

# Cables, Commissions, and Cybercafés: ICTs in Post-Conflict Liberia

March 2013



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# CABLES, COMMISSIONS, AND CYBERCAFES: ICTs IN POST-CONFLICT LIBERIA

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The report "*Cables, Commissions, and Cybercafés: ICTs in Post-Conflict Liberia*" is available at <http://www.infodiv.org/en/Publication.1201.html>

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This project was completed by Michael L. Best, associate professor at the Georgia Institute of Technology.

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## ABBREVIATIONS

3G	Third Generation (mobile telecommunications technology)
ACE	Africa Coast to Europe submarine cable system
CCL	Cable Consortium of Liberia
CDMA	Code Division Multiple Access
GDP	Gross domestic product
GoL	The government of Liberia
ICT	Information and communication technology
ICT4D	Information and communication technology for development
ISP	Internet service provider
LTA	Liberian Telecommunications Authority
TID	Technologies and International Development
TRC	Truth and Reconciliation Commission
USAID	United States Agency for International Development
WiMax	Worldwide Interoperability for Microwave Access
WWW	World Wide Web

*All dollar amounts are U.S. dollars unless otherwise indicated.*

# Executive Summary

This report examines three disparate issues in relation to Liberia's access to and use of information communication technology (ICT). Its three chapters, based on recent research, provide key insights into how well the government of Liberia is achieving its ICT policy goals; Liberia's 2010 National ICT & Telecommunications Policy states that Liberia's development depends in part on its people's ability to produce, use and sell ICT services.<sup>1</sup>

## THE GOVERNANCE OF SUBMARINE CABLE COMMUNICATIONS IN AFRICA: THE AFRICA COAST TO EUROPE (ACE) CABLE SYSTEM IN LIBERIA

The first chapter examines the early governance of international connectivity in Liberia through the Africa Coast to Europe (ACE) submarine cable system. France Télécom-Orange initiated this system in 2010 to run the cables from France to South Africa along the West African coast, with a potential capacity of 5.1 Tbits.<sup>2</sup> The government of Liberia (GoL) immediately recognized the value of joining the ACE consortium and connecting to the cable, which would provide Liberia with international connectivity—a key part of the country's internet supply chain.

In joining the ACE consortium, the GoL and several telecommunications companies formed a public-private partnership that was incorporated as the Cable Consortium of Liberia (CCL) in 2010. The GoL's role in the partnership was supported financially and technically by the World Bank through the West African Regional Communication Infrastructure Program (WARCIP). The CCL is responsible for maintaining and managing access to the ACE system in Liberia.

The chapter looks at the organizational relationships that govern the CCL and interactions with and between other private, public and international actors in the Liberian ICT sector. A four-point analytical framework was used to understand each relationship and its impact on the governance of the ACE cable project in Liberia. The four points in the framework are the sector's institutional arrangements and rules, technical capacity, political support, and the attributes of its powerful actors. The framework was applied to five relationships: (i) the ACE consortium and the CCL; (ii) members of the CCL; (iii) the CCL and other actors in the ICT sector; (iv) the Liberian Telecommunications Authority (LTA) as the government regulator and project manager of WARCIP-Liberia; and (v) the various international agencies working in the ICT sector and the GoL. Together, the analysis explains how the different entities work together, how decisions are made, and possible areas for improvement.

The study reveals several challenges facing the CCL: a history of strained relationships between shareholders, including several debt claims and counterclaims, a perception in the industry that the LTA is a weak regulator, and inadequate technical and human resources in the sector. On the positive side, there is public and political support for the ACE project, and significant technical support from international development partners.

Several recommendations for effective governance of the ACE cable system in Liberia emerge from this analysis. These include:

- Make all CCL procurement subject to the Public Procurement and Concessions Commission in Liberia.
- Align the ACE initiative to the principles held by the Open Government Partnership.<sup>3</sup> The WARCIP program is predicated on open access principles and so the GoL could use this initiative and its participation in the CCL as a "champion project" to promote greater transparency and governance in the ICT sector.
- The LTA can overcome its historically limited capacity through more effective regulatory decision-making and enforcement within the CCL. It can use its position as the implementing agency of WARCIP in Liberia to improve its own technical and human resources and decision-making capacity.

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<sup>1</sup> Ministry of Post and Telecommunications (2010) "National ICT & Telecommunications Policy," Government of Liberia.

<sup>2</sup> [http://www.ace-submarinecable.com/ace/default/EN/all/ace\\_en/the\\_project.htm](http://www.ace-submarinecable.com/ace/default/EN/all/ace_en/the_project.htm), Africa Coast to Europe overview (accessed June 2, 2012)

<sup>3</sup> <http://www.opengovpartnership.org/countries/liberia>, Open Government Partnership (accessed June 19, 2012)

- The LTA must follow through with plans for stakeholder consultations as part of the WARCIP project. While there will be much interest in such consultations initially, particularly given the attention on the CCL, the viability of other aspects of the internet supply chain (i.e., the future national backbone network) will depend heavily on consultations with communities and civil society throughout the country.

#### CYBERCAFÉ USERS AND SUPER-TECHIES IN POST-CONFLICT LIBERIA

The second chapter looks specifically at Liberians who use the Internet in cybercafés. Given the realities of post-conflict Liberia, which include high levels of unemployment- or under-employment, low levels of education and low infrastructure levels, it is not surprising that even among the relatively well-off seven percent of the population who do access the Internet, most use cybercafés as their principal means of access. The chapter aims to understand the usage patterns and motivations of this important group of Internet users.

The chapter is based on a survey of 100 cybercafé users across four different venues within the greater Monrovia area, who were asked a series of questions related to their online activities. The respondents were primarily male (90 percent) and fairly young, with 52 percent between the ages of 25 to 34 and 24 percent age 24 or younger. This is in keeping with the male domination of Internet café users in Liberia and the average age of the Liberian people which is generally low.

The study grouped subjects' responses based on four main themes: (i) the type of online activities they engage in (email, browse, chat, etc.); (ii) areas of online interest (income- related, education, health, e-government, leisure, etc); (iii) self-reported impact of Internet use on themselves, their family and friends (ranging from highly positive to no impact); and (iv) primary information sources (newspapers, books, family to the Internet).

The results indicate that for each theme, different groups of respondents could be identified based on clustering among similar responses. Furthermore, one particularly salient group of subjects gave similar patterns of responses across three of the four themes. This group defines Liberia's super-techy community. In terms of online activities, they were likely to engage in almost all of the proposed activities at higher levels than other groups. They were also most likely to be positive overall about the impacts of the Internet and were most likely to report the Internet as a main information source. These results point to unique usage patterns among the respondents and the emergence of a technically savvy class of users.

These results are promising because they show that a small group of young, knowledgeable, technologically optimistic and aspirational individuals is emerging even in a stressed environment like Liberia. This has implications for initiatives led by the government or international organizations that require local expertise. It also creates the potential for locally led innovation in the economy. Most importantly, it provides evidence of a local pool of talent and skills in the Liberian ICT sector.

#### RECONCILIATION AND THE WEB: A CASE STUDY OF THE DESIGN AND USE OF LIBERIA'S TRUTH COMMISSION WEBSITE

The third chapter focuses specifically on one intervention—the redesign of the website for the Liberian Truth and Reconciliation Commission (TRC). This chapter demonstrates the promise and possibilities of the web to support the work of truth commissions and, in particular, the use of collaborative design processes to develop and deploy rich multimedia environments and secure transactional spaces. These findings are developed through a narrative case study in the design, development, and operation of an interactive multimedia website for Liberia's TRC.

After a long period of conflict in Liberia, a peace agreement was signed in 2003 among the various factions and relevant stakeholders. Among other things, this agreement called for the establishment of a Truth and Reconciliation Commission to promote reconciliation in the country, following similar models elsewhere. As Internet use has increased, TRCs have turned to the web to help publicize their work, disseminate their findings, and (to a lesser degree) interact with their constituencies. Web-based tools can support the core missions of TRCs by providing a platform for victims to tell their story and an opportunity for all affected parties to interact and engage with each other in healing dialog.

After a series of meetings in 2007 with Jerome Verdier, chair of Liberia's Truth and Reconciliation Commission, and other commissioners and stakeholders, the Technologies and International Development Lab (TID) at the Georgia Institute of Technology (Atlanta, U.S.) undertook a collaborative design exercise to redesign, implement, and host Liberia TRC's website. Based on the TRC's inclusion of Liberians in the diaspora as a key target group, the site focused initially on Liberians in the diaspora (specifically the USA) as the most Internet-connected user population. The site was finalized, tested and launched in October 2007.

Three important results emerged from these design activities and subsequent usage analysis. First, the design process underlined the importance of employing participatory methods. These bring together not only the relevant user base (Liberians living in the diaspora), but also institutional representation, that of the TRC commissioners and officers. Second, unlike other sites, the TRC website of Liberia emphasized the process of the TRC's work (testimony, forgiveness, etc.) rather than the organizational structure that governed it. This is potentially useful, as a potential user can relate to the purpose of the TRCs and his/her experience during the conflict. The third finding pointed at the benefits of having multimedia based imagery on the website. The results show the popularity and potential usefulness of such materials.

In summary, the three chapters offer different perspectives on the evolution of ICTs in Liberia. These range from a broad approach for improving international connectivity, to how Liberians use the internet, to a single intervention for improving the website of the TRC. All represent unique aspects of the Liberian experience and point to the past, present and potential future roles of ICTs in the conflict torn country.

# Introduction

Liberia was politically founded in 1847 by freed American slaves and Americans of African descent. While this group of immigrant people (often called Americo-Liberians or Congo People), make up only a small portion of the country's 3.8 million people (2.5 percent) they have historically held most of the political and economic power.<sup>4</sup> Together with the other ethnic groups in the country, they form a diverse population of approximately four million.<sup>5</sup> The country is classified as a Least Developed Country (LDC) by the United Nations; this is indicative of a very low-income population, poor social and health indicators and a high degree of economic vulnerability.<sup>6</sup> In 2011 the per capita gross national income was USD 240, one of the lowest income levels in the world.<sup>7</sup>

The current state of affairs follows prolonged internal conflict between 1980 and 2003. The civil war destroyed most of the country's educational, health, economic, social and other infrastructure. Many Liberians fled the country, depriving it of valuable expertise and skills.

In 2003, warring factions signed a peace agreement that created a transitional government and eventually led to elections in 2005. Since its return to democratic rule, the government of Liberia (GoL) has sought to address the redevelopment challenges facing the country, often in concert with the international donor community. This includes a Poverty Reduction Strategy (PRS) for the period 2008–2011, which supported the continued revival of the economy<sup>8</sup> but achieved mixed results: for example, the country's GDP grew at a strong rate of 8 percent in 2011, though down from 10 percent the year before.<sup>9</sup> Other challenges remain: the government and the United Nations Development Program (UNDP) estimate that Liberia will achieve just three of the eight Millennium Development Goals by 2015 (promote gender equity and empower women; reduce HIV/AIDS, malaria and diseases; and develop global partnerships for development).<sup>10</sup>

One of the priorities put forth by the government is to promote the use of information and communication technology (ICT) to address these development challenges. In fact, it is a main pillar of the PRS. However, given the legacy of the civil war and the state of the economy, ICT adoption has generally been limited. One exception is the mobile phone industry. During the civil war, fighters destroyed or looted most of the country's telecommunications infrastructure. In fact, by the time a peace agreement was reached in 2003, the country's fixed line network was barely functional. At the same time, the mobile phone industry continued operating during the conflict, albeit in a very limited manner.

Recognizing the potential and importance of mobile phones, the 2003 transitional government and subsequent elected governments have all focused on ensuring that the appropriate regulatory and operating environment is in place to support this industry. In 2000, mobile subscriptions per 100 persons were 0.05; by 2010 this proportion increased to 39.34.<sup>11</sup> In 2009 only 32 percent of the population lived in areas with mobile phone service. However, in the last few years' operators have grown their networks considerably to cover a majority of the population. As is the case in most developing countries emphasizing mobile telephony, there has been an associated decline in the fixed line sector. By 2006 the entire fixed line infrastructure in the country was inoperable. In 2010, there still exists no wired network; however the country reports a fixed tele-density of 1 in 1,000, thanks to a modest fixed wireless network.<sup>12</sup> Thus, mobile phones are the main form of voice communication in the country, serving many critical interaction needs.<sup>13</sup>

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<sup>4</sup> *The TRC final report contains a fairly comprehensive history of the Liberia nation. See TRC of Liberia. (2009). Final Report of the Truth and Reconciliation Commission of Liberia (TRC) Volume I: Findings and Determinations. Monrovia, Liberia. Retrieved from <https://www.trcofliberia.org/reports/final/final-report/trc-final-report-volume-1-full>*

<sup>5</sup> World Bank. (2011). *World development indicators*. Washington, D.C.: World Bank.

<sup>6</sup> <http://www.unohrrls.org/en/ldc/164/>, *The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States* (accessed May 12, 2012)

<sup>7</sup> World Bank. (2011). *World development indicators*. Washington, D.C.: World Bank.

<sup>8</sup> International Monetary Fund (2012) *Liberia: Poverty Reduction Strategy Paper—Annual Progress Report*. Washington, D.C.: IMF.

<sup>9</sup> World Bank. (2011). *World development indicators*. Washington, D.C.: World Bank.

<sup>10</sup> GoL/UNDP (2010). *Republic of Liberia Millennium Development Goals 2010 Report*. Monrovia, Liberia: Government of Liberia/UNDP Liberia.

<sup>11</sup> <http://www.itu.int/ITU-D/ict/statistics>, *International Telecommunications Union* (Accessed May 31, 2012)

<sup>12</sup> *Ibid.*

<sup>13</sup> Best, M. L., Etherton, J., Smyth, T., & Wornyo, E. (2010). *Uses of Mobile Phones in Post-Conflict Liberia. Information Technologies and International Development*, 6(2).

While mobile diffusion has mostly been a success story, other ICTs have diffused far more slowly<sup>14</sup>—Liberia’s rates of PC and Internet penetration are among the lowest in the world. Accessibility to ICTs in general remains limited for Liberians. A recent World Bank/ITU estimate (for 2010) fixed the proportion of households with a personal computer at only 1.1 percent.<sup>15</sup> Slightly more people use the Internet (at home or in other venues), with an estimated seven percent of the population enjoying some form access in 2010 (up from an estimated 0.6 percent in 2005).<sup>16</sup> Actual Internet subscription rates, however, are much lower. Further, a recent estimate based on the use of Google services suggested that Liberia had one of the lowest per-capita internet traffic rates globally.<sup>17</sup>

Connectivity is an important concern for the government, which views broadband, in particular, as critical to further develop the ICT sector and create value-added services throughout the economy.<sup>18</sup> The 2010 “National ICT & Telecommunications Policy” states that Liberia’s development depends in part on the extent to which its people can produce, use, and sell ICT services.

The present report consists of three chapters, based on recent research, that examine the key questions of access and use of ICTs among Liberians, and provide insights into how their adoption can be facilitated. The first chapter deals specifically with the issue of increasing international broadband connectivity in the country through the Africa Coast to Europe (ACE) submarine cable system. Specifically, it looks at the initial organizational relationships and institutional rules that govern the cable system’s operation in Liberia and the implication for these on the broader goal of increased connectivity. The second chapter presents an analysis of a new survey of cybercafé users in the capital city Monrovia. The results point to unique usage patterns among the respondents and the emergence of a “super-techie” class of users. The third chapter focuses on the redesign of the website of the Liberian Truth and Reconciliation Commission. It provides a narrative case study of the particular approach used and its relevance to truth commissions in other post-conflict settings.

The chapters range in scope from a broad policy level to specific interventions and individual ICT use in Liberia. Much of this work points to new directions for future research. More importantly, it is hoped that the analysis and results can augment the work of a similarly wide range of government, civil society and private sector organizations that are engaged in leveraging ICTs for Liberia’s development.

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<sup>14</sup> Best, M. L., Jones, K., Kondo, I., Thakur, D., Wornyo, E., & Yu, C. (2007). *Post-Conflict Communications: The Case of Liberia. Communications of the ACM, 50*(10), 33–39.

<sup>15</sup> World Bank/ITU (2012) “*The Little Data Book on Information and Communication Technology.*” Washington DC: World Bank.

<sup>16</sup> *Ibid.* Refers to use of the Internet from any platform over the last 12 months.

<sup>17</sup> <http://www.google.org/docs/liberia-Internet-ecosystem.pdf> (Accessed June 2, 2012)

<sup>18</sup> Ministry of Post and Telecommunications (2010) “*National ICT & Telecommunications Policy*” Government of Liberia.

