found that the situation of urban Liberian communities, faced with the systematic failures of the initial state and international

response to the epidemic, gave rise to the local communities' own strategies and recommendations about how they contained the EVD outbreak. These local communities used multiple coping strategies in the absence of health, infrastructural and material support. At the micro-social level the people engaged in self-reliance.

They considered their innovations as necessary, but as less desirable than a well-supported health-systems based response; and involved considerable individual, social and public health costs, not least of which were vulnerability to infection.

The declining rates of Ebola infection were due, in large part, to local concurrence with safe burials and the deployment of communities to segregate and send individuals to Ebola response teams, ETUs, and community care centers. For example, one case-finder in West Point, Monrovia's largest slum, stated: "The virus is in the community, and the best way to take it from the community is for the community itself to take charge."[26]

Community leaders felt they had a good grasp of the causes of Ebola and its transmission. The challenges that they confronted or anticipated pertained to their uncertainty about how to act in response to the health sector failure. They called for training methods that would make the health messages more understandable and effective (e.g. by using local languages, video, door to door education, or billboards). Their concern was that people believed in Ebola and knew enough to be frightened of it, but did not know enough to act effectively in the absence of an operational Ebola medical response procedure or a strong health care sector. One person put it in this way: "We have heard the messages, but most people do not know how to practicalize them."[27] Consistency of messages and efficiency of message delivery were highlighted as critical issues. Community leaders felt the need on a daily basis to interact with their communities and for the messages they were communicating to be correct or at least similar.

To prevent the incidence of Ebola in their communities, community leaders argued that increased attention to cleanliness would reduce the spread of the virus through bodily fluids. Private and public toilets were a center of their unease. They asked that the GoL, NGO and bilateral

support include the delivery of buckets, ash, and bleach for washing the latrines, and locally obtainable personal protective equipment (PPE) gear like raincoats, rain boots and bags. Some participants demanded the same PPEs as those given to the medical doctors and nurses.

Community leaders also called for heightened inspection efforts. "There was a strong community; we keep watch over each other."[28] A four-tiered system of scrutiny was designed to prevent the introduction of the pathogen into the community, facilitate reporting, spread information, sustain house to house checking and support reporting when community members were non-compliant with EVD avoidance procedures that the community had worked out.

Level 1—Barring strangers coming into the community; forbidding guests from sleeping in one's home and ordering a 21 day waiting period for those who wished to move into the community to ensure that they were Ebola free.

Level 2—Formation of a community task force to insist on the exclusion of strangers and take up a leadership role in prevention.

Level 3—The block watch team. Block watchers could go house to house to check on the sick, transfer new cases to health facilities and see efforts to conceal sickness or burial.

Level 4—Individuals within households were expected to supply their own domestic surveillance for EVD by reporting cases of illness within their homes, getting themselves or their family members far away from the possibility of contagion upon finding sick individuals and even isolating themselves so as not to contaminate family members.

The splitting up of work suggested in community surveillance was implicitly-and often overtly- based on masculinity or femininity. Women and men were both included in community governance of the focus groups. Their reports suggest that men were supposed to serve on community task force teams, block watch teams or community action teams to keep visitors out and to engage in informing and whistle blowing. There was some concern about remilitarization, aggressions and destabilization due to the gendered nature of the separation of labor. This was proven true during the West Point riots in Monrovia. The enlistment of young men in a range of military and surveillance-like

tasks can turn rather quickly into a remilitarization of the social organization.

Women were expected to engage in surveillance in homes, to watch over the physical wellness or illness of family members while they did the laundry, dressed and sustained children, spouses, siblings, and the elderly and to nurse the sick. The task of domestic surveillance of women caring for those within their households might have put them at greater possibility of contamination, especially under quarantine and isolation circumstances, while men were more likely to be infected outside of the home (e.g. through transportation activities).

Most significantly, community leaders argued that considerable investments in local organizations and methods were required to prevent the spread of the contagion. They requested government and other organizational support to create holding bases to serve as temporary sites for the sick and dead while anticipating the arrival of Ebola response teams and/or burial teams. They wanted a hotline system that would concentrate on quick response to local communities' calls to place sick people in hospitals and ETUs and to remove bodies. They recommended establishing a well- staffed call center, mobile clinics, establishing more diagnostic centers and more ambulances. They advocated educating additional health workers and burial teams. Community leaders demanded that these health workers should be remunerated with salaries and given adequate benefits.

Community mobilization did not happen only in urban centers like Monrovia. Laurie Garrett describes how she found village chiefs taking control in rural settings. They ordered families to bring out their sick and dead, commanded safe burials, and searched for ways to feed quarantined households. During a visit she made to Jene Wanda, a small Liberian town of 300 inhabitants near the border of Sierra Leone, Chebo Sano, the chief, who happens to be a woman, directed young men to dig a water source and build a barrier to enclose a newly renovated clinic made of wattle, or material used to make fences and walls, and thatch. This three room Ebola community care center was designed to keep a dozen people in isolation.

Cheno Sano did not wait for the GoL or a group of non-existent physicians to help them. She knew that her people's scourge could only

be stopped if the diseased were kept apart from the rest of the population…She simply took the tough quarantine steps that eventually stopped Jene Wanda's agony which had already cost 10% of its population.[29]

Community based quarantine was identified as the best available strategy. Quarantine required careful oversight and supply of resources —food and water supplies, medical, hygiene and PPE distribution, case identification and information, multi-level communication/ information, and patient and corpse transportation.

Liberia declared a state of emergency on August 7, 2014. By August 11 the counties of Bomi, Lofa, and Grand Cape Mount were under quarantine. In Liberia a quarantine was imposed on any contact with EVD: all exposed, confirmed, probable and suspected cases. Those persons involved remained in quarantine until: a) 21 days had passed without symptoms; or b) there had been two negative laboratory tests from the original suspected case; c) an illness consistent with Ebola occurs, requiring isolation.

Quarantine differs from isolation. All suspected and probable EVD cases were immediately isolated in an Ebola dedicated facility until they received results from a laboratory test that they were not or no longer were EVD positive. There is no debate about the use of isolation, but there is a significant dispute about quarantines and curfews.

On August 20, 2014 curfews were imposed, and the West Point slums in Monrovia were completely sealed off. This sparked violent clashes between security forces and West Point residents. During a joint security operation using live ammunition to enforce the quarantine one civilian was killed and two others were injured. Responding to the negative repercussions from this incident and other large scale forced quarantines largely orchestrated by the military the GoL changed its tactics. "Remember West Point" became a watchword among stakeholders. One source said that force breaks down the trust required for social mobilization and community engagement, all key components of successful quarantines.

In September 2014 task forces were set up in districts and engaged with local communities, involving leaders such as the West Point Elders,

to help implement and structure quarantines.

There was a greater reliance on self-quarantines based on reports and decisions from the affected communities. This was seen to improve conditions, although there were reports of local community members denying access to water and other basic provisions to quarantined people. The timely and reliable delivery of resources (e.g. food/water) and expertise (e.g. contact tracing/safe and dignified burials) was cited as an intrinsic part of building community engagement. The communities' understanding of the benefits of quarantine and its role in stopping the outbreak is also essential.

Among the 'lessons learned' about quarantines the most important is that the community-led, self-imposed quarantine was considered by all sources interviewed to be the most important factor when deciding about the success or failure of a quarantine. Quarantines have been most effective not at a district or individual level, but at a community level, orchestrated by local and religious leaders.[30] Coercion had come to be viewed as counterproductive.

Stigmatization has been a persistent problem throughout the outbreak. It was felt that quarantine brings shame and stigma on people. There were also persistent reports of infected bodies being transported and unsafe burials being conducted to avoid cremation of the remains.

In the EVD outbreak in Liberia, the two major emergency disease-control measures used were cremation of bodies and enforcement of quarantine on asymptomatic cases. These were presented as the only methods to curtail EVD transmission as soon as possible. However, as with quarantines imposed by security forces, enforced cremation elicited negative reactions within the communities.

Participants in 45 focus groups in seven neighborhoods in Monrovia and five villages in Grand Cape Mount County as well as 30 semi-structured interviews revealed how cremation amplified the community collapse that had begun with compulsory segregation for the illness. Socio-economic gulfs were generated by unequal organization of the deceased.

Those who could pay off the interment units managed to obtain a funeral in a private grave yard or used funeral homes. Conversely, those living with economic difficulties were compelled to send their dead for cremation.[31] Similarly, state imposed quarantine with an obligatory prevention of travel created censure, reinforced stigmatization and created serious socio-economic suffering.

Provisions were dispersed sporadically and some dwellings shared toilets with non-quarantined neighbors. Breakouts from the compulsory quarantine facilities happened. Study members related how they used local measures of containment through their own task forces and socially rooted restrictions on outside visitors. They also insisted that communication that was not disseminated properly built up rumors and mistrust.[32] There was also the question of the tone taken in communicating this information.

Early in the EVD crisis, some fear-based messages made people feel powerless, hopeless and unable to act. What was needed in these messages was a tone that encouraged the population's belief in their own ability to succeed in defeating the EVD epidemic.[33]

Community engagement has proven not only to be crucial for containing the transmission of the Ebola pathogen, but also for dealing with a number of abnormal conditions resulting from of the progress of the disease while tracking its progress through Liberia. These include the 70,000 babies born during the epidemic whose births have not been registered and who therefore risk being deprived of social benefits. The "Ebola Orphans" suffered the stigmatization and health issues of survivors. Finally EVD left long-term psychic residues on workers during the epidemic, such as members of the burial teams. All of this will be dealt with in the following chapter.

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Chapter 5

The Legacy of Ebola

Fighting Ebola is one thing; but the human consequences of Ebola are its own horrific tragedy. The legacies of Ebola in Liberia appear to be drastic and long-lasting. Four critical issues can be underlined: (1) the care and management of the Ebola orphans or children who have lost one or both parents to Ebola; (2) the reintegration of Ebola survivors into local communities; (3) the long term health prospects of these survivors; and (4) psychosocial issues of Ebola workers such as burial teams.