# Chapter 1

## Constructing Consortia: Early Governance of Liberia's ACE Submarine Cable<sup>19</sup>

### 1.1. Introduction

Given the low levels of Internet penetration in Liberia (7 percent of the population in 2010), one of the biggest challenges facing its government is improving Internet connectivity, including broadband infrastructure. Liberia's 2010 National ICT & Telecommunications Policy stresses the need for a high capacity broadband network to support economic growth and development.<sup>20</sup> The policy also recognizes the enormous urban-rural ICT divide within the country and the need for cheaper means of Internet access. As of mid-2012, international connectivity was achieved via relatively expensive satellite technologies.

The civil war and the subsequent focus on immediate needs and national reconciliation conspired to prevent Liberia from capitalizing on a number of cheaper international connectivity options, such as submarine fiber-optic cables that have already been laid along the West African Coast. These include the South Atlantic 3/West Africa Submarine Cable (SAT-3/WASC), with a total capacity of 340 Gb/s<sup>21</sup> and Main One, with a potential capacity of 4.96 Tb/s<sup>22</sup>. The opportunity costs of not being able to take advantage of these options have been high for Liberia. Satellite connectivity expenses have been estimated at approximately \$3,000 monthly per Mbps in Liberia. Meanwhile, access via submarine cables is approximately \$280–800 monthly per Mbps with Main One and SAT-3 for Liberia's neighbors such as Senegal and Côte d'Ivoire.<sup>23</sup>

Adding an additional cable along the West African Coast, in 2010 France Télécom-Orange initiated the ACE submarine communications cable project, to run from France to South Africa. Liberian officials immediately recognized the value of joining the ACE consortium and connecting to this cable: ACE was an opportunity that Liberia could not miss. Indeed, given the cost of satellite access and difficulty of using alternative technologies in Liberia, both the World Bank and USAID concluded that the ACE cable system represented one of the most economical options to secure international connectivity.<sup>24</sup>

Several observers have outlined the numerous ways in which Liberia will benefit from connection to the ACE cable system. A common argument is that it will help spur growth in the national ICT sector, which in turn will have positive spillover effects by generating employment both directly and indirectly and increasing foreign direct investment in the country. Furthermore, ACE could improve Liberia's e-government capacity; provide cheaper and faster Internet services; potentially allow for local management of Liberia's county code top-level domain (ccTLD), its ".lr" domain; and increase the impact of ICT on the health, education, and national security sectors in the country.<sup>25</sup> Also of note is the long-term impact that improved access and use of ICTs might have on the innovation potential of the Liberian economy.

While popular attention has focused on the benefits that can accrue to Liberians from connecting to the ACE cable system, public and mass media have generally drawn away from understanding how Liberia will manage and govern the system. In contrast, the government and private sector stakeholders are understandably most focused on the short-term issues of governance, financial details, and infrastructure deployment at times almost losing sight of the larger vision for and potential benefits of the system.

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<sup>19</sup> With Dhanaraj Thakur, Department of Government, University of the West Indies

<sup>20</sup> Ministry of Post and Telecommunications (2010) "National ICT & Telecommunications Policy" Government of Liberia.

<sup>21</sup> <http://www.safe-sat3.co.za/>, the SAT-3/WASC/SAFE homepage (accessed July 12, 2012).

<sup>22</sup> <http://www.mainonecable.com/network>, the Main One network design (accessed July 12, 2012).

<sup>23</sup> World Bank (2010) "Project Appraisal Document—West Africa Regional Communications Infrastructure Projects (APL 1A)—Liberia and Sierra Leone." The World Bank.

<sup>24</sup> *Ibid.*

<sup>25</sup> Victor, C. (n.d.) Status of the ACE Fiber Optic Project in Liberia. *TLC Africa*. Retrieved from: [http://www.ilcafrica.com/technology/ACE\\_Monrovia\\_Landing\\_Point\\_document\\_3-2011.htm](http://www.ilcafrica.com/technology/ACE_Monrovia_Landing_Point_document_3-2011.htm)

This chapter presents an analysis of Liberia’s early involvement in the ACE cable system using a four-point framework, including critical factors that can influence the overall governance and success of the cable system. The analysis points to ways in which Liberia’s institutional and policy arrangements for ACE may—or may not—lead to the benefits that have been ascribed to the country’s membership in the consortium. The aim is to provide a basis for an informed discussion on how best to implement the proposed governance structure of the ACE cable system in Liberia.

## 1.2. Background—ACE in Liberia

The ACE submarine communications project consists of a 17,000 km-long fiber-optic cable system that will run from France to South Africa along the West African Coast. The project is financed with an investment of approximately \$700 million and administered by a consortium. The consortium currently consists of sixteen entities, including France Télécom along with many of the national telecom operators from the African countries that are situated along the Atlantic Ocean.<sup>26</sup> In all, the cable network will include connections to eighteen African countries, with a potential capacity of 5.1 Tbits.<sup>27</sup>

The Liberian Telecommunications Company (Libtelco), the state-owned national operator, was the first Liberian entity to pursue membership in the ACE consortium, but was unable to secure the required private capital. It sought the assistance of the government through the Liberian Telecommunications Authority (LTA), which was similarly unsuccessful in securing private-sector financing. This led to a period of negotiations between the government and major telecommunications companies operating in Liberia. Both the United States Agency for International Development (USAID) and the World Bank supported the formation of a public-private partnership (PPP) to create an entity with enough capital to join the ACE consortium (\$25 million).

Eventually, an agreement was reached between the Liberian government, Libtelco and two private-sector mobile phone operators to create such a partnership. With this commitment in place, the World Bank supported the government’s contribution to the cost of membership in the ACE consortium, along with some administrative and capacity building support, with a loan of \$25.6 million.<sup>28</sup> This loan is part of a larger initiative, the West African Regional Communication Infrastructure Program (WARCIP), the first phase of which applies to Liberia and Sierra Leone. The largest component (\$20 million in ACE membership fees and \$1 million to support the Universal Access Fund) of the loan is primarily to cover the cost of the GoL’s stake in the PPP and the country’s membership in the ACE consortium. The rest is allocated to technical assistance for increasing connectivity across the country, and project implementation costs.

The PPP was realized in May 2010 with the incorporation of the Cable Consortium of Liberia (CCL). The CCL formally joined the ACE consortium the following month. Its articles of incorporation were amended in June 2011 to include the following initial shareholders: the GoL, with 60 percent of shares; the government-owned Libtelco, which has another 20 percent; and Lone Star Communications (MTN) and Cellcom, two privately held telecommunication companies in Liberia, each with a 10 percent share. Members in the CCL contributed to the cost to join the ACE consortium relative to their shareholdings. The first component of WARCIP-Liberia was used to cover the GoL’s total costs of \$20 million (including Libtelco’s share), while the two private telecommunications operators provided the other \$5 million.

It should be noted that the focus of this chapter on early governance of the ACE connection in Liberia represents only one part of a much larger broadband supply chain in that country, which consists of three parts: international connectivity, a domestic backbone and the local connection to the consumer.<sup>29</sup> The ACE project primarily addresses international connectivity. The other components in the broadband supply chain include the development of a national backbone network that will roll out gradually, starting with several government agencies. The backbone should eventually include coverage outside of Liberia’s capital, Monrovia. Although this backbone is not a part of the ACE system, its completion will be crucial in realizing the benefits of this system in Liberia. These stages in infrastructure deployment are planned proceed in parallel with institutional and human capacity-development activities designed to ensure the proper management of all associated facilities. Here WARCIP-Liberia will also provide some support.

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<sup>26</sup> For the complete list of all sixteen ACE consortium members see: [http://www.ace-submarinecable.com/ace/default/EN/all/ace\\_en/the\\_consortium.htm](http://www.ace-submarinecable.com/ace/default/EN/all/ace_en/the_consortium.htm) (accessed June 2, 2012).

<sup>27</sup> [http://www.ace-submarinecable.com/ace/default/EN/all/ace\\_en/the\\_project.htm](http://www.ace-submarinecable.com/ace/default/EN/all/ace_en/the_project.htm), overview of the ACE cable initiative (accessed June 2, 2012).

<sup>28</sup> World Bank (2010) “Project Appraisal Document—West Africa Regional Communications Infrastructure Projects (APL 1A)—Liberia and Sierra Leone.” The World Bank.

<sup>29</sup> Kelly, T. and Rossotto, C. (Eds.) (2012) “Broadband Strategies Handbook.” Washington DC: The World Bank.

The ACE cable connection landed in Liberia in late 2011 to much publicity in the local and international media.<sup>30</sup> The connection is expected to go online in 2013, with high expectations about its impact on the country. To better understand how it can succeed, the next section presents study methods and then a framework to guide the examination of the underlying early governance structure of ACE in Liberia.

### 1.3. Scope and Methods

With a focus on the early institutional and policy configuration of the ACE cable system in Liberia, this chapter is informed by the literature on public administration and governance. For our purposes we can define governance as the way in which public authority is exercised. In this sense, governance can include the implementation of rules and regulations, managerial accountability and organizational efficiency, and a focus on participation and inclusion. These concepts are not mutually exclusive and contemporary notions of governance often include all three among others.<sup>31</sup>

In addition we are specifically concerned with Liberia, a country that may no longer be in an immediate post-conflict condition but is still deeply influenced by the repercussions of past conflicts. Of particular relevance are the post-conflict impacts on governance. This can include a disruption in the functioning of government, the dissolution of civil society organizations, limited technical capacity for policy formulation and implementation, personal mistrusts and animosities, particularly powerful individuals or coalitions in the diaspora due to conflict-induced displacements, a flood of individuals returning from abroad, and growth in the informal economy. All of these conditions can effect and challenge the exercise of public authority.

Another potential post-conflict governance challenge is the loss in legitimacy of the state itself, particularly in the eyes of the larger population that suffered during conflict. This stems in part from systems of governance that were perceived to benefit only a select few during the time of conflict. Indeed, in Liberia as is common in other post-conflict states, some of these same elite actors (by which we simply mean those who have a significant influence on public authority whether from the public, private or civil society sectors) who were prominent during the conflict have assumed leadership roles in the interim and subsequent government as part of the reconciliation process.<sup>32</sup> Thus elements of illegitimacy that can build up during the conflict periods will also color viewpoints of government among the population post-conflict.

Beyond matters as to the position of conflict entrepreneurs in post-conflict governance, the special role of elite actors including those who did not play a role during the conflict, surfaces in the post-conflict settings. Kalu<sup>33</sup> argues that the influence of elites on governance, although ubiquitous generally, is particularly significant in the African context. Thus the actions of these elite actors become particularly important when considering governance in Liberia both from a post-conflict and an African position.

While these conditions are not unique to conflict-stressed environments they are all increased in quantitative degree within the post-conflict settings. Indeed, it is the steady accumulation of the degrees of difference that can ultimately tip to a qualitative difference in post-conflict governance.

With such factors in mind, Kauzya<sup>34</sup> identified several phases of governance that post-conflict countries experience. First, there is a focus on emergency relief including logistical and administrative systems to support the provision of basic needs and services. Second, there is rehabilitation where the focus is on rebuilding infrastructure and human capital. Third, such countries will then focus on institution building which can have a significant impact on governance with the introduction new laws, judicial reform, democratic systems, etc. Finally, Kauzya argues that post-conflict countries will then enter a phase of transforming governance to one that is more participatory.

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<sup>30</sup> <http://www.pri.org/stories/world/africa/fiber-optic-cables-finally-bring-reliable-Internet-to-liberia-west-africa-6899.html> (accessed June 11, 2012).

<sup>31</sup> Weiss, Thomas G. 2000. "Governance, good governance and global governance: Conceptual and actual challenges." *Third World Quarterly* 21(5): 795–814.

<sup>32</sup> Hensell, Stephan, and Felix Gerdes. (2012). *Elites and International Actors in Post-War Societies: The Limits of Intervention*. *International Peacekeeping* 19(2): 154–169.

<sup>33</sup> Kalu, K. A. (2004). *Agenda setting and public policy in Africa*. Ashgate Pub Limited.

<sup>34</sup> Kauzya, John-Mary. (2003). *Reconstructing Public Administration in Post-conflict Countries: Leadership and Institutional Capacity Implications*. In *Leadership and Social Transformation in the Public Sector: Moving from Challenges to Solutions*, New York: United Nations, p. 45–54.

Given Liberia's stage of post-conflict development, one might observe that it is in a period of institution building with an ambition of creating more participatory governance systems. It is within this context that we locate the ACE cable system in Liberia while focusing on early ideation, institutional and policy creation and governance of this specific initiative.

In conducting our analysis, we made use of a combination of primary and secondary source data. This included semi-structured interviews of key actors in the Liberian government, telecommunications sector, and among relevant international organizations working in the country. Interviewees were selected based on their participation in and/or knowledge of the ACE cable system and the wider telecommunications sector. The analytical framework described below guided the interview questions. In addition, we examined a variety of stakeholder reports (e.g. from USAID or the World Bank), local newspaper articles on the ACE system and related ICT stories.

Given the contested nature of any robust competitive sector, such as telecommunications, we are certain to encounter differences in accounts and attributions among this broad range of informants. These contestations can be further exacerbated due to the post-conflict conditions identified above. In reporting out contradictory findings we have either cited the source leaving it to the reader to come to some conclusions or, in those cases when we have salient and convincing first-hand knowledge, we have drawn only upon those inputs we find most reliable.

## 1.4. ACE in Liberia: An Analytical Framework

The objective of this chapter is to detail and analyze the institutional, economic and political decision-making processes that governed the initial work to connect Liberia physically and organizationally to the ACE cable system in Liberia. In so doing it will highlight the potential benefits and costs that can accrue from these arrangements. A framework was developed from a previous research project looking at the policy development process in post-conflict contexts such as that of Liberia.<sup>35</sup> This framework employs four factors to better understand the explicit and implicit arrangements supporting the implementation of ACE in Liberia. These factors have been slightly modified from the initial framework for the purposes of this paper. They include:

1. **Institutional arrangements.** This refers to enforcement mechanisms, laws governing the sector and changes to those laws, operating relationships between industry players, and the mode of sale and provision of services to customers. Also of relevance is the existence of informal institutional arrangements that could have developed from weak formal associations both pre- and post-conflict.
2. **Technical and human resources.** This includes technical capacity to conduct legal/policy analysis, assessment of costs, the type and quality of data available (e.g., telecommunications indicators) both to decision-makers and policy analysts, and how such information is used. Other issues include the ability of assigned agencies to define and get consensus on policy goals, level of pay, morale and skills, nature of learning from external sources, previous experience and the impact of brain-drain (if any) in this area. Finally, it covers the availability of specialized equipment crucial for telecom regulation.
3. **Political support.** Includes the priority given to telecommunications by the government, the scope for public debate and discussion around the issue, popular interest in the use of telecommunications, the position of industry groups (e.g., telecoms providers, ISP's, etc.), the political influence of employees in the sector and the degrees to which political decisions follow technical/bureaucratic advice. Also, as mentioned earlier, the perception of legitimacy in the eyes of both local and foreign actors must be considered.
4. **Attributes of elites.** Relevant factors include the telecommunication policy priorities of elite actors, their preferred approach to policy implementation and decision-making, and political and other compromises in terms of decision-making and implementation. As mentioned earlier, by elite actors we simply mean those who have a significant influence on public authority whether from the public, private or civil society sectors.

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<sup>35</sup> Best, M.L. and Thakur, D. (2009) "The telecommunications policy process in post-conflict developing countries: the case of Liberia," *info*, Vol. 11 Iss: 2, pp.42–57.

### 1.5. The Management and Governance of ACE in Liberia

Our analysis is based upon the delineation of five relevant levels of governance. Each level of governance, or decision-making, involves a different set of actors. Although not completely independent of each other, they have unique characteristics that make them worthy of independent examination. These five governance levels are:

1. Decision-making and cooperation between the entity that will oversee the physical and commercial link to the ACE system, the Cable Consortium of Liberia (CCL), and the ACE consortium itself.
2. The operating relationships between the members of the CCL.
3. The engagement of the CCL with other actors in the local ICT sector.
4. The nature and role of the Liberian Telecommunications Authority (LTA) as the government regulator in charge of the sector and implementing agency for WARCIP-Liberia.
5. The collaboration between the various international agencies working in the telecommunications sector and the GoL.

These levels are represented in Figure 1 below. The four factors in the analytical framework (institutional arrangements, technical capacity, political support and elite attributes) were applied to each governance level. Together they explain the various ways in which the actors at each level work together, how decisions are made, and what are some of the possible areas for improvement. Given the nature of the relationships involved, some factors are more applicable than others for a given level.

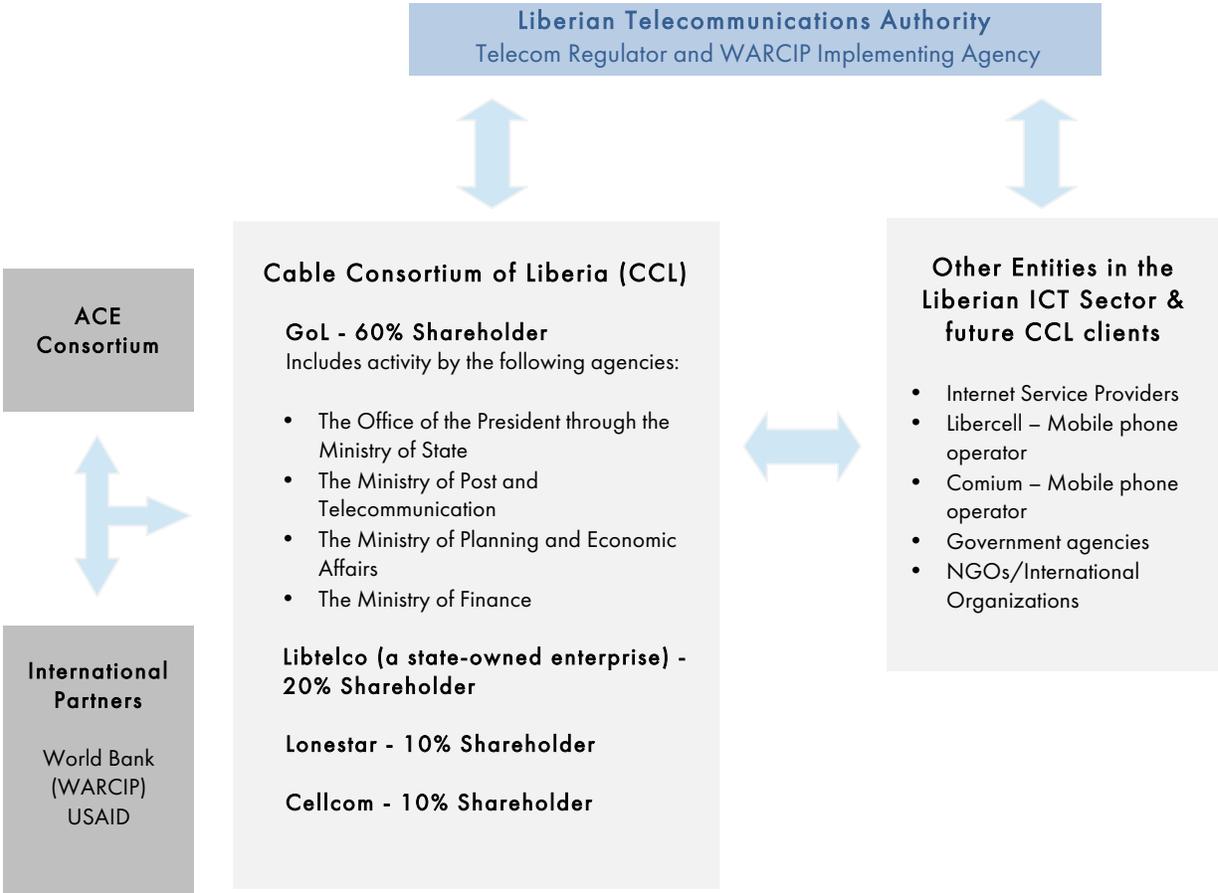


Figure 1: Levels of Governance for the ACE Cable System in Liberia<sup>36</sup>

<sup>36</sup> Adapted from Victor, C. (n.d.) "Status of the ACE Fiber Optic Project in Liberia." TLC Africa. Retrieved from: [http://www.tlcafrica.com/technology/ACE\\_Monrovia\\_Landing\\_Point\\_document\\_3-2011.htm](http://www.tlcafrica.com/technology/ACE_Monrovia_Landing_Point_document_3-2011.htm).

### 1.5.1. The Cable Consortium of Liberia (CCL) and the ACE Consortium

The opportunity to join the ACE consortium was viewed as important by both the GoL and telecommunications companies in Liberia. In 2009, the government-owned Libtelco approached the Board of Commissioners of the LTA with an urgent request for assistance and financial support to join the consortium. At that time the ACE consortium was finalizing its membership after having spent a year inviting proposals from entities wishing to join. The LTA agreed to provide an initial payment, allowing the execution of an initial MOU for ACE membership.<sup>37</sup> Libtelco was the signatory to the agreement since at that time only telecommunications operators (and not government ministries or PPPs) were allowed to be members in the consortium.

Both Libtelco and the LTA were aware of the importance of this opportunity, given the state of Internet connectivity in the country, but neither had the capital to cover the cost of full membership for Liberia. Libtelco identified a potential foreign investor that was willing to provide the necessary capital; however, the investor wanted exclusive rights to any additional submarine cable connections.<sup>38</sup> The LTA also sought finance from the private sector, including commercial banks, but was unsuccessful.

A period of negotiation followed between the GoL and the telecommunication operators on the best method to ensure that Liberia participated in the ACE cable. Both USAID and the World Bank had input into these deliberations. Emerging from these vigorous and at times contested discussions – between the GoL, private operators, and international agencies - was the creation of a public-private partnership. With the World Bank in the lead, and ultimately with their financing for GoL investment, this PPP was created. The World Bank has noted the creative and proactive processes it had to undertake to respond to GoL requests, ultimately ensuring the ACE opportunity for Liberia<sup>39</sup>. The PPP was composed of the government joining with several operators to create a Special Purpose Vehicle called the Cable Consortium of Liberia (CCL). This became the first PPP to join ACE, necessitating the consortium to change the rule that had initially stipulated that only operators could join. Indeed, as part of World Bank support going to Liberia and other West African states, the Bank worked closely with the ACE consortium to include the concept of special purpose vehicles in the ACE Construction Maintenance Agreement (CMA), as well as promoting other important revisions including inclusion of anti-corruption language.<sup>40</sup>

The CCL, as a member of the ACE consortium, would manage and operate the cable landing station in Liberia. In June 2010, the CCL entered into a Construction and Maintenance Agreement with the ACE Consortium with respect to the cable infrastructure in Liberia. At that time, the CCL had not yet appointed an initial board of directors. Based on an agreement with the then-prospective shareholders, the LTA as the incorporator of the CCL entered into the CMA on the behalf of the PPP.<sup>41</sup>

The CMA outlines the specific institutional arrangements that govern the relationship between the CCL and ACE consortiums. The agreement defines the CCL as the designated landing party for Liberia, which means that the CCL has authority to (1) design, construct, and maintain the cable landing station in Liberia, and (2) use and assign to its shareholders its allocated capacity under the ACE cable system. Thus, the main purposes of the CCL are to secure access and interconnection to the global Internet through the ACE cable system, and to provide commercial and other services in Liberia via the same system.

Liberia's participation in the ACE consortium also included the appointment of the LTA chairperson, Angelica Weeks, as vice-chairperson of the multi-country ACE Consortium Management Committee. The appointment was made shortly after the CMA was signed in 2010.<sup>42</sup> This ostensibly offers the LTA a significant voice in the overall operations of the ACE consortium.

The World Bank provided the core legal and economic expertise required to establish the CCL, with some preliminary work done by USAID. The GoL and the other CCL members used this analysis to determine the nature, and the extent of their investment in the initiative. In other words, the required expertise was not available within the Liberian government, and often not within the country. This is not unusual to Liberia as the establishment of a PPP for submarine cable landings is a highly technical matter often relying on a small cadre of international experts<sup>43</sup>. This is similar to the pattern for the acquisition of technical expertise in other segments of the telecommunications industry and the Liberian economy as a whole.

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<sup>37</sup> *Personal communication, Members of the LTA, March 13, 2012.*

<sup>38</sup> *Ibid.*

<sup>39</sup> *Personal communication, World Bank, September 18, 2012*

<sup>40</sup> *Personal communication, World Bank, October 9, 2012.*

<sup>41</sup> *CCL (2011) "Consortium and Series A Shareholders Agreement for Cable Consortium of Liberia, Inc." Cable Consortium of Liberia.*

<sup>42</sup> *LTA "LTA Newsletter," Vol 1, No. 1, July-September, 2010. Retrieved from <http://www.lta.gov.lr/doc/Newsletter%20August%202010%20final%20for%20printer.pdf> (accessed June 2, 2012).*

<sup>43</sup> *Personal communication, World Bank, September 17, 2012.*

Given the promised impact of acquiring improved international connectivity through the ACE cable system, there is widespread political support for the project. Some evidence of this comes from the numerous media reports, both domestic and abroad, which have reacted positively to the initiative. Many reports have also cited government officials and other key stakeholders when mentioning the various benefits associated with improved Internet connectivity in the country<sup>44</sup> <sup>45</sup>. None of these reports, however, focus specifically on matters of governance both within the CCL and as it relates to the broader ACE consortium, presumably because this might be perceived as simply a detail within the larger goal of achieving broader Internet access in Liberia as well as problems of information access due to the private and often confidential nature of much of the ACE and CCL deliberations.

The final factor in the analytical framework focuses on the attributes of elite persons (again meaning those who have a significant influence on public authority whether from the public, private or civil society sectors), and how they have wielded considerable influence on the ACE project. The initial format for Liberia's membership in the ACE consortium was decided through discussions between the head of Libtelco and the Commissioners of the LTA, but the influence of the managing director and other members of Libtelco's leadership was important in promoting the project within the GoL. The extensive influence of Libtelco may actually have made other operators and even international partners hesitate to collaborate with the CCL.<sup>46</sup> These international partner organizations, in particular the World Bank, were instrumental in formulating the PPP as a risk-spreading option that moved control across a range of Liberian stakeholders without complete concentration in a single entity or elite group.

At this governance level, the legal arrangements provided by the CMA appear to be a significant factor in defining the decision-making process between the CCL and the ACE consortium. In addition, the personal influence of key elite members within the CCL is a critical decision-making factor, and one that is in regular flux. However, this too is constrained by the legal basis of operation between the members of the CCL.

### 1.5.2. Operating Relationship between Members of the CCL

As stated previously, the CCL includes the following shareholders: the government, (60 percent of shares); government-owned Libtelco (20 percent); and Lone Star (MTN) and Cellcom (each with 10 percent). According to its Shareholders Agreement of June 3, 2011, the CCL only creates a contractual relationship between the members and is not a partnership or other form of joint venture. As such, the benefits that accrue from the CCL to its shareholders are proportionate to their level of ownership. This relates to the beneficial access and use of the ACE-allocated capacity and the CCL's co-location and other facilities. As a result, the Liberian government as the largest shareholder should benefit the most from earnings derived from commercial services related to the Liberian Consortium's allocated bandwidth.

However, the size of the government's ownership share is not reflected in the allocation of directors to the board of the CCL. The government may appoint only one director to the five-member board. The other shareholders are allotted one director per each 10 percent of the total number of shares. Thus, Libtelco can appoint two directors. Although this number could theoretically increase should Libtelco acquire more shares, according to the consortium's terms it may appoint only two directors as long as it remains a state-owned enterprise, or if the GoL does not divest at least an equal number of shares to private sector enterprises. In this way, the GoL is prevented from dominating the decision-making structure of the CCL over the long term. However, in the short term it could do so, enjoying a majority board position of three (two from Libtelco and one from GoL directly) of the five directors.

The historical relationship between the shareholders is also relevant in understanding their working relationships in the cable consortium, which have been strained and contentious at times. According to the Liberian media, Cellcom and Lonestar have accused each other of anti-competitive business practices, including an assertion by the latter that it was owed \$1 million by the former.<sup>47</sup>

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<sup>44</sup> See for example: Weedee, E. (2011, October 5). *Liberia: New Telecommunications System Will Foster Nation's Development*. Heritage. Retrieved from: <http://allafrica.com/stories/201110060323.html>.

<sup>45</sup> Allen, B., & Hugh-Jones, R. (2011, November 18). *Liberians hope long wait for the web is finally over*. BBC News. Retrieved from <http://www.bbc.co.uk/news/world-africa-15692430>.

<sup>46</sup> Personal communication, Members of the LTA, March 13, 2012.

<sup>47</sup> Liberia: GSM War -Lonestar, Cellcom Clash As Subscribers Complain. (2011, May 24). The Informer. Monrovia, Liberia. Retrieved from <http://allafrica.com/stories/201105260846.html>.

Meanwhile, Cellcom accused Lonestar of blocking calls from its network.<sup>48</sup> <sup>49</sup> This situation is complicated by the fact that Libtelco also allegedly owes Lonestar approximately \$500,000.<sup>50</sup> In both cases, Lonestar is allegedly owed money due to arrears in call-settlement payments from the smaller Cellcom and Libtelco networks. According to reports, the other operators have been slow or negligent in meeting these payments but have also raised complaints against Lonestar for misuse of a dominant market position. While such disputes among vigorous competitors are natural, in this particular case stakeholders have surfaced these disagreements as potentially detrimental to the smooth operation of the CCL<sup>51</sup>. Furthermore, while the existing competitive position and disputes exists entirely at the retail level, the CCL demands new points of cooperation - and thus potential dispute - at the network wholesale level<sup>52</sup>.

Another important historical relationship exists between Libtelco and the government. According to the National ICT and Telecommunications Policy, the government owes Libtelco more than \$20 million “in uncollected receivables for goods and services” (pg. 14).<sup>53</sup> It further states that the LTA shall apply fees and other payments due from Libtelco against this outstanding debt.

In sum, these reports indicate that there are several instances of outstanding debt between all the shareholders: Cellcom allegedly owes Lonestar; Libtelco allegedly owes Lonestar; the GoL reportedly owes Libtelco. These arrears most likely have antecedents in the post-conflict context, which includes a general lack of trust and the regulator’s weak enforcement capacity. It may be challenging to preclude such claims from influencing decision-making and cooperation within the CCL.

### 1.5.3. Operating Relationship between members of the CCL—The Public-Private Partnership

Early in the process of identifying funding for ACE membership the creation of a PPP was suggested, especially since private investments were not developing. USAID had broached the idea of forming a PPP with Lonestar (MTN), the market leader in the sector and one of the eventual members of the CCL.<sup>54</sup> It was viewed as an appropriate solution to the challenge of raising the capital for membership in ACE.

One main purpose of a PPP is to distribute risks and responsibilities across participants in such a way as to make an investment viable while ensuring that the public’s interests are protected. It has become a popular method for infrastructure development in countries such as those of sub-Saharan Africa, where significant investment in ICT is lacking. However, a review of PPP cases in Africa reveals that several challenges need to be met in order for a government to achieve its goals.<sup>55</sup> For example, PPPs for infrastructure development should be seen as long-term endeavors, given the time required to get an adequate return on investment and to repay debts. However, Special Purpose Vehicles are by definition mostly of a temporary nature. While in this case the CCL may exist for the duration of the ACE itself<sup>56</sup>, many details within the CCL that will admit to this long-term presence have yet to be worked out let alone formally adopted. Given that the estimated life of the ACE cable is at least twenty years, long-term solutions are needed.

Another issue arises from the peculiarities in the inception of and innovative aspects to the PPP model. PPPs are usually created to leverage private sector financing to support a project. In this case, however, the GoL provided most of the financing (through a World Bank loan), with much less funding provided by the private-sector members of the CCL. In fact, the GoL and the LTA had to encourage Cellcom and Lonestar to join, in part because at the time the overall structure of the CCL had not been finalized. Indeed, the operators reported signing on to the PPP and posting their investment somewhat in the dark, given that the institutional arrangements were still in flux.<sup>57</sup>

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<sup>48</sup> *Liberia: Interconnect war breaks out between Cellcom and MTN’s Lonestar. (2011, May 27). The Balancing Act, (556). Retrieved from <http://www.balancingact-africa.com/news/en/issue-no-556/telecoms/liberia-interconnect/en>*

<sup>49</sup> *The LTA itself has publicly warned all operators against engaging in this practice: Edwin G. Genoway, Jr. (2011, September 9). LTA Warns GSM Companies. The New Dawn. Retrieved from [http://www.thenewdawnliberia.com/index.php?option=com\\_content&view=article&id=4225](http://www.thenewdawnliberia.com/index.php?option=com_content&view=article&id=4225).*

<sup>50</sup> *Personal communication with Lonestar (MTN), Dec 13, 2012.*

<sup>51</sup> *Personal communication, Cellcom, ; Personal communication, Lonestar, .*

<sup>52</sup> *Personal communication, World Bank, September 17, 2012.*

<sup>53</sup> *Ministry of Post and Telecommunications (2010) “National ICT and Telecommunications Policy,” Liberia: Government of Liberia.*

<sup>54</sup> *Personal Communication, USAID/IBI Representative, December 15, 2011*

<sup>55</sup> *Farlam, P. (2005) Working Together: Assessing Public Private Partnerships in Africa, NEPAD Policy Focus Report 2. The South African Institute of International Affairs. Johannesburg, South Africa.*

<sup>56</sup> *Personal communication, World Bank, September 17, 2012.*

<sup>57</sup> *Personal communications with representatives from Lonestar (MTN) and Cellcom, December 13, 2011.*

This lack of upfront clarity notwithstanding, unique within the ACE consortium to the Liberia PPP, the private operators paid for their participation upfront; for all other ACE members the government made all payments on behalf of the private operators.<sup>58</sup> While the private operators up-fronted their funds, their relatively small contributions may have been motivated by their occasional negative experiences with Libtelco, the LTA and the GoL in general. Nevertheless, they were ultimately encouraged by the fact that the ACE consortium included global companies such as France Telecom<sup>59</sup> as well as the diligent efforts of international partners such as the World Bank.