In their single-room home in a Monrovia back ally, 16 year-old Promise Cooper and her three little sisters slept near their father's dead body for three days. Although Promise pleaded for help, their neighbors turned away from them because they had heard reports about their ill father and feared the four children might infect them with the virus.

In due course health officers confiscated the corpse, along with the Coopers' possessions including their bed linen and clothes, and then sterilized the home with chlorine aerosol. The Cooper children were left with just the garments in which they were dressed and a single cup of rice that a kind neighbor had anxiously pushed towards their door with a piece of wood.[1]

WHO figures show that Ebola killed more than 11,300 people in Liberia, Guinea and Sierra Leone including about 3,500 children. About 5,552 children in Liberia have been identified as affected by the haemorrhagic virus. The GoL defines 'affected' as quarantined, unaccompanied and separated children, in treatment and discharged. Orphans are children who have lost one or both parents/primary caregivers. It is estimated that as many as 7,500 children may have been orphaned due to EVD.[2] Some are with the parent who is still living. Others have found a welcome and new residence with friends or relatives. However many who have been left alone without parents or guardians are now somehow surviving on the streets or are discovering how difficult it is to adapt to new substitute families. Ebola Orphans sometimes face disgrace and anxiety.[3]

West Africans traditionally keep orphans within the extended family. While still true, one of the results of Liberia's 14 year civil war was that more than 100 orphanages opened after the conflict ended. Most were sub-standard, or abusive and run by people who forced the children to work for the orphanages' owners, according to a 2007 report by the United Nations mission in Liberia[4] which described the "chronic deplorable conditions" in the orphanages to be a "cause for major concern."[5]

Some of these fake orphanages were using orphans to raise hogs and make bricks for sale. Communities even came forward to the Ministry of Gender, Children and Social Protection to report on people who had opened orphanages that seemed suspicious.[6] Prior to the Ebola outbreak the GoL established and implemented a policy to close these post-civil war orphanages. Then Ebola struck and the orphanages were back.[7]

The problem of child protection was acute. Children may have watched the death of a loved one and may have been themselves infected with Ebola and gone into ETUs. If they survived and came out, they found themselves in a big city, hours from their village. If their parents had died, at the most vulnerable time in their young lives they might not know where they actually came from and could be afraid to talk.[8] Anita Queirazza, Child Protection in Emergencies for Plan International, said, "Treated children and adults who return to their communities are being feared, avoided and threatened, leaving them excluded and socially isolated."[9]

After the Ebola epidemic passed on, social mobilization in favor of the orphans took place in Liberia. Now almost all of the orphans identified by the GoL are living with extended families or foster parents. The GoI established three transit centers to house those children who did not have family members available to care for them while efforts were made to track down relatives and approach potential foster parents.[10]

Relatives and foster parents who took in orphans of Ebola each received a one-time payment of US$150. Many used the money to set up

businesses and to build homes.[11] One might suspect that not all of this money actually reached its intended recipients.

For instance, in September 2014 Lofa County received US$33,500 from UNICEF intended to support 223 Ebola orphans. Each child was expected to receive $150, according to the County's Superintendant George S. Dunor.

But some of the beneficiaries said they received less than what had been promised. Woyea Sumo, head of the Lofa County Health Team, Psychosocial Department, supervised the disbursement of the money. He explained that the County had difficulty identifying the orphans due to limited staffing. When asked to provide the list of beneficiaries, Sumo failed to produce the list of children who received funding under the UNICEF project. The question is whether or not the money has been exhausted. If each of the 223 children was expected to receive US$150, then the County should have spent US$33,450. But without the list of children who should have received the money and the County failing to provide an accounting of the funds, it is difficult to determine how the money was spent, or where it went.

Sumo said the major focus of the UNICEF program was to offer psychological support to the survivors helping them overcome the psychological impact of losing their loved ones to Ebola.[12]

An issue related to that of the Ebola Orphans is the 70,000 young children that UNICEF estimates whose births were not registered during the crisis. Because they are unregistered these children may be unable to access basic health and social services, obtain identity documents and risk the danger of being trafficked or illegally adopted.

In 2013, before the onset of the virus, the births of 79,000 children were registered. In 2014, when many health facilities had closed or reduced their services due to Ebola, the number of registrations fell to 48,000 – a 39% decrease over the previous year. Just 700 children had their births registered between January and May 2015, according to UNICEF.[13] Although these unregistered children are not orphans according to the working definition of the GoL, they lack the social support other children enjoy especially when they are older unless they are provided with their necessary documents.

The Red Cross released a song early in 2015 with the refrain “Let us Live Together Again.” It encourages and promotes values such as tolerance, solidarity, and compassion and encourages families and community members to welcome, accept and live together with respect and dignity to prevent additional suffering.[14]

An example of an actualization of the values of this Red Cross song is the situation of five Ebola Orphans who were released from an ETU late in 2014.

“We are living a good life,” Daniel declared when asked about life since he and his four siblings left the Ebola Treatment Unit (ETU) managed in Tubmanburg by the International Organization for Migration.

The Psychosocial Support Team from the ETU then had to find an appropriate home for the family of five children orphaned by Ebola. The children’s uncle who runs a small pharmacy in Monrovia offered to take them, thus allowing all the children to continue to live together.

Before the children’s return, the team along with their uncle talked to community members to explain that the children were completely free of Ebola and thus attempted to prevent their stigmatization. “Some of the community thought the kids still had Ebola and I made them understand that the kids were taken to the ETU and discharged.” The Uncle added “They are now playing well with the other kids. They can now share things with them because they have spent more than a month here and they are accepted.”[15]

Daniel and his siblings were fortunate. Some family members concerned about infection have been reluctant to accept orphaned children. Survivors of past Ebola epidemics have reported substantial negative psychosocial impacts. In one study 35% of survivors reported feeling rejected by society, including by family, friends and neighbors.[16] These survivors often face disgrace, loss of livelihood and heartache, especially if acquaintances and family members have perished. Many of their belongings have been ruined to prevent the virus from spreading. All this is despite the fact some survivors have contributed their plasma to other Ebola patients, although the advantage of passive immunotherapy is, as yet, unproven.

Daniel and his brothers and sisters were young survivors. Adult survivors can play important roles in educating communities about Ebola, especially in areas with high infection rates, where fear might prevent ill persons from seeking medical care. They can offer hope that survival is possible if medical care is obtained during the early stages of infection.[17]

Because survivors enjoy immunity for as long as three months after their recovery they are also able to help in ETUs. They can risk getting close to those with Ebola symptoms and even touching them. This is especially helpful with children, many of whom are separated from their families in the ETUs. They can approach these children without the PPE equipment that can deter such interactions.[18]

As with the containment protocols and social mobilization described in the previous chapter at Firestone Liberia, Inc., the large rubber plantation, so Firestone has led the way in Liberia in developing a successful method to help Ebola survivors from the plantation return home.

During August 1 to November 1, 2014, some 33 Ebola patients died in the Firestone ETU. But during that same time frame 22 survivors who had become negative for Ebola according to laboratory tests were discharged from the ETU producing a survival rate of 42%. In the ETU, 5 days after all a patient's symptoms had been settled, his/her blood was retested. If the repeat sample was again negative for Ebola, the survivor was moved to a healing area in the ETU and stayed there for three more days before final ETU release. This time was used to instruct and advise the survivor and to make arrangements with the survivor's village to accept the survivor's return home.

Strategies for this restoration begin before the survivor leaves the ETU. The goal is to help the family and home community accept the survivor's return. For one or two more days before a survivor is discharged from the ETU, Firestone's reintegration unit visits the survivor's home and gathers with neighbors and community chiefs to discuss the idea of bringing the survivor home. On this occasion the team instructs the community about Ebola spread stressing that the survivor is no longer unwell and has been affirmed to be freed from

Ebola. The team reassures the people and responds to their questions and concerns. This is done to help ensure the survivor is accepted and not branded as a continuing health risk to others. If the survivor is young, the team also makes sure that suitable guardians have been found and that the child will remain in school. The team and community then plan a celebration to take the survivor back into the community.

On the day of restoration, Firestone's health director, the ETU manager, and other medical staff bring the survivor to the community, accompanied by the reintegration panel, radio station workers, and clergy. Delegates from the Ministry of Health and Social Welfare are also invited, and community members beautify the survivor's home with the customary palm leaves to signify a joyful occasion.

The official presentation begins with prayers and praise and worship gathering, led by the community and clergy. A local community organizer makes initial remarks and formally welcomes the survivor back home. The tenor throughout the event is celebratory.

The survivor is given a chance to address the gathering and many adults opt to depict their recent treatment in the ETU. These first-hand survivor descriptions have been influential tools to help get rid of misunderstandings about what takes place in an ETU. The program is transmitted live on the radio and replayed several times after the event.

The medical executive presents the survivor with a plastic-coated diploma of medical approval, stating that the individual is freed from Ebola. The reverse side of the certificate includes notices for survivors, instructing them about provisional abstinence from sex and revealing ways the survivor might use his or her healing to assist others. Each survivor receives solidarity supplies which include a new mattress, bedding, a pesticide doctored mosquito net, soap and toiletries, a 50 kg bag of rice, 11 liters of cooking oil, playthings for children, apparel and money for food and personal supplies.

All the survivors who were employed at Firestone have resumed work and all the orphans continue to live with their chosen guardians. There have been no housing problems, and no assaults on survivors or other examples of community conflict that have taken place in other settings which have received survivors. The two stage meeting approach

by the reintegration team at Firestone has ensured celebratory rather than hostile events.[19]

Reintegration is not the only challenge faced by Ebola survivors. There are other problems faced by those who have endured EVD. Dorboi Sirleaf believed his suffering with Ebola was over in October when he went out of a treatment unit. Instead, the 29 year-old father of four is undergoing symptoms he says he never faced before he had Ebola. His limbs and other places in his body hurt. He has difficulties observing things at distances. His eyes tingle, hurt and often fill with water.