The initial arrangements of the CCL were put in place in just a few rushed months thanks to the process realities in Liberia and a strict timeline put forward by ACE. The fact that the operators put any real money down, quickly, and without all arrangements fully in place speaks well beyond any trepidations they may voice now and most probably underlines the clear and palpable opportunity the cable presented, competitive calculations (if we do not sign-on and our competitor does than we could be significantly harmed), and in the trust placed on the overall processes and leadership set in place by the World Bank.

Most of the PPP stakeholders broadly anticipate GoL divestiture and the privatization of the network. Should this divestment program go forward as planned, it would allow existing operators an opportunity to expand their shares in the cable and new operators to buy into the CCL. While divestiture is a requirement of the project, given the potential revenue stream from the CCL's commercial services there is some concern that the GoL could hesitate in proceeding with this divestiture. The World Bank identified this risk among others in its assessment of the loan to support, in part, the GoL's participation in the CCL.<sup>60</sup> Of note is a related World Bank loan to the government of Sierra Leone, which has supported that country's participation in the ACE project. That agreement *requires* the Sierra Leone government to make an offer for the sale of its shares in the Sierra Leone Cable Limited (the equivalent of the CCL) as a condition for the final disbursement of funds from that loan. As no such condition exists for the Liberian government it might be motivated to divest its shares only if the demand is made by other members of the CCL. Whether the demand is made or not will ultimately depend on the stakeholder's commercial calculations.

Most PPPs are complex in their size, structure and scope, and the CCL is no exception. A challenge that can emerge from this complexity is the increased opportunity for inappropriate, indeed illegal, interference by foreign and local interests (such as in contract awards). Such interference can be hard to detect.<sup>61</sup> Thus, governments and regulators must be even more vigilant than usual in their oversight. Although not specifically part of the CCL's operational practice, the CCL could put systems in place to ensure that all of its procurement is subject to the Public Procurement and Concessions Commission (PPCC), which oversees all public procurement in Liberia. This could be done in tandem with the World Bank's guidelines for procurement.

As with the previous discussion on matters of governance (between the CCL and the ACE consortia), the institutional arrangements codified in the shareholders' agreement help explain the decision-making process within the CCL itself. At first glance, political support and technical expertise (provided mainly by the World Bank) would appear to be significant issues. However, it is important to recognize the potential influence of elite actors in the Liberian context. Such influence is often exercised informally or implicitly, and results in decision-making that involves a bargaining process among elites. Furthermore, this pattern is not uncommon in the post-conflict context, where bureaucracies and institutions are still emerging.<sup>62</sup> For instance, evidence of the post-conflict reality of elite actor influence and bargaining has been developed in Liberia<sup>63</sup>, Iraq<sup>64</sup>, and across Africa<sup>65</sup>.

That said, this pattern may not necessarily have a negative impact on the CCL or the ACE project in general if it can remain secondary to the formal arrangements outlined above, such as the CCL's guideline for non-discrimination in its provision of services. Informal bargaining can become more important where it overlaps with formal rules and institutional relationships. Thus, the various contested debts members owe to one another might become bargaining tools when interpreting the rules on access to CCL facilities.

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<sup>58</sup> Personal communication, World Bank, October 9, 2012.

<sup>59</sup> Personal communication, Members of the LTA, March 13, 2012.

<sup>60</sup> World Bank (2010) "Project Appraisal Document—West Africa Regional Communications Infrastructure Projects (APL 1A)—Liberia and Sierra Leone." The World Bank.

<sup>61</sup> Farlam, P. (2005) *Working Together: Assessing Public Private Partnerships in Africa, NEPAD Policy Focus Report 2*. The South African Institute of International Affairs. Johannesburg, South Africa.

<sup>62</sup> Best, M.L. and Thakur, D. (2009) "The telecommunications policy process in post-conflict developing countries: the case of Liberia," *info*, Vol. 11 Iss: 2, pp.42–57.

<sup>63</sup> *Ibid.*

<sup>64</sup> Best, M. L. (2011). *Mobile Phones in Conflict-Stressed Environments: Macro, Meso and Microanalysis*. In M. Poblet (Ed.), *Mobile Technologies for Conflict Management: Online Dispute Resolution, Governance, Participation*. London: Springer.

<sup>65</sup> Kalu, K.A. (Ed.) (2004), *Agenda Setting and Public Policy in Africa*, Ashgate, Aldershot.

In addition, it will be important to ensure that the historical tensions between the CCL's shareholders do not ultimately undermine the consortium's overall operation. It is in this vein that the CCL Shareholders Agreement states that the LTA was designated by the GoL to act as an independent intermediary between the shareholders, as well as to assist in the establishment of the CCL. This points to an important role for the LTA in supporting the overall working relationship between members of the CCL.

#### 1.5.4. Relationship between the CCL and other actors in the ICT sector

The third level of the management and governance of ACE in Liberia is the relationships between the CCL and the various other actors in the national ICT community. This includes both the public and private sectors. As before, the first factor used to analyze this level is the nature of the institutional arrangements. According to the CCL's Shareholders Agreement, allocation and use of cable capacity is to be guided by certain open access rules. First, the CCL will sell commercial services on a non-discriminatory basis to non-consortium members. Second, there may be no discrimination on access to co-location, hosting and other facilities of the CCL.

The Shareholders Agreement also states that based on the decisions of the board, shareholders can give "reasonable" preference to CCL facilities in terms of commercial services and access, as long the same terms and conditions are offered to other entities. This is in keeping with another stated goal of the CCL, of promoting the interests and welfare of its shareholders in securing access to the ACE system. In addition, open access without discrimination to non-CCL members is a requirement of WARCIP-Liberia including the possibility to declare ACE an essential facility and apply dominance regulation to its capacity.<sup>66</sup> Thus, while non-discrimination in access is required, it will be important to determine what constitutes "reasonable" preference to CCL members. In this regard, the LTA as sector regulator will again play a crucial role.

Political support is particularly important when examining the governance level. Within the government, there has been a positive reception to the ACE project. Indeed the initial phase of the development of the national Internet backbone, mentioned earlier, will start with connecting several government agencies. Currently there is no physical network connection between GoL agencies and ministries. The creation of a comprehensive government network should improve the efficiency of the public sector as well as the delivery of public services.

Research for this report found no major criticism in the media of the ACE cable system and its associated projects by political opponents of the current government in Liberia. This is expected; again, the scope and impact of the initiative is sufficiently large that at this point the focus will be on the benefits to Liberians. As different elements take shape within the CCL and the national backbone develops, opponents may find more room for criticism.

One group that might be less receptive to the ACE cable system in Liberia is the existing wireless internet operators, who could potentially suffer from increased competition in the ISP market following a successful launch of the cable. However, in at least one instance a very-small aperture terminal (VSAT) operator indicated it was not worried about the prospect of competition.<sup>67</sup> VSAT is a satellite communications system that serves home and business users. The operator argued that as ACE would be the only cable connection in the country, the possibility of outages would make VSAT operators an attractive alternative. Also, the operator posited that wireless Internet will remain the only feasible option in rural areas for some time.

In sum, initial political support for the ACE cable system has been strong, which bodes well for implementation of the program. However, it will be important to ensure continued political support given the long-term scope of the project. The LTA plans a series of stakeholder consultations on various aspects of the project with key constituencies, including the public.<sup>68</sup> This will be important not only in terms of good governance but also to support efforts to increase demand for Internet bandwidth and services.

Besides future support and the strained relationships between members of the CCL, another challenge is the relationship between companies across the ICT sector. As noted above, the second phase of the overall initiative for national connectivity in Liberia includes the development of a national Internet backbone.

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<sup>66</sup> *Personal communication, World Bank, September 17, 2012.*

<sup>67</sup> *Personal communication, iLab Liberia, June 2012.*

<sup>68</sup> *Environmental Resources Managers Ltd. (2010) "Environmental and Social Management Framework (Draft Report) for the Liberia ACE Cable Landing Project.*

A key part of the national infrastructure will be the development of an Internet Exchange Point (IXP) to support domestic Internet traffic. An IXP is a physical system that allows ISPs within a country or region to exchange traffic directly between their peer networks. The alternative is to have domestic ISP's exchange traffic through an international transit point, which is often more expensive and less efficient. An IXP can save money for Internet service providers and eventually for the consumer. Other advantages include increased access speeds and the increased potential for revenue from local content and services.<sup>69</sup>

The need for an IXP to improve the Internet infrastructure is a common observation in Liberia. Ultimately, however, an IXP will require collaboration between the members of the CCL and other stakeholders in the sector. There are those who question the feasibility of this collaboration given the level of mistrust among Internet service providers in Liberia.<sup>70</sup>

The Liberian ICT market has been marked by common elements of vigorous competition and long periods of conflict, punctuated by episodes of limited cooperation. We have seen this in the behavior of the mobile phone operators who belong to CCL, who argue over physical co-location of their network interconnections and settlement payments for the transit of calls between networks. The situation has been exacerbated due to the LTA's historical challenges in enforcement and arbitration capacity. The evident difficulties in reaching compromise should be a major cause for concern by Liberia's government, given that the success of the ACE initiative requires some level of cooperation within the CCL and the national backbone will require cooperation between the members of ICT sector as a whole.

The mutual distrust of mobile operators needs to be understood in the context of the long period of conflict in Liberia, when many mobile phone operators and other companies operated in a highly independent manner and cooperated in a very limited fashion in the absence of any meaningful state authority in the sector. The heads of these companies then resisted the creation of the LTA in its current form preferring the status quo of limited government regulation of the sector.<sup>71</sup> Thus, another elite attribute of relevance to ACE in Liberia is the attitude of the major ICT companies towards the government and its state-owned enterprises. Some of these view the LTA as weak or ineffective and see Libtelco, with its National Operator designation, as inefficient and undeserving of government support.<sup>72</sup>

### 1.5.5. Role of the Liberian Telecommunications Authority (LTA)

Given the nature of the relationships between actors in the telecommunications arena in Liberia, the sector needs both a strong regulator and an intermediary to help support collaboration in the national interest while promoting competition among private interests. The LTA is charged with fulfilling both roles. The National ICT & Telecommunications Policy (2010) states that the LTA will develop the appropriate regulatory framework to ensure open-access and non-discrimination in the operations of the CCL. Also, the LTA has been designated as the implementing agency for the WARCIP-Liberia project. Therefore, the LTA is crucial in ensuring a functional and successful collaboration between members of the CCL and between the CCL and other ICT stakeholders. One challenge lies in elite attitudes towards the LTA. Although armed with policy and legal support to independently carry out these functions, in many ways companies in the ICT sector perceive the LTA as weak. Since its establishment under the Telecommunications Act of 2007 the LTA has struggled to enforce its authority over major mobile phone operators.

This struggle is evident in the payment of interconnection fees, which mobile operators pay to other companies when connecting calls across their networks. As noted earlier, some mobile phone operators, including members of the CCL such as Lonestar and Cellcom, have charged others with being in arrears on interconnection fees in which operators pay to terminate calls on each other's network. In fact, as the LTA has endeavored to enforce interconnection and settlement payments between operators, its relationship with members of the CCL has become strained. These tense relations were displayed in public arguments after the LTA suspended Lonestar's operating licenses for two weeks. LTA was responding to Lonestar's refusal to connect to the Cellcom network in retaliation for Cellcom's alleged settlement arrears.<sup>73</sup>

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<sup>69</sup> ITU/IDRC (2005) "Via Africa—Creating Local And Regional IXPs to Save Money and Bandwidth." Geneva:ITU.

<sup>70</sup> Personal communication, Libtelco representative, December 15, 2011

<sup>71</sup> Best, M.L. and Thakur, D. (2009) "The telecommunications policy process in post-conflict developing countries: the case of Liberia," *info*, Vol. 11 Iss: 2, pp.42–57.

<sup>72</sup> Personal communications with representatives from Cellcom and Lonestar, December 13, 2011

<sup>73</sup> *Balancing Act*. (2012, June 8). LTA suspends MTN Liberia's licence, reports says. Retrieved August 1, 2012, from <http://www.balancingact-africa.com/news/en/issue-no-608/telecoms/lta-suspends-mtn-lib/en>

Another major problem is interference with the frequencies used by mobile phone operators, which the LTA has had limited success in resolving.<sup>74</sup> Finally, there is the issue of co-location of civil facilities (such as cell phone towers), an objective of the National ICT & Telecommunications Policy (2010), where operators have largely ignored LTA's instructions.<sup>75</sup>

One factor undermining the LTA's authority is the much greater scale and wealth of the telecommunications companies compared to the GoL's resources in this sector and the LTA. The mobile companies are the largest in the ICT sector and, in fact, Liberia's telecommunications revenue as a percentage of the country's GDP is one of the highest in Africa.<sup>76</sup> As with many developing countries, a regulator can be overwhelmed by the companies that it monitors. This is perhaps even truer in Liberia due to its weak technical capacity and the country's ailing infrastructure.

Another problem is the industry perception of LTA. The agency has been viewed historically as unable to provide the leadership and environment that might have led to the resolution of disputes between companies.<sup>77</sup> The problem has been compounded by instances where the operators have perceived the LTA as overzealous. In other cases, operators feel that the LTA has not been able to effectively deliver on its own regulatory services.<sup>78</sup> Since its establishment, the LTA has been constrained by a lack of sufficient technical and human resources to carry out its functions.<sup>79</sup>

This lack of technical and human resources is particularly relevant to the ACE initiative in Liberia as ACE is the first submarine fiberoptic cable connecting Liberia with Europe and the rest of the world. Therefore, Liberians have little experience in creating or maintaining the necessary infrastructure. As a result foreign consultants completed much of the preliminary economic and technical analysis that was done to support Liberia's membership in the ACE Consortium. As noted above much of this work was supported and organized by the World Bank, with additional technical assistance from USAID.

This reliance on outside assistance is consistent with common practice and in keeping with patterns within the LTA itself. The agency has employed foreign expertise to formulate relevant frameworks and analyses of the local telecom sector on an ad-hoc basis. In order to reduce this dependency and facilitate knowledge transfer between foreign experts and local telecommunications professionals in evaluating public tenders the LTA gives preference to consulting companies that work closely with local experts. This is helpful as the LTA matures and goes through a natural growth process leveraging this external support to build its internal capacity.

Nevertheless, the technical gap remains with regard to the operation, monitoring and evaluation of the CCL and the improvement of national connectivity in Liberia. In the short term, such gaps are expected to be filled by foreign expertise where possible. Over the long term, it is important to consider implications such as the larger explicit cost of foreign consultants, as well as the implicit transaction cost of having to deal with entities outside existing government or domestic private organizations. Capacity development within the LTA is of critical importance and should be realized through formal training programs, twinning arrangements, in-house training, etc.<sup>80</sup>

Thus, while the LTA's evaluation strategy for tenders is useful, the long-term (admittedly difficult) solution lies in a better-educated and trained workforce within Liberia to meet the demands of a growing ICT sector. While the GoL acknowledges this and struggles to build its capacity, their task is made difficult by the fact that much of the foreign expertise mentioned above is tied to the financing of projects through foreign aid some of which is tied to foreign expertise (e.g. some of USAID or USTDA support). What is important, then, is for the LTA and the government as a whole to determine which specific areas will continue to require foreign expertise and determine where domestic expertise could be strategically developed. Such a plan could coincide with the long-term operations of the CCL and the broader national connectivity program.

These factors—the attitude of telecommunications elites towards the LTA, the LTA's leadership challenges and its lack of technical skills and resources—all make it difficult for the agency to successfully monitor and evaluate the CCL. As noted above, it is crucial that the LTA be able to authoritatively determine what is a "reasonable" preference with regard to the CCL's commercial services and to preserve the non-discrimination mandate of the CCL. The LTA is a relatively young regulator; over time, it will no doubt grow and improve.

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<sup>74</sup> *Personal communication, Lonestar representative, December 13, 2011*

<sup>75</sup> *Personal communication, Libtelco representative, December 15, 2011*

<sup>76</sup> *In 2007 (the latest year for which comparative data is available) this figure stood at 8 percent in Liberia. Source: <http://databank.worldbank.org> (Accessed May 31, 2012)*

<sup>77</sup> *Personal communication, Lonestar representative, December 13, 2011*

<sup>78</sup> *Personal communication, Lonestar representative, December 13, 2011*

<sup>79</sup> *To help close this capacity gap the chapter authors have been providing technical assistance to the LTA for more than seven year.*

<sup>80</sup> *Personal communication, World Bank, October 9, 2012.*

One thing that could potentially strengthen the LTA's influence is the fact that the agency houses the implementation unit for the World Bank-funded project that supports the CCL. Although much of the World Bank's loan has already been disbursed to secure the CCL's membership in the ACE Consortium some funds remain. In particular, the second component of WARCIP-Liberia will focus on creating an enabling environment for the sector through encouraging open access principles, support to LTA, development of regulatory instruments, etc. These are all elements required to ensure that Liberia benefits from the ACE project.<sup>81</sup>

## 1.6. International Support

From the above discussion it is evident that significant international support has enabled Liberia to join the ACE consortium. Much of this international support began before the advent of the ACE project. For example the World Bank has provided technical support to the sector since 2004 supporting the development of the telecom policy, the development of the 2007 Telecom Act and provided grant funding through the Public-Private Infrastructure Advisory Facility (PPIAF). This support the Government has targeted help in a number of areas including the development of policies, licensing regimes, and taxation frameworks for the sector.<sup>82</sup> When the opportunity arose to join the ACE consortium The World Bank and other agencies also assisted Liberia by providing preliminary analyses and rapid assessments. For example USAID supported the preparation of rapid assessments to inform the GoL and others of possible business models for joining the ACE consortium. USAID also used these assessments to make presentations to various potential investors in Liberia while the CCL was still being formed. The World Bank secured funding under a Project Preparation Advance (PPA) to support the sector stakeholders in their early analysis and steps towards joining the ACE consortium and establishing the CCL.

The largest international financial contributor to the ACE activities in Liberia is the World Bank. An initial World Bank technical mission to Liberia had sensitized the GoL to the possibilities and benefits of joining ACE as well as conceptualizing their participation as part of a regional program including Sierra Leone.<sup>83</sup> It should be noted, however, that the LTA and GoL approached the World Bank only after other sources of finance had been explored. Also according to some informants, the World Bank was initially hesitant to support the GoL in this work.<sup>84</sup> This hesitation came in part from Libtelco's participation in the project as a state-owned enterprise; the World Bank and other local and international stakeholders have previously lobbied the GoL to privatize Libtelco. Although the GoL says it intends to privatize Libtelco, in the short term the government appears to want to first improve the state of the company prior to a sale.<sup>85</sup>

The World Bank has supported the ACE connection in Liberia through the regional WARCIP initiative, as mentioned earlier. The stated objective of this approximately \$300 million project is to increase the spread of broadband networks while reducing cost of communication services in West Africa. As Liberia was the first country to join the ACE consortium through a PPP, the Bank included this model in its regional program. As a result both Gambia (with a World Bank grant) and Sierra Leone (with a World Bank loan) have also formed PPPs to join the ACE consortium. Other countries that have put in place with World Bank funding a PPP for ACE participation include Guinea Conakry, Sao Tome and Principe, Gabon and Benin.

The WARCIP-Liberia loan agreement specifies some of the institutional arrangements between the World Bank and the GoL with regard to ACE in Liberia. The loan has three components: The first and largest (\$21 million) addresses Internet connectivity, primarily covering the cost of membership in the ACE consortium. The second is to help formulate and implement policies, regulations and institutional arrangements to support long-term Internet connectivity (\$3.32 million). The final component (\$1.28 million) is for project expenses, including a project-implementation unit based at the LTA.

A small portion of the Internet connectivity money (\$1 million) remains available to support national and regional connectivity including construction of a national infrastructure to enable countrywide access. The infrastructure could also be funded by proceeds from the sale of the GoL's shares in the CCL with those proceeds reinvested in a Universal Access Fund. A national backbone is critical to realizing a full network ecosystem, which will deliver value from the ACE cable. It is critically important that the GoL engage in a program of consultation with relevant stakeholders to put in place a strategy for financing this backbone.<sup>86</sup>

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<sup>81</sup> Personal communication, World Bank, October 9, 2012.

<sup>82</sup> PPIAF (2011, March). PPIAF Assistance in Liberia. Retrieved from:

<http://www.ppiaf.org/ppiaf/sites/ppiaf.org/files/documents/PPIAF-Assistance-in-Liberia-March-2011.pdf>

<sup>83</sup> Personal communication, World Bank, October 9, 2012.

<sup>84</sup> Personal communication, Members of the LTA, March 14, 2012

<sup>85</sup> PPIAF (2011, March). PPIAF Assistance in Liberia. Retrieved from:

<http://www.ppiaf.org/ppiaf/sites/ppiaf.org/files/documents/PPIAF-Assistance-in-Liberia-March-2011.pdf>

<sup>86</sup> Personal communication, World Bank, October 9, 2012.

The underlying logic behind large infrastructure projects such as these is that there will be a trickle-down benefit for the population as a whole. However, the Bank’s own reviews suggest that these benefits have not always been realized in the past.<sup>87</sup> One of the Bank’s proposed strategies for ICT infrastructure projects is to ensure that Universal Access Funds focus on the poorest populations within a country.<sup>88</sup>

In Liberia the Universal Access Fund aims to guarantee that at least some of the benefits of the WARCIP-Liberia project go to the marginalized. Money from the GoL’s sale of its stake in the CCL will go to this fund giving additional weight to concerns about the GoL’s lack of motivation to divest its stake and its preferred timing. It is worth considering that the WARCIP-Liberia loan will need to be repaid at some point, which might affect the government’s decision on divestiture.

One characteristic of elite attributes among international actors is their willingness to explore opportunities for collaboration with each other. For example, both the World Bank and USAID have cooperated in supporting the GoL throughout the ACE initiative. This included information sharing and collaboration on the rapid assessment reports on the economic feasibility of the CCL, developing of terms and hiring consultants, reviewing reports, and overall coordination in providing technical assistance to the CCL. This example of international elite actor collaboration provides an interesting counter-point to the seemingly frequent lack of collaboration among domestic elite actors.

## 1.7. Summary of Recommendations

The four-point framework (institutional arrangements, technical and human resources, political support, and attributes of elites), positioned against five layers of governance, has helped highlight several key issues to be considered as the ACE project develops in Liberia. These are summarized in Table 1 below.

**Table 1: Application of Analytical Framework to the Five Levels of early Governance of ACE in Liberia**

	CCL & THE ACE CONSORTIUM	WITHIN THE CCL (and aspects of PPP)	CCL & THE LIBERIAN ICT SECTOR	ROLE OF THE LTA	CCL & INTERNATIONAL PARTNERS
<b>INSTITUTIONAL ARRANGEMENTS</b>	<ul style="list-style-type: none"> <li>Primarily based on the CMA</li> </ul>	<ul style="list-style-type: none"> <li>Primarily based on the CMA</li> </ul>	<ul style="list-style-type: none"> <li>Rules based on CCL Shareholder’s Agreement but some points given to interpretation</li> </ul>	<ul style="list-style-type: none"> <li>Supported by National policy</li> </ul>	<ul style="list-style-type: none"> <li>Based on project agreements with the GoL</li> </ul>
<b>TECHNICAL &amp; HUMAN RESOURCES</b>	<ul style="list-style-type: none"> <li>Limited—reliance on World Bank and other support</li> </ul>	<ul style="list-style-type: none"> <li>Limited – reliance on World Bank and other support</li> </ul>		<ul style="list-style-type: none"> <li>Limited</li> <li>Negative impact on its ability to function</li> <li>Supported through WARCIP-Liberia</li> </ul>	<ul style="list-style-type: none"> <li>Key providers of technical assistance</li> </ul>

<sup>87</sup> World Bank (2011), “Transformation Through Infrastructure: World Bank Group Infrastructure Strategy Update, FY 2012–2015.” Washington DC: The World Bank.

<sup>88</sup> *Ibid.*

<p><b>POLITICAL SUPPORT</b></p>	<ul style="list-style-type: none"> <li>Widespread support of project in general</li> <li>No evidence of negative support for ACE-CCL relationship in particular</li> </ul>	<ul style="list-style-type: none"> <li>Widespread support of project in general</li> <li>No evidence of negative support for ACE-CCL relationship in particular</li> </ul>	<ul style="list-style-type: none"> <li>Positive support from other government agencies</li> <li>No evidence of negative reception from political opponents of GoL</li> </ul>	<ul style="list-style-type: none"> <li>Public stakeholder consultations are planned</li> </ul>	
<p><b>ELITE ATTRIBUTES</b></p>	<ul style="list-style-type: none"> <li>Significant given influence of key actors in initiating project in Liberia</li> </ul>	<ul style="list-style-type: none"> <li>Historical relationships between members potentially challenging</li> <li>Role of LTA as intermediary crucial but weak</li> </ul>	<ul style="list-style-type: none"> <li>Acrimony among players in ICT sector potential obstacle to national backbone development</li> </ul>	<ul style="list-style-type: none"> <li>Informally viewed as weak and sometimes instructions are ignored</li> </ul>	<ul style="list-style-type: none"> <li>Also engage in informal bargaining process</li> <li>Some agencies will cooperate with each other more so than Liberian ICT companies</li> </ul>

Several recommendations follow from this analysis. The first relates to the CCL’s framework. One challenge with complex PPPs such as this one is the potential for corruption. Although the LTA should provide independent monitoring and oversight, one safeguard that could be added is to explicitly require that all CCL procurement be subject to the Public Procurement and Concessions Commission in Liberia. This requirement will have the added benefit of endorsing and supporting government efforts to undermine corruption that plagues the economy.

Government of Liberia divestiture of their stake in the CCL has surfaced as a key issue by numerous stakeholders. This is critical for financing the national backbone and Universal Service Fund, which will support countrywide access to the Internet. While the GoL might initially hesitate to sell its stake it could be encouraged to do so once the CCL is a commercial success and the value of its shares increases. The eventual sale should incorporate diaspora networks as a way to create opportunities for Liberians abroad to participate in the country’s development. The GoL should also consider the strategic timing of the sale of its shares in the CCL and the sale’s potential impact on any future divestiture of its interests in Libtelco.

A crucial factor in the success of the CCL is non-discrimination in the provision of commercial services. The LTA will play a crucial role in enforcing this standard. Fair enforcement will reduce tensions between the CCL shareholders and win the support from the decision-making elite in Liberia’s ICT sector. The LTA’s intermediary role within the CCL will also be important in ensuring that the CCL can work effectively in establishing Liberia’s domestic connectivity while working within the broader ACE consortium. By providing efficient services within the CCL, the LTA can overcome its historical image as a weak regulator and take a greater leadership role in the management of the sector. This can be achieved in part by utilizing its position as the implementing agency of WARCIP in Liberia to improve its own technical and human resources.

However, the GoL will also need to address the wider technical gap in the Liberian ICT sector in order for the country to fully realize the benefits of the ACE cable system and to overcome its dependence on foreign ICT expertise. The GoL must determine what specific areas the country can rely on for domestic expertise versus foreign expertise in the short term and how to further develop domestic knowledge in the long term. This should be a critical part of the planning currently underway for the national Internet backbone.

To maintain a high level of domestic political support it is important for the LTA to follow through with its plans for stakeholder consultations throughout the WARCIP-Liberia project. This can and in fact should continue for several years. While interest in these consultations may initially be strong, especially given the attention paid to the CCL, the viability of the national backbone network will depend on sustaining such consultations with communities, and the civil society throughout Liberia.

Balancing informal bargaining among elites with adherence to formal rules and facilitating compromise among ICT companies, and creating more positive perceptions of the LTA and Libtelco are all major challenges that may affect the success of the ACE initiative. In some ways these challenges are beyond the scope of LTA as sector regulator and WARCIP-Liberia implementing agency. Because these attributes of ICT sector elites may be relevant for other sectors of the Liberian economy the government will need to look broadly at ways to address these challenges. A first step will be to better align the governance of the ACE initiative in Liberia with the GoL's effort to join the Open Government Partnership.<sup>89</sup> In fact, the GoL could use its participation in the CCL as a demonstration project to promote greater transparency and governance in the ICT sector.

Finally, a key international partner for the GoL is the World Bank through its WARCIP project. The Bank's own experience points to the difficulty of ensuring that the benefits from projects such as these will reach the most marginalized. The GoL should not only consider the future sale of its stake in the CCL as a way to support the Universal Access Fund, but should also actively explore new partnerships with other international and regional partners to develop ICT-based social and economic innovations for the poor in Liberia.

## MOVING BEYOND LIBERIA

Liberia is first and foremost a least developed country with associated socio-economic characteristics as noted earlier. In addition it is also a country that is gradually moving away from its recent history of conflict and must still deal with the political and economic repercussions of that period. Thus, while Liberia presents a particularly unique case, based on the recommendations outlined above, there are a few points which we can use to offer some tentative generalizations that may extend to other countries.

The early institution building and governance experiences with the ACE consortium in Liberia touch upon many factors and experiences common across all robust competitive telecommunications sector, and in particular those within low income countries: vigorous debate and ample mistrust amongst competing operators, low enforcement capacity among regulators, heavy involvement of international organizations and the donor community are all common properties across African nations whether they are conflict-stressed or not. However, the confluence of these, and the other factors overviewed in this chapter call out quantitative differences between low-income and post-conflict settings. It is the steady accumulation of these degrees of difference that can ultimately tip to a qualitative difference in post-conflict governance.

Two examples can help illustrate the distinction in governance between post-conflict states and other low-income countries. First, the conflict can be so inimical to the development of a country that it can fall behind in a range of socio-economic and political indicators, all of which will influence the quality of governance in the telecommunications sector. This is the argument detailed in Table 2; the steady accumulation of degrees of difference that tip to a qualitative change.

Second, the pattern of governance during the conflict itself, and the extent that this has been transformed in the post-conflict context, is of unique relevance in post-conflict states. In other words the institutional and legal frameworks, local elite networks and international actors, all which influenced governance during the conflict period, can often continue to do so in the post-conflict context but in ways that are shaped by their shared history. These same factors operate in the non-post-conflict and low-income settings, but are not subject to a history of governance in conflict, which can be characterized by deep mistrust and competition between various factions, limited cooperation that eschews strong regulation, opacity in decision-making, and poor accountability. In theory the post-conflict state can break away from this pattern of governance and many are on a path to doing so, but this is a gradual process.

In sum, we argue that it is the combination of an exacerbation of poor development outcomes and current patterns of governance that are still influenced by the conflict period which will impact the exercise of public authority in the post-conflict state.

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<sup>89</sup> *Facsimile copy of Liberia's commitment to Open Government Partnership* <http://www.opengovpartnership.org/countries/liberia> (Accessed June 19, 2012)

**Table 2: Degrees of difference in governance impact among critical variables between low-income and post-conflict countries**

VARIABLE OF IMPACT	Affects governance in post-conflict settings more so than in low-income settings because....
Weak physical infrastructure	In both conditions this is linked to perceptions of poor service delivery. In post-conflict countries this can enhance governance challenges as fledgling institutions trying to establish positive initial “brands”.
Mistrust of government	Can be a problem in all developing countries but worse in the post-conflict state because it threatens the legitimacy of new and fragile institutions.
Strong diaspora groups	Stronger impact due to displacement from conflict especially of elite actors. Undermines independence of post-conflict government.
Heavy donor and international organization influence	Lack of internal resources and capacity can be quantitatively heightened due to conflict. Undermines independence of post-conflict conflict government.
Weak capacity and limited facilities for training and education	Low internal capacity and large numbers of unschooled individuals due to conflict. Destroyed and diminished education sector. All undermine capacity for governance.
Lack of or changing national policies and regulations	Post-conflict states generally transition to new state policies and regulations. This can compound uncertainty in governance, problems of capture, etc.
Management often from non-nationals	Undermines the independence and local capacity building efforts of post-conflict governments. Can create problems of identity and identity politics, which may already have been inflamed by conflict entrepreneurs.