As many as 40% of Monrovia's approximately 1000 Ebola survivors have eye ailments according to John Fankhauser, deputy medical administrator of Monrovia's Elwa Hospital and principal doctor of an Ebola survivors' treatment center there where Mr. Sirleaf paid a visit.[20]

Survivors were at significantly increased risk not only of opthalmic problems, but also hearing damage, neural anomalies, difficulty in sleeping, memory deficits and various other enduring health problems.[21] This strongly suggests that services for EVD survivors should be established who might need specialized services not readily available in Liberia, such as ophthalmic care and mental health services. This highlights the sad fact that, even for the more fortunate who survived the infection by the highly lethal Ebola virus, the ordeal of the survivors is often still not over.[22]

The long-term effects of EVD do not only have to do with the survivors' personal health but also have social implications on the question of the permanent containment of the pathogen. This is because, among other things, Ebola is a sexually transmitted disease. The Ebola pathogen also lingers in the tears, saliva and semen of survivors. On March 20, 2015 Ebola was confirmed through laboratory tests in a woman in Monrovia. The examination and contact tracing that followed recognized only one epidemiologic connection to Ebola: exposed vaginal intercourse with a survivor. Earlier studies have demonstrated that the virus can be separated from semen for as long as 82 days after symptom onset.[23] For this reason the WHO recommends that contact with semen from a male survivor should be avoided. If male

survivors have sex (oral, vaginal, or anal), then a condom should be used correctly every time.[24]

While some EVD survivors struggle with the short and long-term effects of their battle with the infection health care workers also face emotional and psychic residues. All health care workers and other people involved in combatting faced great risks on the job at the time of the epidemic, but their personal struggles with what took place endure. This is especially true of the Red Cross burial teams in Liberia. In the course of their work they were shrieked at, spit upon, and terrorized with rocks. At home, after a long day putting on and taking off biohazard suits, moving bodies, and washing in pungent chlorine solution, many faced remoteness from their friends, family members and neighbors.[25]

Later, the members of the burial teams must deal with their memories. Consider one memory of the 23 year old burial worker Ezekiel Kalapelee. Hanging on to the dead bodies of her parents, the cries of their four year old daughter reverberated around the home as he and his co-workers went into the house in the middle of the night.

He recalls how the panic stricken, famished child, who had been forsaken by her community due to anxieties over Ebola, draped herself around the bodies tightly before he and his team moved them out of the house.

The burial team gave the girl a little something to eat and told the local authorities about the situation. Yet a lack of empty beds in the adjacent Ebola treatment unit left the workers no option but to abandon her, alone again, as they took away the corpses for burial.

“I found out later that she died that day in the house,” Kalapelee said softly, his voice faltering.Kalapelee was a partner in the140 strong Red Cross burial team in Montserrado County and one of thousands of workers positioned across Liberia in June 2014 as Liberia’s death toll spiraled out of control.

They endured stigma, mistreatment and assaults from the distressed and frightened communities as they worked to control the epidemic by carefully burying the highly contagious bodies of the Ebola dead. These burial workers and other health care workers are now attempting to reconstruct their lives.

But an estimated six out of 10 of the burial workers now suffer from mental distress, and many battle melancholy, post-traumatic stress disorder and neurosis. The Red Cross provides them with psychosocial assistance through group meetings and one-on-one therapy over the phone or in person.[26]

"The dedication of our volunteers cannot be overstated. Despite their heroism, they have been unfairly stigmatized in the community. This is so heartbreaking because without them, who knows how much worse this crisis could have been," said Fayiah Tamba, the Secretary General of the Red Cross. The Liberian National Red Cross Service has arranged for a compensation package to assist volunteers returning to their various communities which includes financial compensation, a scholarship and a grant program to deal with therapeutic sessions they might need or the stigma resulting from their work.[27]

Although the challenges faced by the Ebola orphans, the undocumented children born during the epidemic, the Ebola survivors, and the former health care workers are serious, there are more positive outcomes from the epidemic. These include the international effort to develop a vaccine that would be effective against the Zaire strain of Ebola, new communications systems that assist in social mobilization, and many lessons learned from the EVD outbreak. Some of these we will present in the next chapter.

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Chapter 6

Lessons Learned after the Ebola Crisis

When asked what the biggest lesson she learned during the Ebola epidemic, Cecilia Tubman, a Liberian nurse at the Médecins sans Frontières' Elwa Treatment Unit, said it was simply the importance of washing our hands. "As a country, we never used to wash our hands. All day long we would touch things. Then we would go home and eat together. But the fingers move everywhere. Ebola came so that our life and our activities could change for the better."[1]

Over the past three decades each outbreak of EVD had generated fear and economic turmoil among the local and regional populations of Africa. Until the present it has been considered a disastrous sickness largely limited to remote areas of the African continent, but this is no longer true. Given the extensive employment of the latest modes transportation, especially international air travel, the EVD epidemic of 2014-15 became a danger to a global interdependent world. The spread of the disease across continents was only an airline flight away.[2]

The world's 22nd outbreak of Ebola in 2013 in West Africa became the world's first Ebola pandemic. Bad though it was, many commentators insist that it could have been much worse.[3] Most of the credit for containing EVD belongs to the people of West Africa themselves for battling with the disease on the front lines, making the challenging social and behavioral conversions to decelerate the spread of the disease, and sometimes risking their own lives as well as making many sacrifices to care for their friends, family and neighbors.[4]

Liberia and the other two countries most directly affected received significant international assistance. In Liberia's case, the United States, for example, sent more than 10,000 civilian government workers, volunteers and contractors, and more than 3,000 US troops under Operation United Assistance to help. This does not include American medical missionaries belonging to organizations such as the Samaritan's Purse as well as those working for Non-Governmental Organizations. This response is a powerful example of how the United States

Government, other governments and their people can work effectively in face of such an emergency.

However much remains to be done to prepare for the next truly dangerous global pandemic which has been predicted. Bill Gates has said of all the things that could slaughter more than 10 million people around the world, the most likely is contagion emerging from either natural causes, like EVD or bioterrorism.[5]

In some ways, EVD was an easy trial of the worldwide reaction methods for a pandemic. It is a difficult illness to pass on because it is not airborne like the influenza virus and it broke out mainly in three nations with comparatively few inhabitants that do not have many travelers moving in and out of the area. These countries also embraced outside assistance.[6] The EVD epidemic of 2014-15 represented for the global public a wake-up call. We must prepare for future epidemics that may spread more efficiently than Ebola.[7]

This preparation for the "next big one" is part and parcel of the contemporary thinking on human security. The concept of human security was first explained in the 1994 United Nations Development Programme (UNDP) human development report. Human development places individuals and their needs at the center of policy-making and provides a philosophical basis for identifying threats to people's security including natural disasters, such as the recent EVD pandemic, poverty, disease, illegality, and violence, and for searching for responses to these threats.[8] Human security redirects attention in discussion of security from the national/state level to human beings as potential victims, beyond physical violence as the only relevant threat and beyond physical harm as the only relevant damage.[9]

The concept of human security entered the lexicon of scholars and practitioners first through the United Nations Development report of 1994 and later through the work of the Commission on Human Security that was established in the 2000 United Nations Millennium Summit. Through the Commission's 2003 report, Human Security Now: Protecting and empowering people,[10] the UNPD sought to broaden the overconcentration on security to include those non-traditional threats that affect states, individuals and communities.[11]

The conceptual discussion on human security further fragmented the concept into two different approaches to human security: Development-centered security (freedom from want) versus Humanitarian-centered security (freedom from harm). The development-centered approach was explained in the World Summit outcome document adopted by the UN General Assembly in 2005:[12]

> We stress the right of people to live in freedom and dignity free from poverty and despair. We recognize that all individuals, in particular vulnerable people, are entitled to freedom from fear and freedom from want, with an equal opportunity to enjoy all their rights and fully develop their human potential. To this end, we commit ourselves to discussing and defining the notion of human security in the General Assembly.

This was a clear affirmation to the commitment to promoting and defending human security on the global scene. After this, a variety of commitments, laws, policies, programmes and projects were reoriented to incorporate elements that reflected and assured human security principally at the local level that provide governance and services.

The definition of human security is: "A child who did not die; a disease that did not spread throughout the world; a job that was not cut; an ethnic tension that did not explode in violence; a dissident who was not silenced. Human security is not a concern with weapons. It is a concern with human life and dignity."[13] At the heart of this definition, the individual is considered as the singular unit of concern for survival and dignity. It is the ambition of this definition that all international, national and local laws and programmes be provided for and driven towards supporting human security.

In 1979 the world agreed to pursue the "Health for All" dream, and in 2000 the Millennium Development Goals (MDG) were accepted as global targets. Liberia had in some aspects of the MDG made impressive gains in life expectancy and health services prior to the Ebola outbreak. However, the gains of "Health for All" and MDGs in health outcomes and health systems have all been reversed by the prolonged and devastating EVD epidemic.[14]

In 1969 the International Health Regulations produced a collaborative global framework to strengthen the world's health security against three infectious diseases: cholera, plague, and yellow fever. The regulations included a reporting requirement and predetermined actions to be implemented at borders.[15]

After the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003, and the obvious reality that border controls cannot prevent the international spread of disease, the International Health Regulations were broadened in scope. They now demand the disclosure of any public health danger of global interest and real time conversation among involved governments and WHO to propose real-time, evidence-based activities at frontiers. They also mandate that countries reinforce eight fundamental capabilities in community health aimed at more rapid discovery and reaction to public health occurrences where and when they happen.

Collective health security is an important focus of the International Health Regulations, but equally important is individual health security, which includes access to safe and effective health services, products and technologies. Ebola-infected health personnel from Liberia and the other infected countries were sent home from West Africa for care in their own countries where there is health protection for individuals.