We can draw some representative implications from the ACE experiences in Liberia that apply to Liberia herself, other post-conflict states, and low-income states more broadly. These lessons learned do not necessarily fit cleanly within one of these three states (Liberia, post-conflict, or low-income) but instead often have levels of applicability across all of them and even beyond:

- There are multiple implications of the CCL as a representative PPP to other infrastructure development initiatives in Liberia and beyond. Here we can benefit from observations that the World Bank itself has already made, particularly in regards to PPPs in the natural resource sectors.<sup>90</sup> Some of these observations include the need for the GoL to address a skills gap in developing and managing PPPs, a preference among private sector actors for remuneration based on usage charges (as is the case with the CCL), and a plan for the overall selection of potential PPP initiatives. The GoL, the World Bank report argues, does have the benefit of experience when it comes to the implementation of PPPs.
- Our discussion presents some additional suggestions for the use of PPPs in other sectors in Liberia and perhaps beyond. For example, if Liberia is to avoid the limited distribution of benefits that accrue from large PPPs (the trickledown effect), then such ventures need to be complemented with some form of subsidized access such as the Universal Access Funds in the case of telecommunications.
- Unlike other large scale PPPs in Liberia, which have taken the form of a concessionary agreement between the GoL and a single private firm (e.g., the National Port Authority and APM Terminals in the case of the Freeport of Monrovia), the CCL illustrates the complications present where there are multiple private sector firms involved. This highlights the need for an independent regulator as intermediary between these firms as noted earlier. This finding seems likely to apply beyond Liberia.
- The potential for regional efforts in promoting telecommunications infrastructure development is significant. This was in fact an important motivation behind the World Bank's WARCIP project. In other contexts, the countries themselves in cooperation with one another could directly drive these regional efforts.
- With regard to capacity building this discussion has illustrated that the dearth of relevant engineering and telecommunications skills can potentially limit the expansion of domestic networks. While the skills required in the implementation of submarine cable systems are globally rare, of broader relevance is the long-term development of national backbone systems. Efforts to create an appropriate skills base could be part of larger regional infrastructure projects.

<sup>90</sup> Kaplan, Z., Kyle, P., Shugart, C., Moody, A. (2012) “Developing Public-Private Partnerships in Liberia,” World Bank: Washington D.C

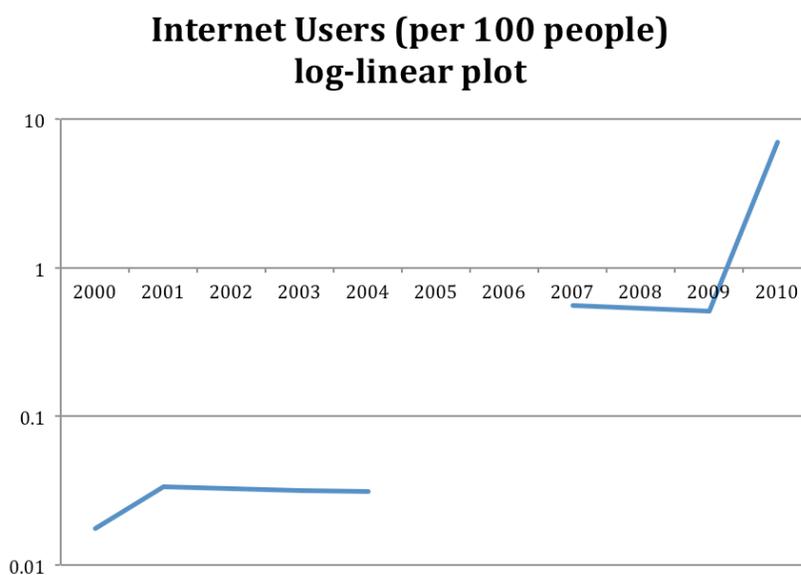
- As the Liberia case illustrates, the CCL and the major infrastructure project to which it is associated is just the first step in providing benefits to the consumer such as affordable access. Vehicles including universal access funds are critical to that effort. There are numerous innovations and examples of how to finance such initiatives, which may or may not be more effective than including the sale of the government's stake in the PPP as contemplated in this case. Individual governments should evaluate the potential of each approach.
- The CCL example points to some of the challenges to good governance involving partnerships between actors that exist in some state of mutual mistrust. Post-conflict governments need to acknowledge the potential for such acrimony to disrupt the collaboration needed for large-scale infrastructure development. As such the role of the regulator as arbiter and intermediary is critical and points to the need for government to sufficiently invest in the ability of the regulator to perform these functions.
- It is critical to recognize the important institutional and legal basis upon which the CCL is premised in Liberia. This includes the Telecommunications Act of 2007, which prescribes the roles and responsibilities of various actors in the sector. Although the analysis here has highlighted existing risks in the CCL arrangement that are based on behaviors that may skirt such laws and prescriptions, at the very least the Act has limited some of the uncertainty that may have otherwise persisted in the sector. Post-conflict regimes should therefore appreciate that replicating the potential success of the CCL requires appropriate institutions and laws are already in place.
- Elites including those who were prominent during the conflict period will sometimes take on significant leadership roles in the public and private sectors. When the political leadership practices a system of co-optation of conflict elites across society into key public roles in order to reinforce its authority, this can be beneficial in the short term. For example, it can attenuate the conditions under which there can be a return to conflict. However, in the long term the construction of elite networks by the government can undermine broader objectives of creating a more participatory and inclusive form of governance. Thus governments need to be aware of the long-term implications of co-opting elites on achieving national goals of more open and inclusive governance.

## Chapter 2

# Cybercafé Users in Post-Conflict Liberia: The Rise of Super-Techies

### 2.1. Introduction

While mobile phone usage in Liberia has grown at phenomenal rates, Internet usage has also seen significant growth, including an exponential uptick over the last couple of years. The number of Internet users grew tenfold from 2009 to 2010, and now stands at seven Internet users per 100 people, according to World Bank WDI data (Table 2).<sup>91</sup> It is unclear just how much of this dramatic increase in access is due to mobile phone Internet services. Furthermore, the WDI data may not fully reflect mobile Internet users. Nonetheless, the two major carriers have announced new or growing mobile data services though subscriber volumes for these emerging data services are not available.<sup>92</sup> Beyond mobile Internet access and home computer access by a small, elite subset of Liberians, the major form of access in the country is via public access venues or cybercafés.



**Figure 2: Log-Linear plot of Internet users per 100 people from 2000. Notice ten-fold growth from 2004 to 2007 and again after 2009. Note missing data from 2004–2006. Source: World Bank World Development Indicators.**

<sup>91</sup> World Bank, *World Development Indicators & Global Development Finance* (Washington D.C.: The World Bank, 2012).

<sup>92</sup> Charlie Fripp, TEM CSL\_CITATION {"citationGSM Network," IT News Africa, May 7, 2012, <http://www.itnewsafrika.com/2012/05/liberia-gets-high-speed-gsm-network/>; TeleGeography, arlie Fripp, <http://www.itnewsafrika.com/2012/05/liberia-gets-high-speed-gsm-networks/2012/03/07/mtn-liberia-launches-mobile-Internet-drive/index.html>.

In order to better understand the utilization of ICT in a post-conflict environment, this chapter presents the analysis and results of a survey of cybercafé users in Monrovia. Given the realities of post-conflict Liberia, which include heavy levels of un- or under-employment, low levels of education and low infrastructure levels, it is not surprising that even for the relatively well-off seven percent of the population who do access the Internet, cybercafés are the principal means of access. The goal of the study was to understand the usage patterns and motivations of this important group of Internet users in Liberia. Prior to this research, very little data existed on the usage of such technologies in post-conflict situations.

The study is based on a survey of 100 cybercafé users from four different venues within the greater Monrovia area.<sup>93</sup> For 95 percent of these users, cybercafés are the primary method of Internet access, although 82 percent of the same population reports also accessing the Internet on their mobile phone at least once a week. The author's in-country experiences echo these findings. Outside of rather elite office and home settings and some rare school-based options, all Internet access is through public-access venues, along with slowly emerging mobile possibilities.

The survey is based upon a cybercafé user instrument developed as part of the five-year Global Impact Study directed by the Technology and Social Change Group at the University of Washington.<sup>94</sup> The survey analysis describes the sample of cybercafé users and then classifies their activities and interests.

## 2.2. Sampling

Four cybercafés were selected for the survey, based upon convenience sampling and in order to offer some geographic and service diversity across the greater Monrovia area:

1. Fast Track Communication Internet & Computer Training Center is an Internet cafe and training school in the Paynesville area of Monrovia, slightly removed from the city center. The center has 15 desktop and three laptop computers available to customers. The computers are situated along the walls of a single room with plywood partitions separating customers. In addition to computer and Internet time, the facility offers printing, scanning, and photocopies, as well as training in a school adjacent to the café.
2. Austpower Technology & Business Center is an Internet cafe and business center on the ground floor of the main government building handling immigration matters, on the Broad Street in the center of Monrovia. There are a total of 25 computers across the single room. In addition to computer and Internet services the venue offers fax, printing, scanning, binding, and lamination.
3. Clarke Internet Cafe is on the ground floor of the Metropolitan Hotel Building, again on the Broad Street in central Monrovia. Twenty computers are available, as are printing, fax, and desktop publishing services.
4. Finally, Village Net Café is located at a busy intersection in central Monrovia. It is a newly opened café with 14 computers in one room. In addition to computers and the Internet, it offers photocopy, scanning and printing services.

In all venues, subjects were recruited as they exited the café. If the research assistant was not engaged with another respondent at the time, every exiting customer who appeared to be an adult was stopped and requested to participate in the survey. All respondents were offered a gift card for 1.5 hours of free Internet time to use at the cafe from which they were recruited. The fact that the research team purchased this bulk amount of café time motivated both the respondents and the café owners. In all, 25 subjects were recruited from each of the four cafes, for a total sample size of 100.

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<sup>93</sup> The survey was conducted by the author along with research assistants in Liberia during December, of 2011.

<sup>94</sup> For a review of the Global Impact Study housed at the University of Washington see <http://www.globalimpactstudy.org/>

## 2.3. Sample demographics

Respondents were primarily male (90 percent) and fairly young, with 52 percent between the ages of 25 to 34 and 24 percent age 24 or younger. This is in keeping with the male domination of Internet café use in Liberia, and the relative youth of the country. The demographics are echoed by similar research in nearby Ghana.<sup>95</sup>

The sample is highly educated by Liberian standards, with all respondents reporting some post-secondary education, and 76 percent reporting a college degree. In terms of employment, 11 percent said they were unemployed, and one-third said they were students. A plurality of 43 percent said they were self-employed. Self-reported personal income was, not surprisingly, very high by Liberian national standards, averaging \$300 per month—ten times higher than the average national monthly average of under a dollar a day. These high incomes notwithstanding, other surrogate measures demonstrate the range of economic and lifestyle realities for the sample population. For instance, only seven percent of respondents said they had running water in their homes, while 48 percent relied on a public well. Furthermore, although a full third of respondents reported having a car, one-third also reported *not* having even electricity in their homes.

In terms of Internet and computer skills, the respondents claimed a high level of experience and capacity. Ninety-one percent cited three or more years of computer experience, with half reporting more than five years. Nearly 90 percent of respondents self-reported their computer skills as “good” or “very good.” In terms of Internet experience and skills, 81 percent reported three or more years of exposure, with 47 percent having over five years’ experience. Eighty-eight percent described their Internet skills as “good” or “very good.”

The self-reported computer and Internet skill levels are consistent with a more objective series of questions probing computer and Internet skills. Respondents were asked if they had ever performed a series of computer and Internet tasks that progressively grew in complexity and sophistication. For computers, these ranged from editing a document to writing a computer program. For the Internet, they moved from using a search engine to creating a web site. A weighted aggregate score from these questions, which gives more significance to the more complicated tasks, creates a representation of the subject’s computer, and Internet skill and experience beyond just their subjective self-rating.

An analysis of these aggregate scores reveals that users’ computer and Internet skill and experience set are *not* related to the self-reported number of years of computer use. However, they are related to (i) the number of years spent using the Internet and (ii) the self-reported level of skill with computers and the Internet.<sup>96</sup> These results suggest that self-reported levels of computer and Internet skills are a reliable measure for Internet and computer experience and sophistication. These self-reported skill levels will therefore be used to represent computer and Internet expertise in subsequent analyses of online user patterns among the sample group.

There were no statistical differences between any of the above demographic factors and the respondents from the particular four venues.

In summary, the sample is predominantly male and young (though not young by the national average age). The respondents report high incomes and educational attainments and significant computer and Internet experience and skill.

## 2.4. Cybercafé activities

Understanding the range of activities undertaken in these cafes will help us see how computers and the Internet shape the post-conflict environment. This is especially true since, as noted above, cybercafés are the main way that this population gains access to computers and the network. Future comparative work can then help us understand what might be most specific to this conflict-stressed environment as compared to other contexts.

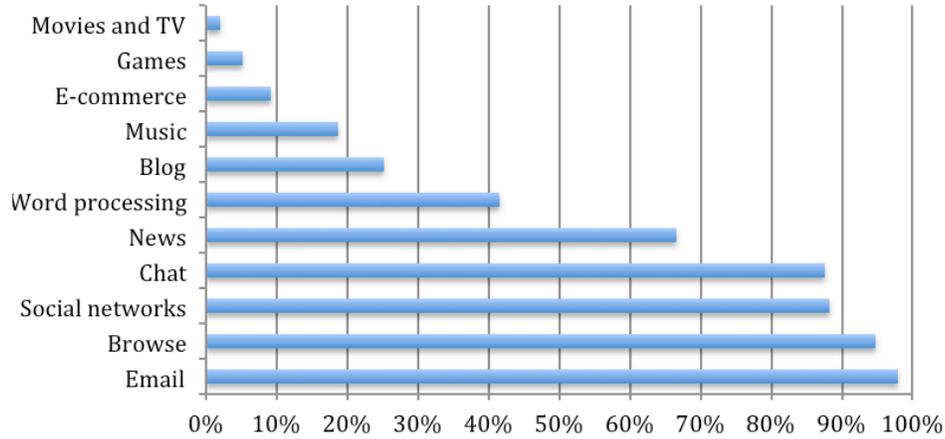
In one series of questions, respondents were asked to rank a set of activities against a frequency differential, from “every time I go” to “most times,” “sometimes,” “rarely” and “never.” Figure 52 displays the percentage of respondents who reported that they engage in the indicated activity “every time” or “most times” they visit the public access venue. We can see that more than 80 percent reported this level of frequency with email, browsing, social networks, and chatting. We also note that two-thirds of respondents reported this frequency in reading current events reports or news online.

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<sup>95</sup> Burrell, J. (2012). *Invisible Users: Youth in the Internet Cafes of Urban Ghana*. MIT Press.

<sup>96</sup> All statistical relationships mentioned in this chapter are significant at the 95 percent level or more.

## Percentage of respondents who perform activity "every time" or "most times" they are in venue

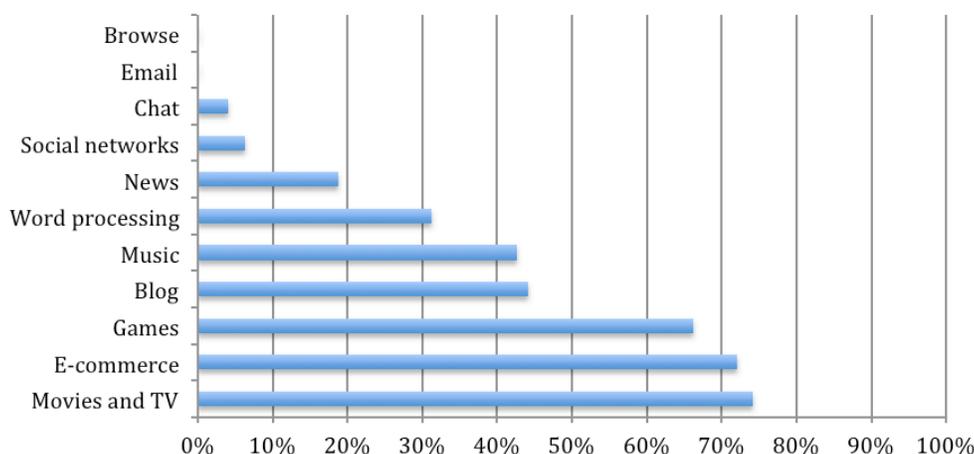


**Figure 3: Percentage of respondents who report performing specific activity "every time" or "most times" they are in their preferred cybercafé. Email is most common with video services least favored**

Figure 4, in contrast, shows the percentage of respondents who said they *never* engage in the indicated activity at the cybercafé. Not surprisingly, movies and e-commerce were very infrequent activities, with more than 70 percent saying they didn't use these services. It is likely that the infrequent viewing of movies and other video material in the cybercafés is driven by the rather low levels of Internet bandwidth in most public access venues; indeed, connectivity is generally insufficient to support video streaming. In addition, the low levels of e-commerce are most probably due to a lack of financial and distribution services in-country, including low levels of credit-card penetration and high levels of fraud protection that diminish e-commerce capabilities. Emerging prospects for mobile banking services may begin to mitigate some of these challenges.

Interestingly, many subjects said they never played online games at the cybercafé. Indeed, two-thirds of respondents said they never play games, online or offline, and only five percent reported frequent game playing. This focus on instrumental activities is interesting and probably particular to a conflict-stressed, low-resource and low-bandwidth environment. Further comparative work will help to elucidate this matter.

## Percentage of respondents who never perform activity



**Figure 4: Percentage of respondents who report "never" engaging in specific activity at their preferred cybercafé. Video is least common, while browsing or using email were common to all.**

### 2.5. Activity clusters

To better understand how this suite of activities describe and define the various respondents, their answers to the questions on all eleven online activities (see Figure 2) were grouped together to yield similar types of users.<sup>97</sup> This analysis resulted in three particularly salient user groups. The largest group, composed of 53 of the respondents, employs what can be termed the *usual* services. Every time or most times they go to a cybercafé, this cluster of respondents' email (100 percent of respondents in this cluster do this every time), chat (98 percent - every or most times), browse (98 percent -every or most times), use social network platforms (94 percent), and read current events (66 percent). They never or rarely blog (65 percent of respondents in this cluster) or engage in e-commerce (100 percent).

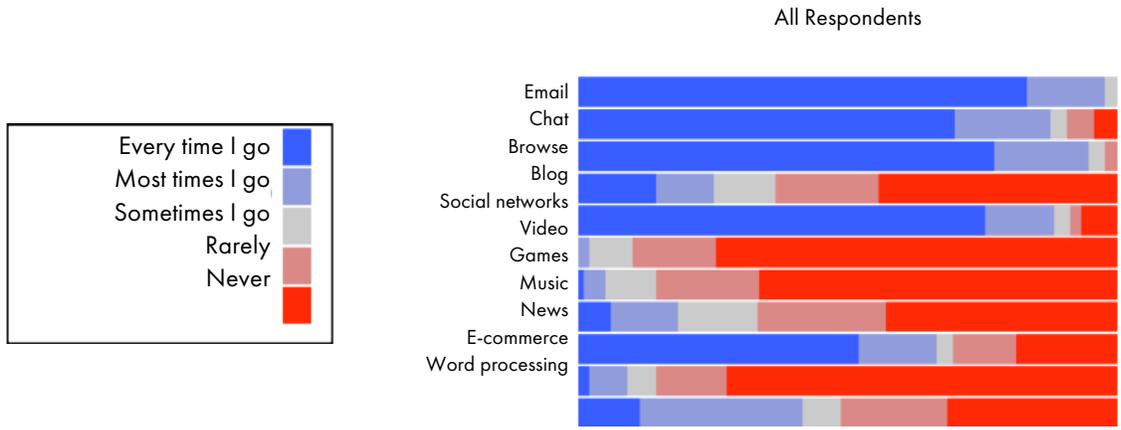
The second cluster, with 18 respondents associated with it, can be thought of as a *sophisticated* user group. This group does everything the *usual* group does at high levels but also blogs every time or most times they visit (78 percent), and some engage in e-commerce as well (34 percent).

Finally, a third cluster, with 17 respondents, is the *basic* service users. They frequently use email (95 percent of them will do so every time or most times they visit), and also browse the web (84 percent). However they are mixed as to whether they chat (none do this every time, though 47 percent will most times) or use social media (just 52 percent will do this every time or most times). They never or rarely blog (a full 95 percent) or engage in e-commerce (85 percent).

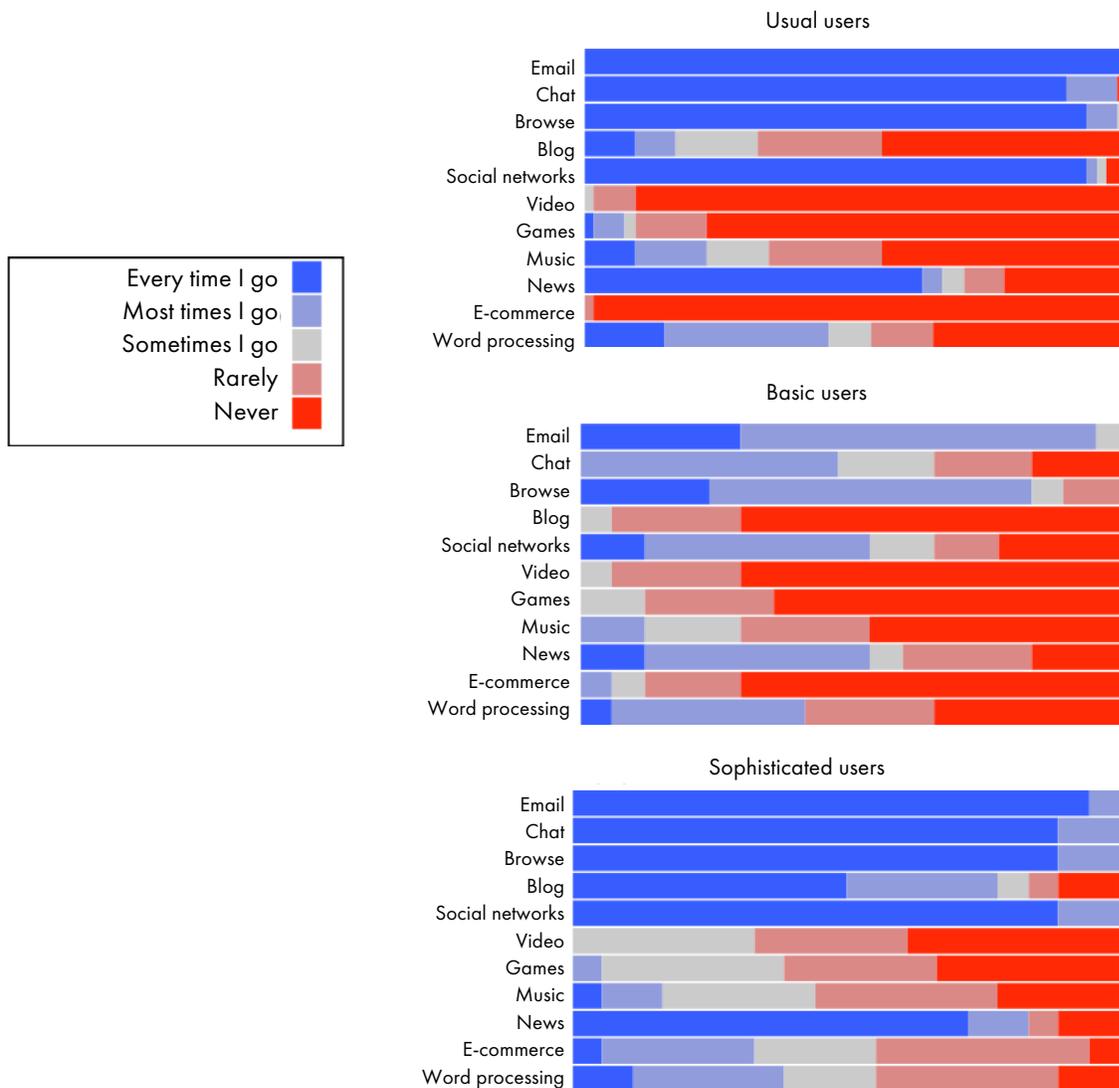
In Figure 5 and Figure 6 we visualize these results, first for all users and then for the three clusters.<sup>98</sup> Note that Figure 5 shows the same results as are summarized in Figure 3 and Figure 4. In other words, this is the total response for all users prior to clustering.

<sup>97</sup> A hierarchical clustering was conducted, with Ward distance measure, to group users based upon their responses to the eleven activity frequency questions.

<sup>98</sup> These visualizations employed a categorical crosstab graphing technique that focuses on visual representations instead of numeric crosstab tables.



*Figure 5: How often the respondents report particular online activities in their usual public venue, for all users. Note that email is most common while video is least. N = 94 to 97 depending on activity.*



**Figure 6: Activity responses broken down by three clusters of usual users (n=53), basic users (n=17) and sophisticated users (n=18).**

Other components of the data might help explain a respondent's assignment into one of these three clusters. In other words, how did the *usual* users differ from the *basic* or *sophisticated* users in terms of their demographics, lifestyles, etc.? Somewhat surprisingly, the demographic data, and technical skills did *not* explain assignment across the three clusters; there was no relationship between cluster assignment and self-reported computer or Internet skills, gender, age, educational attainment, self-reported income levels, and so forth.

So what might explain why some people are *sophisticated* users, other are *basic* service users, and then about half focus on a *usual* set of activities such as email and browsing? The results indicate that the subjects' reporting on the technologies that they own at home provide the strongest predictor of cluster assignment. Perhaps not surprisingly, home ownership of a computer explains variation in cluster assignment, as do satellite television ownership, and car ownership.

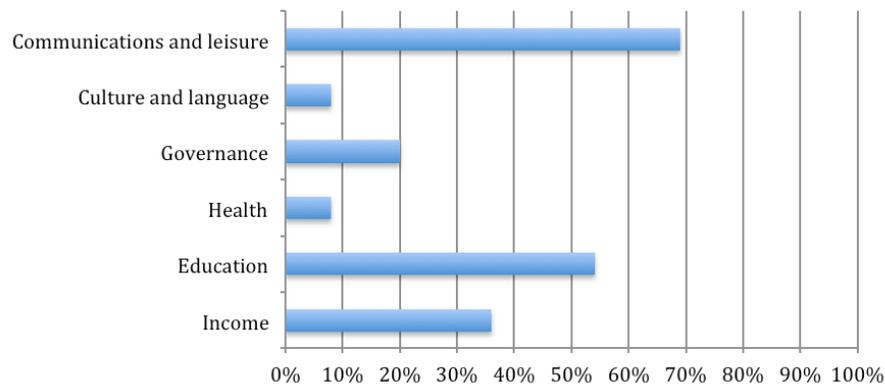
For example, 83 percent of respondents with a computer in their home affiliate with the *sophisticated* user cluster, while just 18 percent of *basic* users reported having a computer in their home. One might initially expect this to be indicative of income levels, with richer Liberians more likely to have these technologies, and also to use a wider range of Internet services. However, income does *not* predict cluster assignments, nor does it predict ownership of a computer. In other words, controlling for income we still find that the home technologies explain cluster assignment, such that (again independent of income) the more of these technologies owned, the more likely the respondent is to be a *sophisticated* user. This is not to suggest that income is completely irrelevant in understanding different types of cybercafé users in Liberia. Rather, the point is that among the elite seven percent of Liberians who access the Internet through cybercafés (who are already in a relatively high-income bracket), it is their preference for ICTs, as reflected in computer ownership that best explains who is a *sophisticated* user.

The main argument of this chapter is predicated on this point. In Liberia, there is an emerging class of “super-techies” who are broadly focused on ICTs and technologies in general. We find that 20 percent of the cybercafé users are in this *sophisticated* cluster of users that begin to define the techie community. While techie communities are present in most contexts, the emergence of such a community in a post-conflict context is of extreme importance. It demands further investigation and comparison to related communities in places like Kenya, Nigeria and Tunisia.

## 2.6. Service areas

Beyond asking subjects about the type of computer and Internet services they used, such as email or browsing, respondents were asked about the information, and communication service areas or sectors that they engaged in, from income-related activities to education, health, e-government, culture and language, and personal communications, and leisure. More than two-thirds (69 percent) of respondents reported using personal communication services for themselves and/or others at the cybercafé, a modest majority (54 percent) reported using educational services for themselves and/or others, and 36 percent engaged in income-related services. Figure 6 shows the percentages of positive responses for all of the six service areas examined.

### Percentage of respondents who engaged with these services for themselves and/or others



**Figure 7: Percentage of respondents reporting that they have used a public access venue in last 12 months for these service areas for themselves and/or others.**

Of the 32 respondents who reported engaging in some income-related activities, 17 described searching or applying for jobs online and 12 reported looking for new products or clients. Only 11 engaged in job-related training and, surprisingly, only eight said that they would arrange for remittances as an income-generating online activity.

Of the 48 respondents who reported engaging in educational activities for themselves and/or others, 35 said they used the Internet to seek information on school admissions and 40 reported working on homework. Just 22 took a class or workshop online.

Finally, of the 61 respondents who reported using the cybercafé for personal communication or leisure purposes, 59 detailed using the venue to communicate with friends or family members, and 57 kept in touch with friends or met new people via social networking.

Here again, the respondents' demographics and self-reported computer and Internet experience do *not* explain variations in engagement with these service areas. Similarly, assignment to the activity clusters above does not predict tendencies to use the three most popular service areas. What the service area questions seem to suggest are that basic communication services reign supreme, and that more "value-added" Internet-enabled service areas, such as those associated with income generation, health, government, or educational attainments, are only now emerging. This is suggestive of the post-conflict environment, with a slowly developing ICT infrastructure and service environment. Further comparative work will be helpful in elucidating this point more completely.

## 2.7. Impact

In addition to the subjects' reported service and activity areas, respondents were asked to self-assess the impact the cybercafé had on them as well as their family and friends. Respondents were asked to rate thirteen different service areas as being "highly positive," "slightly positive," "slightly negative," "highly negative," "no impact" or "don't know." The set of impact areas ranged from income to health, to leisure activities. Figure 8 shows all of the impact areas as well as the relative number of respondents along the semantic rating scale. Clearly, most respondents rated the computer and Internet services as highly or slightly positive in most areas for themselves and their family and friends, though many responded with "don't know" for their family and friends. A small set of respondents persistently rated the impact on them or their friends and family as "slightly negative."

Using the same clustering approach that was applied to the activity areas above, the impact responses were clustered, revealing three salient groups of subjects. The first, made up of 37 respondents, was rather *positive* overall about the impact of the computer and the Internet. However they were "slightly negative" consistently, though infrequently, about the impact on their friends and family. The second group, made up of 21 respondents, was much more *mixed* generally reporting "slightly positive" or "slightly negative" impacts. Finally, the third group, composed of 18 respondents, was positive about the impacts on themselves but *unsure* of any impact on their family or friends. These results are shown in Figure 9.

Following the analytic approach used above for cybercafé activities, tests were done to see if there was any correlation between assignment into impact clusters and demographic and other relevant variables. Somewhat surprisingly, there were no statistically significant relationships among these elements. However, there was a significant relationship between activity clusters and impact clusters. In particular, *sophisticated* users were much more likely to be in the *positive* impact cluster (69 percent of *sophisticated* users report *positive* impact) whereas the *basic* users were much less likely to be *positive* and more likely to be in the *mixed* impact group (8 percent of the *basic* users are in the *positive* impact cluster whereas 42 percent are *mixed* and 17 percent are *unsure*). This result will be discussed in more depth below.