Meanwhile, Ebola-infected West Africans had to recognize that health care is not always safe, not always operative and not always easily accessible. In other words, their own health security was yet again in danger.[16]

In Liberia's case these regulations were difficult to apply because, although the International Health Regulations are aimed at minimizing and preventing collective health risk, they do not provide for access to goods and health services, which is what Liberia so badly needed. Collective health security is the sum of individual health security and compels global action to provide individuals in Liberia and in all countries with access to essential health care.[17]

Human security needs not only protection against downward risk, but also the sharing of upward gains. Ebola illuminates not only the importance of protecting lives through disease control but also the

essential need for a strong health-care system. Our failure to share the benefits of global economic growth with Liberia, Sierra Leone and Guinea left them without an effective health-care system and they were thus vulnerable to the devastating effect of Ebola and the possibility of yet another epidemic.[18]

In light of human security there are a number of lessons we as the world community can learn from the EVD epidemic. The first lesson we have learned from the Ebola crisis is the need to strengthen health systems and surveillance. This includes primary health care facilities, laboratories and critical care services. Ebola spread much faster and more widely than necessary in Liberia because its health system, especially its primary health facilities, had been weakened by years of armed conflict and subsequent neglect.

The global health security program, if it has any meaning, necessitates that each country in the world has to be better at discovering, ending and counteracting health threats. This means that each country, including Liberia, has to be able to find these dangers and stop them.[19]

Notwithstanding the current version of the International Health Regulations, before Ebola we had a system of irresponsibility and non-support. Countries were not answerable for delivering an arrangement to discover and put a stop to health emergencies. The world was not assisting nations that did not have the capacity to do it for themselves. Coming out of the Ebola crisis is the message that we need to produce a system of responsibility to know which countries are ready and willing to establish a helping relationship with those that are not capable of coping with a health emergency with global ramifications.[20]

During the 2014-15 EVD crisis a good example for Liberia, and the rest of the world, was that of Nigeria. Nigeria's first case of Ebola was a Liberian envoy, Patrick Sawyer, who arrived in Lagos on the national airline on July 20, 2014. The identification for EVD was confirmed on July 25, 2014, the day the patient expired.[21]

When the epidemic entered Nigeria, there were fears that the large populace of Lagos, inadequate rural health arrangements, Nigerian cultural practices of its more than 500 ethnic groups, and doctors'

slowdowns would fuel the epidemic and make Nigeria even a worse case than other West African nations.[22]

Following the diagnosis the Federal Ministry of Health (FMH), the Nigerian Center for Disease Control (NCDC), and the Nigerian Field Epidemiology and Laboratory Training Program (NFELTP) prepared to investigate, oversee and control the epidemic. This responsive and prompt reaction was central to the tracing, quarantine and management of connections in Lagos.

In spite of this state-wide endeavor, EVD in the end reached Port Harcourt through a person already under observation but who came to the southern city of Port Harcourt to seek personal (and covert) therapy. The physician who assisted this individual eventually fell ill with EVD and succumbed while the patient lived.

By Sept. 26, 2014, 20 cases (19 confirmed, one probable) with eight deaths (seven confirmed, one probable) had occurred. The majority of the affected people were health care workers (HCWs). Reasons for Nigeria's Ebola success included the following: (1) the previous creation of the Integrated Disease Surveillance and Response Program in 1998, the NFELP in 2008, and the NCDC in 2012; (2) Prior Nigerian involvement in the management of Lassa Fever, another viral hemorrhagic infection; (3) The Port Health Services' quick response by checking all national entrance points (land, sea and air) with infrared temperature checks. In addition, the importance of hand cleansing was emphasized and the custom of using hand sanitizers advertised. The start of educational establishments for the new scholastic year was deferred.

As part of the regulatory measures in Nigeria, there was an enormous social deployment, knowledge creation and sensitization of the public to the indications, risks and signs of EVD.

The lesson learned from Nigeria's experience with EVD is that a native, speedy and ethnically aware reaction is essential for the timely restraint of pandemics. Backing from foreign partners is of course highly sought-after, but if national competences and assets are correctly deployed and directed, outside assistance may appear when disease eruptions are already checked, as in Nigeria.

The second lesson we have learned from the EVD crisis is we need to make sure when a country's capacities are overwhelmed, the international community can mobilize effectively to help such a country when it cannot do so on its own.

Once it became clear that a serious emergency was taking place in Liberia, many local health care workers should have been enlisted, and qualified workers sent quickly into the country. That did not take place. Within two to three months some nations appeared to offer workers to help. They were required immediately. It is difficult to overstate the significance of Médecins sans Frontières that marshalled volunteers more rapidly even than the GoL.[23]

In future we need trained personnel to tackle and check an outbreak rapidly, increase occurrence observation facility, involve specialists in epidemiology, and other pertinent areas, involve admired public organizers who can lead the fight against the disease at a local level, and involve district workers who can communicate in local dialects. Ideally, we would have up to date lists of such health care workers showing their readiness and competences.

A third lesson was the need for a population in an infected country to trust its government leaders. Judging from the most recent EVD epidemic the problem that has had the greatest impact on the management and containment has been the absence of confidence between the people of West Africa and those involved in the outbreak response, involving governments, local authorities and nongovernmental organizations.

It makes no sense to complain about the slow global response if you do not have the basic components nearby.[24] The fundamental problem is that communities all over West Africa do not trust those who are supposed to act in the public interest. This fundamental problem not only affects containment of epidemics, but also all other health security issues they are facing.

Communities need to be engaged during a health crisis like the EVD epidemic in information gathering, case finding, behavioral change and, in ownership of the epidemic. Community leaders are not always the township mayors or government officials. We need to be more astute

about motivating a community. In the epidemic of EVD in 2014-15 HCWs and clinicians were so absorbed with the task of getting clinical therapy to the people who required it that they missed the sociological factors, particularly community involvement. Success came when public health and community leaders used information available to them locally and were insightful enough to modify their methods and approaches to defeat Ebola.[25]

A fourth lesson is the importance of developing suitable technology, vaccines and treatments to deal with a disease like Ebola. In terms of communication, the Masanga Mentor Ebola Initiative (MMEI) has been important. A partnership was developed between the UK-supported Masanga Hospital in Sierra Leone and the Mentor Initiative, a British NGO established in Liberia. MMEI has developed technology to enable peer to peer learning in local dialects which is constantly updated to educate communities about infection control.

It was delivered by local people who helped to rebuild the trust between HCWs and desperate communities damaged by apparent neglect and isolation. The training packages that use lap top computers or tablets were easily distributed to the most inaccessible rural locations across Sierra Leone and Liberia. They could be understood in local languages and used animation where adult literacy rates were low.[26]

In a related development in Ebola communications UNICEF has made use of its field tested Rapid Pro-a SMS/text messaging-based technology- to quickly establish a channel for communicating with youth in Liberia and provide these youth with an avenue for discussing the issues that affect them. Rapid Pro was used for behavioral change communications, to reinforce messaging for social mobilization. While the necessary laptop or tablet might not be available for the MMEI training packages, the majority of households do have access to a mobile phone, making this channel an effective way to reach otherwise inaccessible teen agers and others.[27]

Another important lesson learned during the EVD epidemic of 2014-15 is the importance of emergency development of vaccines to protect HCWs and the general public from the virus. Prior to the most recent outbreak in 2014 only 2345 human cases of Ebola had been confirmed in

the laboratory relating to 1546 deaths[28] in the previous 22 Ebola outbreaks. The 2014 outbreak changed this because it eventually involved 28,637 cases and 11,315 fatalities. Although a “critical mass” of those infected by Ebola existed, there was no Ebola vaccine ready to be developed, tested, and deployed.

Research should be an integral part of the public health emergency response in outbreak settings. While improvements in supportive care, such as the use of intravenous fluids, may have contributed to a decrease in EVD morbidity, therapies aimed at EVD itself were not adequately evaluated.

The challenges to running crisis investigations in resource-poor locations are serious and include obtaining investigation permissions, establishing new collaborations, educating resident research teams, negotiating material handover contracts, obtaining and introducing medicines and complex equipment, and making certain of access to a dependable electricity grid and standby generators for delicate apparatus.[29]

Conducting emergency clinical trials requires experienced research staff at all levels from the start. In the midst of an emerging epidemic, the academic and research communities need to react as bravely and as quickly as the humanitarian community. Research teams would include logisticians, organizational managers, research nurses, druggists, statistics directors, monitoring experts, and researchers.

All members would be instructed in procedures, take safety instruction, and be willing to assume the same risks as clinical first responders assume in caring for patients with Ebola. During the EVD epidemic clinical care teams were scrutinized, instructed and located in the field to look after the mounting numbers of patients, and groups such as Partners in Health, International Medical Corps and others took on substantial corporate and individual danger to respond rapidly. Scholastic and research groups must be prepared to respond just as bravely and assume similar dangers.[30]

Another lesson we have learned is that our system of contemporary medicine has produced very few vaccines as compared to the total number of viruses and bacteria that represent a danger to us, and

therefore was not prepared to cope with a pandemic. The investigation, progress and production required to create a successful vaccine are time and resource devouring activities. Thousands of employee days, millions of dollars, thousands of pages of records having to do with the experiments, the different levels of management and endorsement are spent in each project. The lesson learned with the Ebola emergency is that this needs to change.

Normally, outside of emergencies, phase zero involves initial experimentation with a possible vaccine handled in laboratories on animals. In phase one, a novel and unproven vaccine is tried on people to discover if it has any harmful side-effects. Phase two, which previously was not possible for Ebola because there were too few people infected in any particular outbreak, is to test the efficaciousness of precise concentrations of the vaccine. In phase three, the vaccine is tried on diverse populations and in various settings, for example with other medicines or diseases. Finally, in phase four the vaccine is assessed for long-term side effects, and success with particular people. Each of these segments requires hundreds of hours of work and probably millions of dollars. Each stage also requires thousands of pages of data, reports, forms, data entries, suggestions, directions, documentation, not to mention the important aspect of basic scholarship.[31]

A fast-track process like the one agreed upon by WHO for Ebola tries to obtain rapid authorization of the vaccine during its movement from phase one or two to a consequent step by requesting to have its sanction moved ahead of the endorsements of other emerging medicines and vaccines with less urgent necessity. A WHO ethics panel gave the go-ahead to the fast track approach: “The panel agreed unanimously that, in the exceptional situation of the current Ebola outbreak, there is an ethical imperative to offer the available experimental interventions that have shown promising results in the laboratory and in relevant animal models to patients and people at high risk of developing the disease.”[32]

The lengthy and expensive phase-process by which vaccines have so far been approved serves the public as a protection against possible

error. The argument for fast tracking is that the end hoped for-namely an effective vaccine against a dangerous contagious disease-justifies the means of by-passing some customarily essential scientific procedures and protections. Despite the ethics approval by WHO there has been unfortunately up to now no clear process for approving a new drug or a drug that functions against viruses like Ebola for which tests show to have an influence on Ebola. As well, we have been unable to provide protection against legal problems for those involved. We will need to develop a clear set of rules as well as experimentation and regulatory conduits for finding out whether current medications could be repurposed to assist in ending a particular epidemic.[33]

Toward the end of the epidemic the WHO achieved a significant victory in the battle against future Ebola epidemics, should they occur. Interim analysis of a vaccine known as VSV EBOV has indicated that it is highly effective in protecting subjects from contracting Ebola. This was developed by the Public Health Agency of Canada and licensed to Merck and New Link. Trials of the single dose vaccine began in 2015 in Guinea and have shown such promise that in early August 2015 it was decided to extend immediate vaccination to "all people at risk" after close contact with an infected person.

"This is an extremely positive development," said Dr. Margaret Chan, Director of W|HO. "The credit goes to the Guinean Government, the people living in the communities and our partners in the project. An effective vaccine will be another very important tool for both current and future Ebola outbreaks."[34] The vaccine up to now shows 100% efficacy in individuals.

"The 'ring' vaccination method adopted for the vaccine trial is based on the smallpox eradication strategy" said John-Arne-Røttingen, Director of Infectious Disease Control at the Norwegian Institute of Public Health and Chair of the Steering Group. "The premise is that by vaccinating all people who have come into contact with an infected person you create a protective 'ring' and stop the virus from spreading further…."[35]

"This is Guinea's gift to West Africa and the world," said Dr. Sakoba Keita, Guinea's national co-ordinator for the Ebola response. "The

thousands of volunteers from Conakry and other areas of Lower Guinea, but also of the many Guinean doctors, data managers and community mobilizers have contributed to finding a line of defense against a terrible disease."[36]

The VSV EBOV success followed earlier desperate efforts by WHO to stem the epidemic. One of these is the WHO approval of treating at least some patients with blood plasma from survivors, a risky decision to support an untested therapy. This is known as convalescent serum therapy.[37] Despite its early promise it has proven to be ineffective.[38]

A fifth lesson from the Ebola crisis is the need to make fundamental changes to the WHO. As Ebola was devastating Guinea, Liberia and Sierra Leone in October 2014, Margaret Chan, the Director General of WHO, defended her organization against the charges that its response was late and ineffective: "We are a technical agency, with governments having first priority to take care of their people."[39]

In January 2015, the WHO executive board undertook a systematic reform of the agency's performance, Chan again offered a defense: "I followed protocol, leaving it to the Africa office (AFRO) to respond." Yet the three countries could not feasibly have stopped the epidemic alone, and AFRO was known to be dysfunctional.[40]

The 2014-15 EVD epidemic points to the need for fundamental reform of the WHO. The WHO should be the global health leader, according to its constitution that envisages it as "the directing and coordinating authority on international health work." Yet it is significantly under-resourced. This has a direct impact on its rapid response capacity.

The WHO controls only 30% of its finances, and member states have co-opted WHO's agenda through earmarked funds for their own health issues. When the WHO confirmed the Ebola outbreak it issued a series of recommendations to the three most affected countries such as setting up treatment centers, health workers compensation and provision of personal protective equipment which these countries could not realistically implement.

In the absence of WHO leadership the United States and the United Nations Security Council sought to fill the vacuum. The state centered

focus of the WHO sidelines valuable stakeholders such as Médecins sans Frontières. One civil society organization lamented that "we have little heard voices" in the governance of the WHO.[41]

The World Health Assembly should double WHO's overall budget so that it has maintainable funds scalable to requirements. Beyond finances, WHO's regional structure needs to be reformed. During the Ebola epidemic, the Director General and AFRO clashed over control so forcefully that AFRO hindered international assistance even in the face of a UN Security Council resolution.

Finally, in order to prevent the next global health emergency, health care system capacities in low and middle-income countries need an emergency fund and an international health systems fund.[42]

There are many lessons learned after the 2014-15 EVD epidemic. Although Cecilia Tubman's insistence on the importance of hand washing cannot be trivialized the fifth and last lesson has the greatest importance. If we did not have the WHO we would have to reinvent it. Something like it is crucial for ensuring global health security.

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Chapter 7

The Law of Unintended Consequences

Unintended consequences are outcomes, whether foreseen or not, of a choice or series of choices which are not congruent with the original intention of the choice. An example of unintended consequences would be airline flight bans imposed at the beginning of the EVD epidemic.[1]

To protect themselves against corporate liability and to protect the health of the guests on their flights, international carriers such as British Airways, Emirates, Air France and Kenya Airways imposed an embargo on flights to Ebola affected countries. The only flights that functioned at the time of the epidemic were twice weekly flights based in Brussels and Casablanca.

This meant that urgently needed medical equipment soon became scarce, and international medical personnel could not reach the affected countries quickly. For example, assistance sent by Japan had to be loaded in Accra and sent 1,400 kms (900 miles) by highway to Sierra Leone because air transportation was not available.

Eventually when the US and British military began their medical operations in Liberia and Sierra Leone they used their own military aircraft or navy to carry medical supplies. One unintended consequence of this flight ban and border closures was that health care workers and others contracted EVD and died because the simple precaution of wearing rubber gloves was not available.

In Sergeant Kollie Town in Liberia rubber gloves, already scarce before Ebola, became unavailable early in the epidemic in August 2014. A local doctor, Melvin Korkor, would wrap his hands with shopping bags to assist at the delivery of newborns in Phoebe Hospital because that most basic item of medical equipment, rubber gloves, was not available. His staff did not even bother with this garbage bag protection.[2]

One day a woman in her 30s visited the hospital with a headache. Five nurses, a laboratory specialist and a woman who lived in the area of the hospital and who was helping the staff cared for her with their bare hands.

Within weeks, all had died. They discovered too late that the lady with the headache had Ebola. In addition to not being equipped with rubber gloves the Phoebe Hospital also did not have body bags, or much else. Due to these factors, and especially because of its EVD contamination, the hospital had to be closed.[3]

Early investigations during the EVD epidemic demonstrated greatly increased risk for Ebola among healthcare workers who accounted for 97 cases or 12% of 810 cases reported by mid-August 2014.

The overall proportion of health care infections thought to have been contracted in ETUs was only 2.4%. The rest happened in general hospitals like Phoebe or clinics. During the progress of the epidemic in Liberia 378 healthcare personnel had verified incidents of Ebola and 192 had succumbed to the disease a case mortality of 50.8%. These figures denote 12% of all confirmed cases and 4% of all Ebola deaths.

Of the 79 healthcare locations in Liberia examined before the close of 2014, approximately 57% did not have procedures for triage and separation of people supposed to have Ebola. About 43% did not have gloves, face protectors, or hospital gowns available to them; and 24% lacked running water.[4]

The travel ban by major airlines into Ebola affected countries added to the problem of supplying vital hospital necessities such as rubber gloves. However, many existing health care facilities already lacked the readiness to face an epidemic like Ebola, and the closure of hospitals like Phoebe due to the Ebola infection of its staff had its own unintended consequences.

Ebola affected countries may have suffered more than 10,000 extra malaria deaths in 2014 due to the disruption of health services in these countries hit by Ebola. A further 3,900 deaths may have resulted from the disruption to the delivery of insecticide-treated mosquito nets. The epidemic led to the closure of many health facilities due to the burden of caring for and isolating patients safely and the threat posed to healthcare workers.

Among the facilities that stayed open, outpatient attendance fell dramatically-by 90 % in many affected areas, according to a World

Health Organization estimate- partly due to the fear of potential outpatients of contracting EVD in the clinics.

The West African Ebola outbreak could have caused a similar number of malaria deaths to those due to Ebola itself (10,704 by 12 April 2015).[5]

"The ongoing Ebola epidemic in parts of West Africa largely overwhelmed already fragile healthcare systems in 2014, making adequate care for malaria impossible and threatening to jeopardize progress made in malaria control and elimination over the past decade" said the lead author of a study commissioned by the MRC Centre of Outbreak Analysis and Modelling at the Imperial College in London.[6]

The worst case scenario, assuming that the Ebola epidemic led to a complete end to malaria control, shows that the number of untreated malaria cases could have increased by 45% (1.6 million) in Guinea, 88% (1.3 million) in Sierra Leone, and 140% (520,000) in Liberia in 2014. About half of these cases would have occurred in children under five. Lapses in mosquito net delivery could have led to another 840,000 malaria cases.

The Imperial College estimates also suggest that an absence of clinical and hospital care would have increased malaria deaths by 35% (5,600 deaths) in Guinea, 50% (3,900) in Sierra Leone, and 62% (1,500) in Liberia.

Dr. Walker, the lead author of the study, said: "Our predictions highlight the *true magnitude* of the humanitarian impact caused by the Ebola epidemic. In heavily affected Ebola areas the indirect impact of Ebola upon malaria deaths is likely to be of a similar magnitude to the public health burden caused by cases of Ebola directly. Measures to prevent malaria infection, such as the emergency mass drug administration currently recommended by the WHO, are urgently needed while these health systems recover."[7]

If the risk to Liberia of malaria is great, perhaps an even more serious consequence of the collapse of its healthcare system due to the EVD epidemic is an outbreak of an airborne virus, namely measles. In epidemiology, the basic reproduction number denoted R_0 or r naught can be thought of as the number of cases one case generated on

average over the course of its infectious period, in an otherwise uninfected population. Measles is much more infectious than Ebola with an R_o of 12-18 while Ebola is significantly less at 1.5-2.5.[8]

Another unintended effect of the EVD epidemic is that it may have set up the pre-conditions for a more familiar killer virus, measles, that could claim thousands more lives. Liberia could be highly susceptible to a measles epidemic due to severe disruptions to its already weak healthcare systems.

The closing of clinics and hospitals and public aversion to visiting those that remained open have resulted in a reduction of routine procedures such as measles vaccination. Researchers at Princeton and Johns Hopkins Universities have found that a potential measles outbreak in Guinea, Liberia and Sierra Leone could result in 2,000 to 16,000 deaths after 18 months of initial healthcare system disruption. Prior to Ebola, and after energetic vaccination campaigns, all three countries reported only 6,937 measles cases from 2004 to 2013.

The key to preventing a measles epidemic in Liberia would be a large-scale vaccination campaign. This is only possible now that the EVD epidemic has begun abating. Prior to this time, numerous health facilities were closed or became exclusively devoted to Ebola treatment. The unintended consequences were not only a drop in measles vaccinations, but also reduced polio inoculations, and the unavailability of treatment for endemic conditions such as HIV/AIDS, and a reduction in prenatal care.

Based on surveys from healthcare providers, the researchers at Princeton University assumed that vaccinations against measles decreased 75 % after the onset of EVD. This meant that for each month Liberia's healthcare system was in turmoil over Ebola, an average of more than 19,500 additional children went unprotected from measles.

A measles outbreak in Guinea, Liberia, and Sierra Leone before the Ebola crisis would have resulted in between 84,000 and 181,000 cases. According to the researchers' calculations of a disruption of 18 months of health care those numbers would increase to between 153,000 and 321,000 cases with approximately 2,000 to 16,000 extra fatalities.[9]

The dire predictions of the researchers have proven correct. The immunity gap for measles has led to Liberia's worst outbreak of measles in many years. More than 850 cases have been reported in the first six months of 2015 of which seven were fatal.

The Liberian government moved swiftly to organize a countywide vaccination campaign as soon as Liberia was declared "Ebola free" with the help of WHO, the US Centre for Disease Control and Prevention, UNICEF and other partners.

For the organizers it was a race against time to start the campaign before the onset of the rainy season, when roads become impassible and travel conditions prevent vaccinators and vaccines from reaching outlying districts. Vaccination teams fanned out across the country immunizing hundreds of thousands of children under five against measles and polio and giving them deworming medicine. The campaign quickly and significantly helped slow the outbreak but new cases were still emerging.

Fear of a reintroduction of the Ebola virus ran deep in Lofa County in Liberia which borders Guinea and Sierra Leone where Ebola transmission was continuing during the vaccination campaign. Many parents worried about bringing their children anywhere near health workers or health centers that had cared for Ebola patients. Such concerns were pervasive throughout the country.[10]

Another example of unintended consequences prompted health and security experts, including at WHO, to caution against an outright travel ban to the Ebola affected countries in West Africa. They said it could complicate efforts to deliver medical personnel and supplies where they were needed most and could drive patients underground to halt the virus' spread.

US President Obama concluded that a US travel ban would hurt, not help. His spokesman said: "A travel ban would only serve to put American people at greater risk. Individuals who have spent time in West Africa would…conceal the true nature of their travel history." Intensive screenings prior to air travel and upon arrival were more effective, the spokesman said.[11]

In September 2014 an Ebola case arrived at a Dallas hospital from Liberia. Before he died he infected two health care workers in the hospital. Political pressure was exerted on the Obama administration to limit travel from the three West African countries where the disease was rampant.

The White House responded by announcing it would channel passengers from those nations to five airports in the United States where most already arrived. The added restrictions did not bar visitors from the three countries that the Republicans had demanded. At all land and seaports, immigration officers were ordered to segregate anyone who had gone to Liberia, Sierra Leone or Guinea in the previous 21 days, the gestation period for EVD. Immigration officers were notified about travelers' journeys to West Africa by databanks that follow airline manifests and other travel information.[12]

President Obama and Tom Frieden, the Director of the Centres for Disease Control and Prevention (CDC), had promised that the US would play a central role for the US in fighting the Ebola epidemic at its African source. One important element in this battle was sending physicians, nurses, lab technicians, epidemiologists, vaccine scientists, and anthropologists to West Africa.

Imposing a three-week compulsory quarantine on returning health care workers would decrease the number ready to undertake the challenges involved. They insisted that we had no scientific confirmation to indicate that a quarantine policy would decrease Ebola cases in the US and that what we did know from medical data was that persons without temperature or other indications could not disseminate the virus.[13]

Despite the political pressure the point of view of President Obama and Tom Frieden prevailed. The CDC published guidelines late in October 2014 rejecting the proposed quarantine for all travelers arriving in the United States from the Ebola affected countries of Guinea, Sierra Leone and Liberia. The new US guidelines said that those travelers who did not have a fever or symptoms of the disease – including healthcare workers who have cared for patients with Ebola virus disease (EVD)- should be actively monitored but did not need to be quarantined.

"We do have to recognize that if we do things that make it very difficult for people to come back, if we turn them into pariahs instead of recognizing their heroic work, a couple of things may happen that none of us want to happen," said Dr. Frieden at a press conference announcing the new guidelines.

After a New York physician, Craig Spencer, was diagnosed with the EVD infection shortly after returning from Guinea, where he had cared for patients with Ebola, the US States of New York, New Jersey, Florida and Illinois announced they would implement mandatory quarantine policies.

Upon his return to the US from West Africa Spencer had gone out to eat, gone bowling, and travelled around New York by subway and cab in the days before he developed a fever and was hospitalized. The fact that someone infected with Ebola had been travelling freely around the city for several days caused public concern and prompted calls for tougher restrictions.

The first person to be detained under New Jersey's new quarantine rules was a nurse who had been caring for patients with Ebola in Sierra Leone. The nurse, Kaci Hickox, 33, said she had a normal temperature and was without symptoms when she arrived at Newark Liberty International Airport on October 24, but after being detained for four hours at the airport she was tested again.

In a story published in the *Dallas Morning News* the next day Hickox wrote: "Four hours after I landed at the airport, an official approached me with a forehead scanner. My cheeks were flushed, I was upset at being held with no explanation. The scanner recorded my temperature as 101. The female officer looked smug. 'You have a fever now,' she said. I explained that an oral thermometer would be more accurate because I was flushed and upset."

Hickox was then transported to University Hospital in Newark under a police escort. "At the hospital I was escorted to a tent that sat outside of the building. The infectious disease and emergency doctors took my temperature and other vitals and looked puzzled. 'Your temperature is 98.6'" they said. "'You don't have a fever but we were told you had a fever,'" Hickox said. She was kept in the tent for three days and subsequently tested negative for the virus. After she was released on

October 27 she traveled to her home in Maine where health officials said that they would allow her to stay at home but would continue to monitor her.[14]

Under the new guidelines travelers who have no symptoms are placed in one of four levels of risk: high risk, some risk, low (but not zero) risk, or no identifiable risk. For example, people who took care of a patient with Ebola without protective gear would be considered at high risk. The guidelines said this group should undergo direct active monitoring for 21 days from the last potential exposure to the virus, with daily visits by public health officers to check the traveler's temperature and to review symptoms. In addition they should not take public transport or go to public areas, except areas where they can stay at least three feet away from others.

The guidelines recommended those at "some risk" such as those who had cared for patients with Ebola while wearing protective gear, should also undergo direct active monitoring, and that health authorities may consider imposing additional restrictions if the individual's movements exposure was more intense, such as working with infected patients daily as opposed to visiting an Ebola treatment center intermittently, the guidelines said.[15]

People in the low (but not zero) category will not need to be directly monitored, but should be actively monitored by health officials with daily phone calls during the 21 day monitoring period. Their movements within the community do not need to be restricted. Travelers with no identified risk do not need monitoring or to have restriction placed on their movements.

Health security was not the only element placed at risk by the EVD crisis in Liberia. Food security was also compromised.

In order to protect their population from EVD countries bordering Liberia, Guinea and Sierra Leone closed their borders. This meant people using the official crossing points were no longer able to pass. However along each border there are numerous unofficial ways to cross the border not under government control. Furthermore people on each side of the border often belong to the same ethnic community and have frequent contact with their kinsmen even though they live in a different

country. So, the closing of borders to contain the spread of the epidemic had only partial success but it had important economic consequences when considered along with other provisions of the GoL's state of emergency provisions such as the mandatory curfew. For these reasons the West African regional body known as ECOWAS called for an end to border closures because of the potential disruption of cross border trade among the countries involved.

One result of the border closures was markets, that are often located near the borders, had less food, prices were higher, and the people were not getting the food they needed. In fact, a Mercy Corps study in October, 2014, found that 85 % of families were missing meals and consuming less to manage the economic results of the EVD epidemic.

Households had less access to essential merchandise in the marketplace because of diminished incomes, occasioning in an alteration in eating customs. The provision of merchandise was limited due to frontier and market closings, creating transportation difficulties, and producing challenges in the farming sector possibly affecting farmers' capability to have their usual yield in the future sowing seasons.

Households were feeling pressure on their food security. Most households surveyed by Mercy Corps in Lofa, Nimba, and Monrovia stated that they were eating fewer meals every day, eating a smaller amount of food and also eating an inferior quality or less favored foods. Sixty six percent of households surveyed also reported a decrease in household revenue. People were buying food on credit and borrowing money. If no changes were forthcoming these households would face a critical level of food insecurity by May 2015. Fortunately by then the EVD epidemic was largely over in Liberia.

In August 2014, the GoL closed its borders with Guinea, Sierra Leone and the Ivory Coast and recommended the closure of weekly markets as Ebola prevention measures. Markets in the border counties of Lofa and Nimba depended greatly on cross-border commerce for both buying and selling, as it was closer and less expensive to purchase goods from across the border than carrying them to Monrovia. Half of all sellers interviewed by Mercy Corps stated that they had changed the

location where they bought their goods. Most non-locally produced goods in Lofa and Nimba counties then came from Monrovia.

At the beginning of the EVD emergency, all vehicles had to pass checkpoints set up to limit traffic and in this way to slow the spread of Ebola. Trucks were not allowed to move during curfew hours. The result of these challenges was that if a truck previously brought vegetables to Monrovia in one day, it might then take two to three days to travel the same distance, decreasing the worth of perishable goods upon reaching their destination. Rice harvests in 2014 that worsened due to the disruption in the supply of goods have been further constrained by problems within the transportation systems. Monrovia vegetable vendors complained that lengthier transportation schedules from the counties were causing the loss of unpreserved merchandise due to spoilage.

Rice harvests in 2014 declined due to the disruption in the local labor system, called kuu. Under this system, large groups of farmers exchange labor or pay for work on one another's land. In groups as large as 50 persons they travel in turn to each other's land to complete agricultural work. To avoid gathering in large groups, as part of the GoL's Ebola containment strategy, the number of persons in kuus declined to five or ten people. At the height of the crisis in August 2014 this potentially caused a reduction in yields of 10% to 25% for upland rice. The uncertainty about how long the EVD crisis would last led farmers to hoard seeds and there were reports of farmers consuming seeds.[16]

In addition to health care workers in hospitals, clinics and Ebola treatment units, other groups were adversely affected by the EVD. These included women and girls. In the wake of the Ebola outbreak, maternal health services were severely challenged, since the already inadequate health care services in Liberia were overburdened. As they did their best to care for patients infected with Ebola women were not able to obtain the help they required.[17] Women were not getting essential treatment they needed because so many medical staff were focused on Ebola-and because many were afraid they would catch the virus if they visited health facilities.[18]

Childbearing has become more problematic because maternal health clinics have had to shut their doors, or expectant women chose to remain home to give birth.[19] There are 221,000 pregnancies annually in Liberia.[20] Many of these women did not receive the care they needed after the start of the outbreak as healthcare staff lacked clear protocols on containment of the infection and protection from it. As a result, they have turned pregnant women away. Studies have shown that Ebola infected pregnant women have high rates of miscarriage and a 100% neonatal mortality.[21]

Women are the main caregivers in the families, communities and medical facilities. Because of this they discovered themselves helping the ill, placing themselves in danger of becoming infected with the virus. Moreover, customary funeral procedures, characteristically done by women, could also put them at greater danger. Finally, there are indications of sexual spread of Ebola after persons get better from the illness. Since females in the countries dealing with Ebola have little power over sexual conduct including abstinence or shielded sex, this embodies a continuing source of additional contact with the virus.[22]

Another result of the inaccessibility to the medical facilities for women and girls during the EVD epidemic was that survivors of sexual violence found they had to obtain the doctor's reports needed to build a legal case against the perpetrators. Furthermore, reports of rape during the epidemic were on the rise. All forms of violence against women tend to increase during times of crisis and can lead to early pregnancies and early marriage.[23]

The closure of schools during the emergency led to many more girls becoming pregnant as a consequence. They were also vulnerable to sexual exploitation and sexual violence. Women and girls who lost husbands and parents to Ebola then became targets for exploitation and suffered stigma, stress and shame. This was in part because they had no control over their own resources.[24]

Women in Liberia are clustered in the informal sector of the economy in the production and trading of agricultural and handicraft products. The reduction in trade and the border closures negatively impacted them and led to a fall in their incomes, thereby increasing

their vulnerability to exploitation and to hunger and disease. Because of the epidemic, women's main source of funding—microcredit—dried up. Microfinance institutions substantially reduced lending because of EVD. [25]

As Christine Conteh of the International Rescue Committee explains, "Ebola doesn't just take away your health. For women and girls, it takes away our loved ones, our safety, our money, our jobs, our education, access to safe childbirth, and control over our own bodies and our futures."[26] After the EVD has abated Ms. Conteh insists we need to mobilize communities to support women survivors of sexual violence and reduce impunity. In other words, we need to focus our support on survivors of violence and other emerging issues and not only on Ebola.[27]

In the face of numerous consequences of the EVD epidemic how and why the epidemic was brought to a timely end had to do with Liberia's people, including its children, who made a wide-spread group decision to defeat Ebola.

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Chapter 8

Experience of Children during the Ebola Epidemic in Monrovia

Each sector of the Liberian community experienced the EVD crisis in their own way. Children were especially, and painfully, aware of the lives lost: parents, siblings, friends, teachers. Those who live in the Buzzi Quarter[1] along the UN Drive in Monrovia within sight of the Executive Mansion, traditional residence of the President of Liberia on Capitol Hill, were and are especially vulnerable not only to EVD but to other infectious diseases. One unexpected discovery of our research is that children were not especially devastated by EVD.

Buzzi Quarter owes its name to a legendary ancestor of the Loma people who migrated from rural Liberia into Monrovia sometime in the nineteenth century.[2] In due course, Buzzi Quarter became a slum. Its estimated population at the outbreak of the EVD crisis was more than 5000 persons.[3] The UN defines slums as settlements with "inadequate access to safe drinking water, sanitation, and other infrastructure, poor structural housing quality, overcrowding, and insecure residential status."[4] All of these features are worth attending to, and are present in the Buzzi Quarter.

Monrovia is an urban agglomeration with a population of about 1.2 million people. It is estimated that 60-70% of them live within informal settlements. Most of these settlements are on public land or private land that was left vacant during the war. Security and land tenure is a big issue. The majority of the people live on about US $1 per day, and many of them work hard to even earn that amount.

As Monrovia grapples with a surge in population, it is also overwhelmed with the problem of clogged and leaking sewage lines. Liberia's 3.5 million people share just 19,690 toilets according to a government water and sanitation sector assessment done in October 2008.[5] Similarly, only about one third of Monrovia's population has available toilets. Most people in low-income settlements use low grade latrines, but these are unhygienic and over-used. A visitor to a toilet in

West Point pays 2.5 US cents; the youths managing the latrines said there were about 500 clients every day.[6] Open defecation, which is one of the most risky sanitation practices, is frequent.[7] The obstruction of the stem drainage and the ancillary human waste collection service that takes in primary waste from homes and businesses exposes the city to a continual discharge of human waste products. As a result, oozing tons of feces are causing intolerable contamination of Monrovia's population. They contribute to the problem by regularly throwing dirt, and plastics soaked with feces (known as do-do birds) from buildings on to the streets.[8] It should be no surprise that cholera and diarrhoea are reported to be endemic within these communities.

With the cessation of violence in Liberia after 2003, despite several interventions by donor agencies and development partners to restore the water supply to Monrovia through the Liberian Water and Sewer Corporation, potable water remains scarce and expensive. During the war Liberia's main water treatment plant at White Plains in the outskirts of the capital was destroyed. Before the wars it had pumped water to all parts of the country, but at present the facility is pumping only 30 percent of its pre-war 18 million gallons of water daily. Before the war 45 per cent of the country's population had access to piped, good water. Now less than one-third of Monrovia's inhabitants have such clean water available to them.[9]

To meet the need for water "water boys" push carts loaded with unwashed containers of unsafe water collected from drains and untreated wells through the informal settlements. This water is sold on the sidewalks for household chores during the rainy season when the ground water table is high. Studies show that the cases of typhoid, which is a water-borne disease, are prevalent in Monrovia as a result of the supply of unsafe water by "water boys".[10]

Water boys or illegal water vendors often belong to illegal organizations which organize these dealers. The NGO Oxfam was able to work in the Clara Town informal settlement with 30 of these illegal vendors in affiliation with a community based group. These newly legitimatized water sellers were legally acknowledged and provided with water gauges. These water sellers also received plastic water tanks from

Oxfam, allowing them to sell water throughout the day. The connections to the network were also improved to avoid contamination.[11]

Low-income informal settlements in Monrovia include the Industrial Park, Clara Town, Sawmill, Buzzi Quarter and West Point. The Ellen Johnson Sirleaf regime have begun solving the issue of these informal settlements through a demolition exercise claiming that the properties belong to the Liberian government, and are subject to an urban beautification program. Thousands have already been made homeless since the pulling down of these structures began. Two communities where this has begun are the Industrial Park on Somalia Drive and Buzzi Quarter along UN Drive.

The informal settlement of West Point in Monrovia is the largest and is also slated for this beautification exercise but because it was a flashpoint during the recent epidemic this may not happen immediately. The WHO stated that the corpses of West Point EVD fatalities were being disposed of by throwing them into an adjacent river during the peak of the epidemic in a frantic effort to halt the spread of the virus and to cope with the devastating death toll.[12]

The Ebola epidemic in Liberia was marked by intense urban transmission, especially in the slums, multiple community outbreaks with source cases occurring in patients coming from urban areas, and outbreaks in health care facilities. [13] The main cause adding to the unequal health deficit of those who live in informal settlements, namely their hiddenness and abandonment, also made them especially susceptible to the epidemic. However EVD is only one illness. Now that we have the current epidemic under control other highly contagious and virulent microbes continue to move into and out of these settlements. It is not sufficient just to speak of social hardship and distress, lack of easily available health care services, and cultural practices. It will not be possible to stop future epidemics of infectious diseases without facing the fundamental structural and socioeconomic causes of illness distinctive to slums.[14]

These poorer informal settlements in Liberia's capital were linked to more intense, widespread transmission of EVD than the more well-off parts of Monrovia. Patients from less developed, poorer areas of the city

had more contacts with infections leading to more wide spread transmission than illnesses linked to higher income areas. However, at the same time researchers found in the urban slums evidence of strong social networks which could be enlisted to help battle the disease.[15]

Ebola did not spare children even though the cases reported of the EVD deaths of children are less than those of older persons.[16] Ebola occurrences are identified through medical treatment, contact locating or interment documents. Children's cases are more likely to be overlooked by this procedure than adult cases. First, children less than 5 years perish from Ebola more often and more quickly than older persons. Second, children with indicators corresponding to the paradigm definition of suspected Ebola might have availed themselves of treatment in clinics or hospitals less often than adults. Finally, children might have been identified as contacts of Ebola cases less often than adults, especially when the originating cases were also youngsters, thus overlooking subnetworks of diffusion. Interactions between children are not easy to screen, and might have been overlooked during contact tracing with adults. These three issues lead to fewer chances to identify and account for Ebola cases than for adult cases.[17] It should also be pointed out that doing contact tracing among children in a place like Buzzi Quarter is a challenge because everything is shared: mattresses, toilets, food, water, and the burden of caring for the ill.

To get clearer details of this and the level of remembrance in children of the effect of the EVD crisis in Liberia, a scoping survey of one hundred children was undertaken for this project. 40 of the children who were interviewed were from the Buzzi Quarter community in Monrovia. They were all students in the 4th to 6th grades at the Buzzi Quarter School.

60 of the children interviewed were also students from the 4th to 6th grades but from the St Peter Lutheran School in Sinkor, (a relatively affluent community of Monrovia) and the Gray D. Allison School near Central Monrovia. The contrast in socio-economic conditions of the Buzzi Quarter and Sinkor was deliberate and offered a striking contrast. Furthermore, the choice of these students of this age-group was intended to feature respondents who would express their experiences

frankly as they remembered them. They were also selected because they constitute a relatively neglected group in the situation of high crisis.

Although from different community settings, the experiences of these children showed some similarities. It is important to note that they were all out of school as all schools were ordered closed by government as part of the national response to deal with the crisis. This situation provided much more free time for the children; they seemed to have mingled even more they did when they were together in school.

The children explained in the interviews that they played more and with less supervision of parents or teachers than they did otherwise. They played together seemingly with little concern for the protocols so frequently emphasized during the EVD crisis.

During the civil wars in Liberia, many children experienced acute levels of malnutrition leading to their death. This was not the case during the EVD epidemic. The study showed that 75% of the children ate meals as regularly as they did before the Ebola crisis. However, the study did not measure the quality of food eaten before or during the crisis.

40% of the children lost parents or friend or parent/guardian. This suggests that the children in the study suffered the trauma brought on by the death of someone close to them. Considering that 40% these children may be living with such trauma, the study did not find any evidence that anything is being done to address this situation in the children. 50% of these deaths happened to one or both parents (as was the case of some children). The vulnerability of such children in poverty-striven conditions is increased and reduces their chances of effective or successful schooling.

60% of children indicated that they were allowed to play with friends and were usually away from home. This means that while restrictions on EVD during the crisis stipulated that persons avoid close contacts, children might not have observed this restriction or the mechanisms for enforcing them were very limited in the case of children. In fact, the authors monitored national news reports of increase in teenage pregnancies during the EVD crises in Liberia, and this indication of children playing “as usual” and away from home during these period, may explain this phenomena.[18]

The age group selected for the study may not be affected by teenage pregnancy but for this age group to have been away from home and playing together indicates how teens equally being away from home during this personal may have had means for activities' that led to pregnancies.

The questionnaire asked the children if they experienced fear during the crisis. 30% of the children indicated that they had no fear. Hence, they needed no help in dealing with fear. But 70% did experience some form of fear. The study did not delve into what kinds of fear were experienced, but we can infer that some children experienced fear following the death of close friends or parents. While this age group may not immediately comprehend the implication of loss of support and livelihood, we can strongly indicate, based on our knowledge of the Liberian society, that support networks available in such communities as Buzzi Quarter are very strong, but they do not include financial support due to economic status of most residents of this slum community.

One of the overwhelming indicators from the children surveyors is their willingness to help victims of the crisis. Each child offered to be of help to those affected if given an opportunity to do so. This may indicate that the children understood the lack of adequate care for those affected and wished they could help. They might have seen the helplessness in their homes as family members made desperate efforts to seek help that was not available and never came. They might have seen how late arrivals of burial teams forced families to leave the community.

More positively, this offer of help by this age group, might be an indication of a new breed of Liberians who are committed to selflessness and a return to true Liberian community care: "one person's problem, is every person's problem." Whatever indication given by this willingness of the children interviewed to help others in crisis, it was a very positive indicator for a new horizon beaning over the nation.

An inquiry on children such as his study has opened up many unanswered questions. These include:

- What prevented the explosion of EVD elsewhere from happening to these children especially considering the fact that

they engaged in regular close contacts?

- Do traumas in younger ages heal over time? In fact does close contact among children help to reduce trauma?
- How can monitoring and recording of children in crisis be enhanced?

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Chapter 9
Conclusion

What we have tried to show is how social mobilization made a decisive difference in Liberia's battle with the EVD. Except in a passing way we have not discussed the parallel struggles in neighboring Guinea and Sierra Leone. The epidemiology of the disease in these countries was different from Liberia's.

For instance, Liberia first outbreak near its border with Guinea at Foya in early 2014 ended and after 42 days Liberia was declared Ebola free early in the crisis only to have the disease return with a vengeance a month later and threaten Monrovia. This second wave attack by EVD was not the experience of Liberia's neighbors.

The prior history of violence in Guinea was different from that in Liberia and Sierra Leone as both suffered through long, related and debilitating civil conflicts. Therefore Guinea's health system, while not in good shape, was better able to face the emergency than that of its neighbors.

Finally what happened during the epidemic in Liberia was different than Sierra Leone's and Guinea's experience. For instance the failed attempt to quarantine thousands of asymptomatic people in West Point in Monrovia led to an important change in Liberia's strategy to fight the disease. Social mobilization in West Point and elsewhere became a priority. No longer would large-scale quarantines be imposed by the central authorities in Monrovia. Instead it was at the level of local communities that the battle against Ebola would be won or lost.

All three countries eventually made use of the social mobilization strategy. Sierra Leone developed the Community-led Action (CLEA) program and the Social Mobilization Action (SMAC) network. CLEA was designed by SMAC, a group of five agencies that have worked together to fight Ebola through evidence based social mobilization.

Finally Sierra Leone created a co-ordinating body called the National Ebola Response Network (NERC).[1]

The challenges to social mobilization were great in Guinea where the WHO led program met community resistance. In some cases the

resistance turned into violence. As in Liberia, one rumor that circulated in Guinea was to the effect that Ebola was not real.[2] In Guinea, almost 60% of the people believed that the blood of people with EVD was being sold. Rural Guineans told nursing students "When you go to an Ebola Treatment Unit, your heart is punctured, and 20 liters of blood are drawn. Your genitals are cut off, and your blood and organs are sold on the international black market."[3]

Beginning in March 2015 there was a noticeable disparity in the number of confirmed cases of Ebola between Liberia on the one hand and Guinea and Sierra Leone on the other. The number of confirmed Ebola cases in Guinea on March 22, 2015 was 45, in Guinea 33 and in Liberia only one.[4]

This trend continued. On 11 April WHO reported that in the previous 21 days Guinea had experienced 106 cases, Sierra Leone 43, and Liberia zero. On June 24, 2015 WHO reported that in the previous 21 days Guinea reported 34 cases, Sierra Leone 37 and Liberia again zero.

Having been first declared Ebola free in May 2015, on January 14, 2016 Liberia was again declared by the WHO to be Ebola free after the latest flare up was declared over.[5] On November 7, 2015 the WHO officially declared Sierra Leone Ebola-free[6] , and the same was done for the case of Guinea on December 29, 2015.[7]

What these statistics show is that Liberia first freed itself from the Ebola scourge in May 2015 11 months before Sierra Leone and a year before Guinea. The thus far unanswered question is why there was such a noticeable time differential between the three countries.

The answer may be how the three countries dealt with the burial of EVD victims. Traditional burials continued to be done in Guinea and Sierra Leone long after the CDC and WHO had insisted this was a primary method for transmission of the disease.

Washing of a corpse, touching it and even kissing it are important Muslim practices. Washing the dead is considered a collective duty among practicing Muslims. Failure to do so is believed to leave the deceased "impure" and can jeopardize the faithful's ascension into Paradise. "Funerals and washing dead bodies in West African countries

have led, to a great extent, to spread the disease," a WHO spokeswoman announced at the height of the epidemic.[8]

Islam in Liberia is practiced by about 12.2% of the population[9] , whereas 60% are Muslim in Sierra Leone[10] and 85% in Guinea.[11] Liberians suffered EVD infections due to unsafe burials, but this did not mainly have to do with unsafe Muslim funerals. Rather, families privately and quietly buried their deceased rather than hand them over to burial teams for cremation.

In doing this they became infected by EVD. Their distaste for cremation was due to cultural and religious objections to the practice. This unpopular practice was alien to West Africa and left a legacy of stigma and grief.[12] Thanks to a dialogue process undertaken at the local level, the GoL rescinded an emergency order it had issued to cremate all the bodies of suspected Ebola victims.

Instead of cremating the remains the Margibi County safe burial site was established at Disco Hill and run by the NGO Global Communities. The effort was to ensure when people die from EVD their bodies were cared for in a way that was not only safe, but also respectful so the families of victims felt comfortable bringing their loved ones to this site.[13]

Like Liberia, safe burials were also mandated for deaths in Guinea and Sierra Leone. However, this requirement was difficult to enforce and traditional practice frequently led to secret burials or unsafe manipulations of the body before safe burial teams could arrive.[14]

A hypothesis as to why in Liberia EVD was brought under control much earlier than Sierra Leone and Guinea is that once the practice of mandatory cremation ended the local populace began to practice safe and dignified burials that were acceptable to them. This may in turn have been due to the fact that there are far fewer Muslims in Liberia than in Guinea and Sierra Leone.

The end of the Ebola crisis created for many in Liberia a new meaning for the word "relief." During the height of the crisis in August 2014 the authors could hear from their university offices the sound of ambulance sirens carrying Ebola victims up and down our road to a nearby hospital all day long. The JFK Medical Center soon became full

and the ambulances were forced to search for alternative places for their patients, often to no avail.

Later in the year we led students studying at our institution, the Kofi Annan Institute for Conflict Transformation, into rural Grand Cape Mount County on a door to door program to teach members of the Sinje community how to mix their hand washing water every day. The mixture was 0.05% chlorine for each liter of water. Too much chlorine was harmful to the skin. Too little did not kill the Ebola virus. In this effort at social mobilization we found the people we spoke with were attentive to what we had to say, and they were adamant that Ebola had to be eradicated from their community and their country. They have succeeded.

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