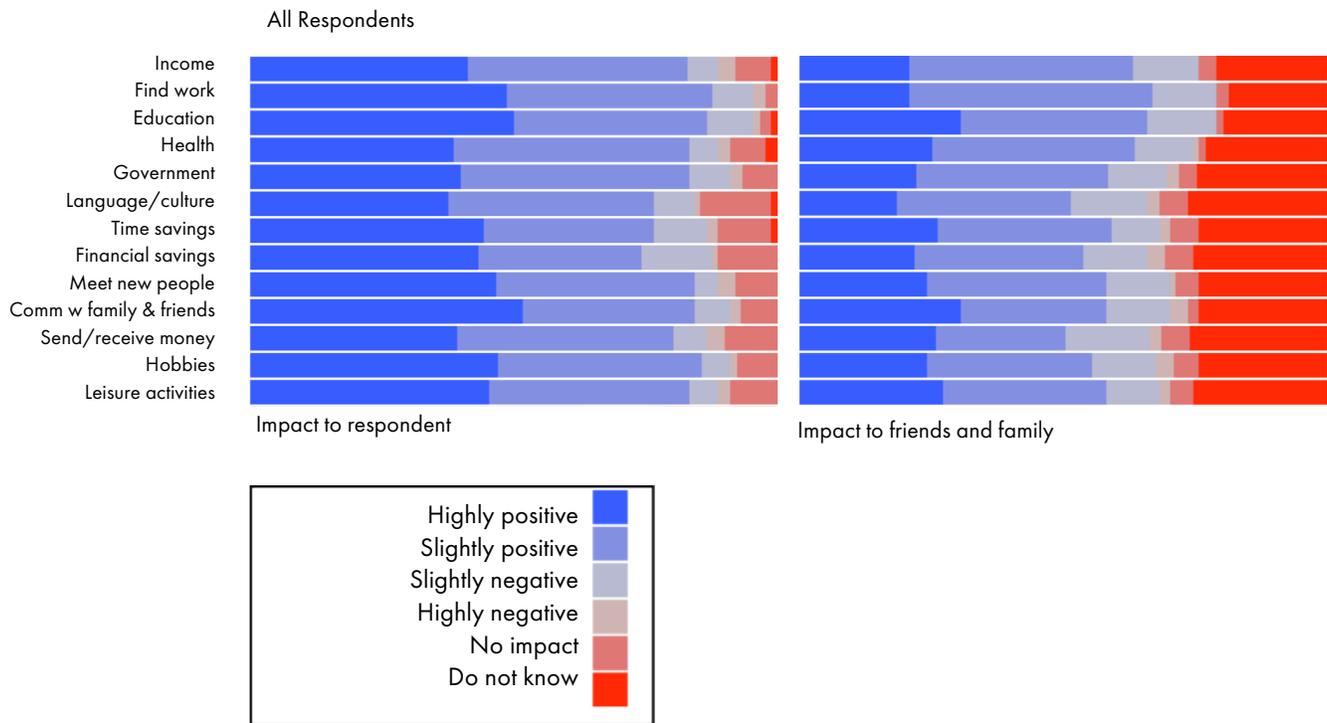
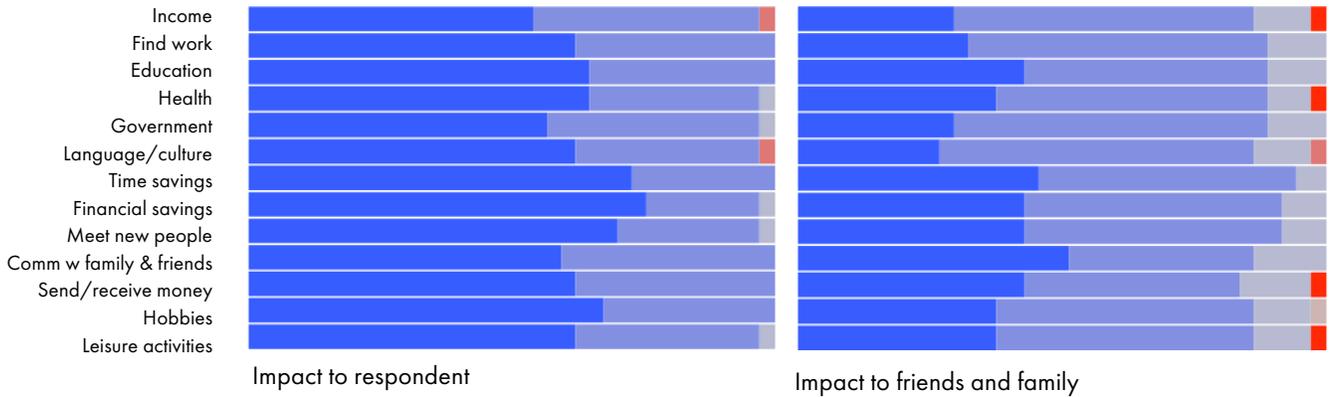
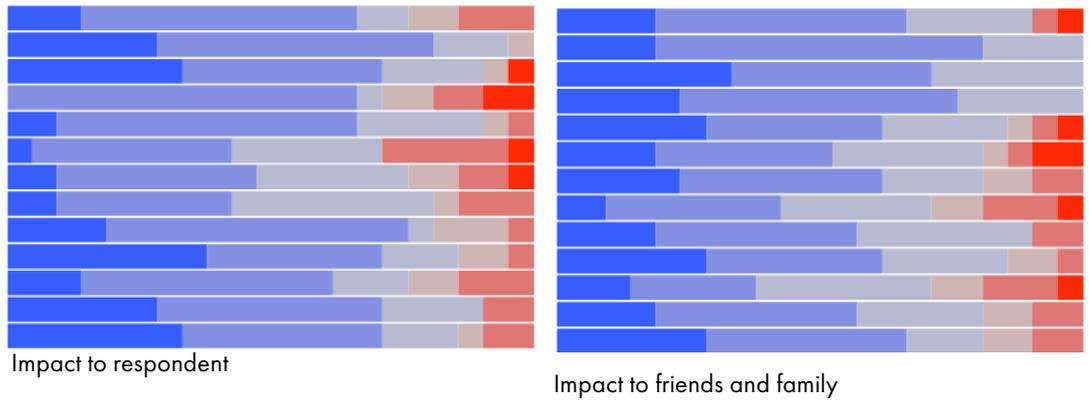


Figure 8: Reported impact directly to the respondents and to their friends and family (n=89 to 91).

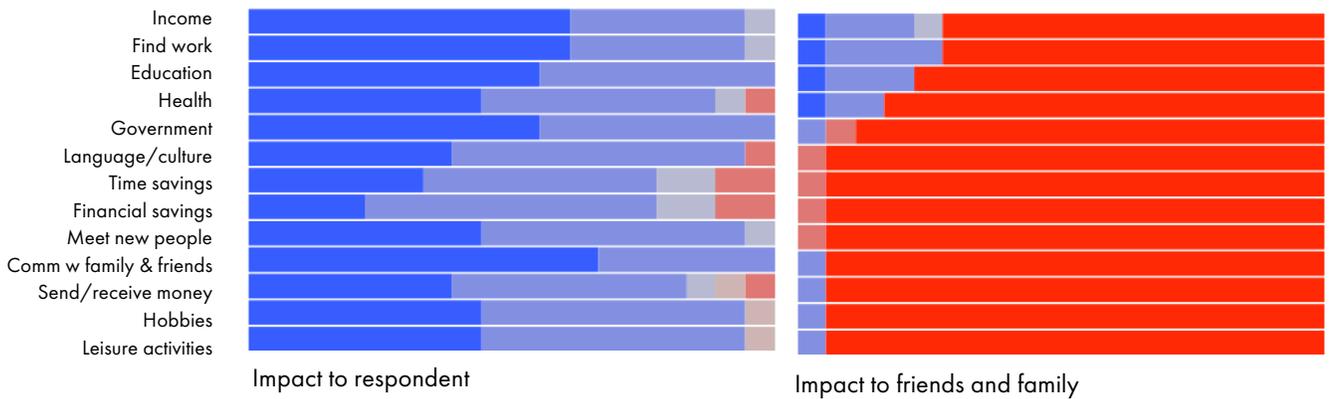
POSITIVE



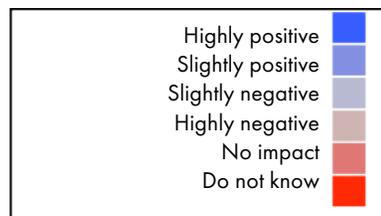
MIXED



UNSURE  
(about friends and family)

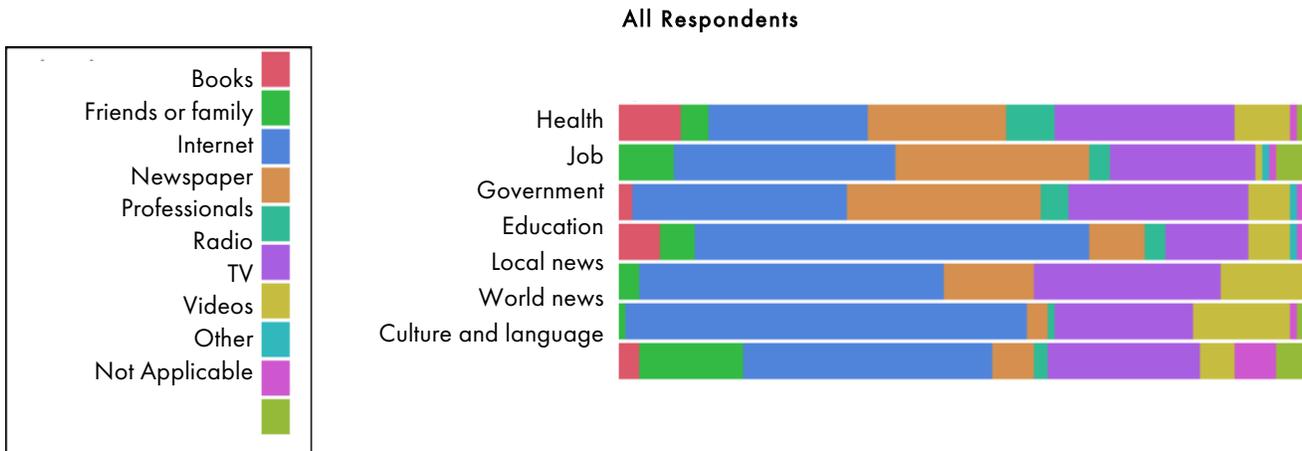


**Figure 9: Three impact clusters with positive group (n=37), mixed group (n=21), and unsure (about friends and family) group (n=18).**



## 2.8. Broader Information Ecosystem

Finally, respondents were asked about their broader informational ecosystem and, in particular, what technologies and systems they used when seeking out specific forms of information. **Error! Reference source not found.** Figure 10 shows the responses for a set of information sources—ranging from newspapers to books to family to the Internet—against information areas, including health issues, jobs and business, local events, and culture. As shown in the figure, many respondents rely on the Internet (in blue) as their main informational source. This includes as many as 59 percent who said that they most frequently obtained world news information from the Internet and 58 percent who most frequently obtained education and school information from the Internet. Similarly, the newspaper, shown in orange, was popular for job and business information (with 28 percent citing it as the most frequent source for this area of interest), and government and political information (also 28 percent). Radio, shown in purple, also enjoyed some popularity among the respondents. Twenty-seven percent of respondents turned to the radio most frequently for local events and news information, while 26 percent most frequently turned to it for both health, and government and political information.



**Figure 10: Information ecosystem. Internet and radio are broadly popular, with newspapers preferred for health, jobs, and government (n=99).**

In addition, videos were the least popular response (excluding for now the response of “other” and “not applicable”), with only a few respondents choosing this media for just three information categories. Professionals and books tied for the next most unpopular informational source, followed by friends or family. The fact that professionals, friends and family were almost never identified as a frequent source of information in these areas may speak to the dissolution of trust and social relations among Liberians, which is a frequently cited outcome of the conflict environment.<sup>99</sup>

Similar to the analysis above for activities and impact areas, responses to the information ecosystem questions were clustered to identify different user groups. Four groups were identified, which represent different media propensities. A third of respondents were placed in a heavy *Internet* group, with almost total reliance on the net. Another cluster with 14 members instead relied significantly on the *radio*. A third cluster of 40 respondents is rather *mixed*. And a fourth cluster of 12 *bifurcates* between heavy reliance on the radio for health, jobs, and government and the Internet for education, local events, and world news. Figure 11 visualizes these clusters.

<sup>99</sup> Hayner, P. (2011) *Unspeakable Truths: Transitional Justice and the Challenge of Truth Commissions*. New York: Routledge.

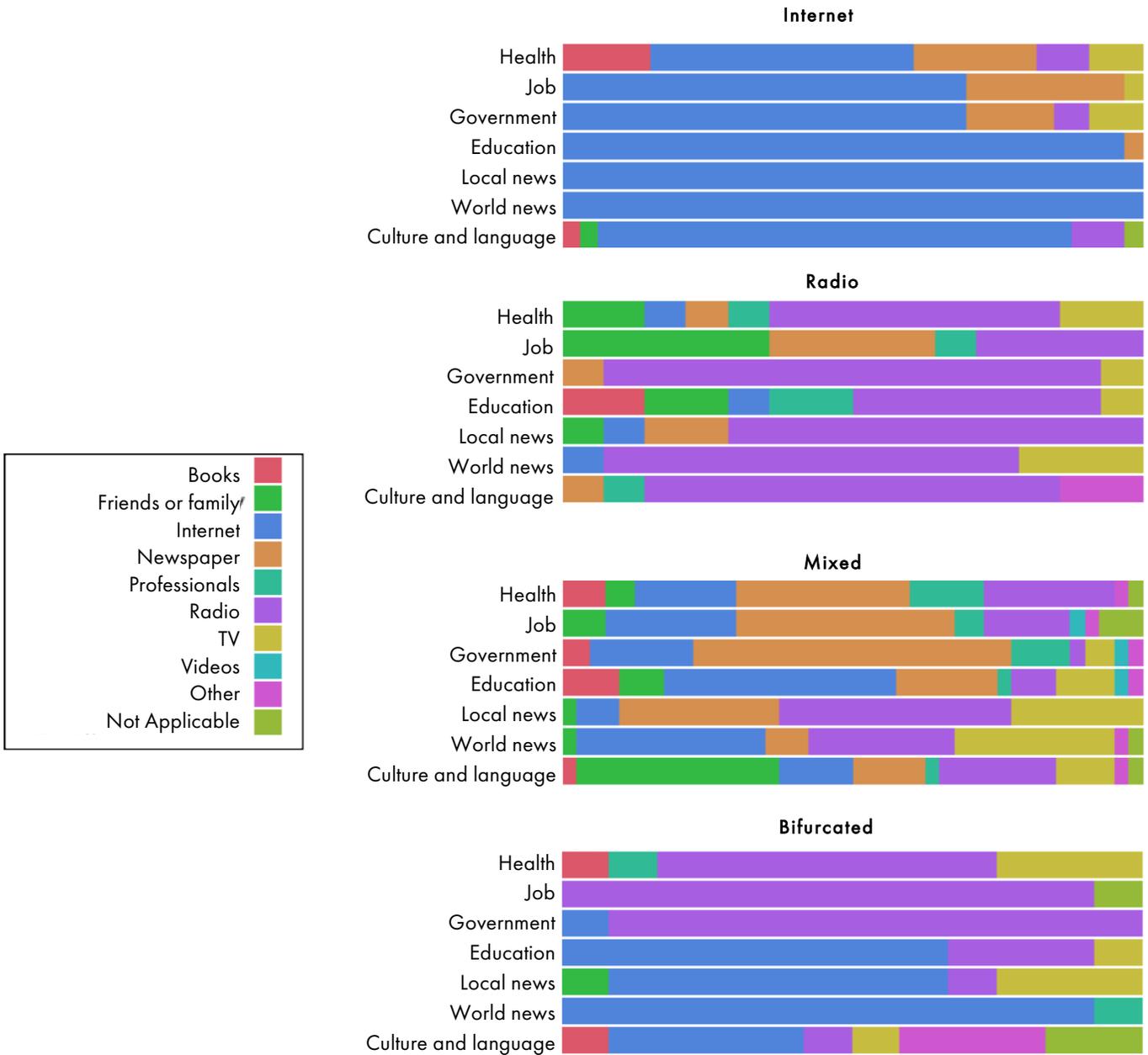
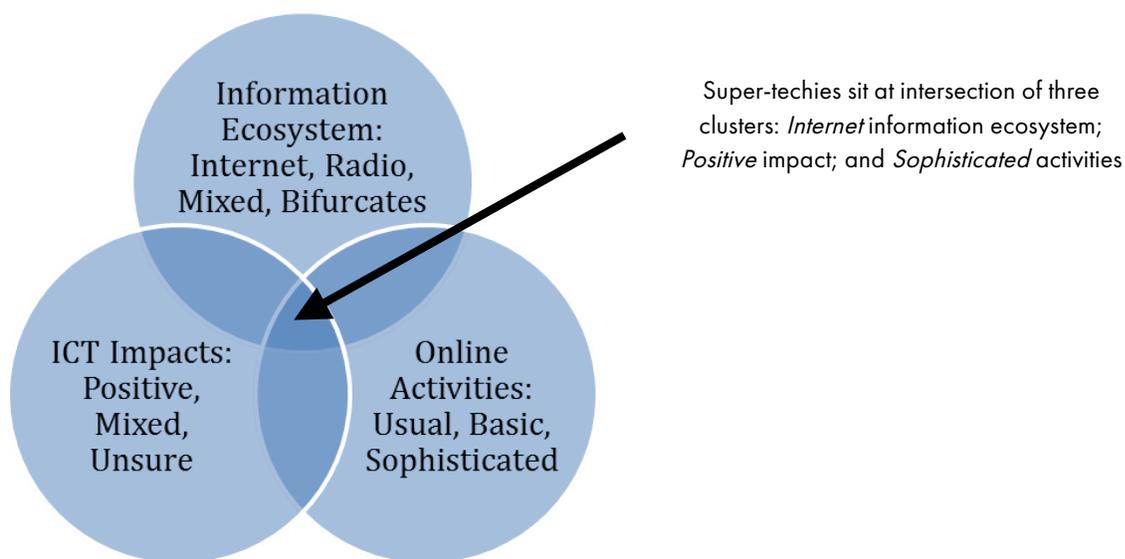


Figure 11: Four information ecosystem clusters. Internet cluster (n=33), radio (n=14), mixed (n=40), and bifurcated (between radio and Internet primarily) (n=12).

Again, an attempt was made to find variables which correlated with these cluster assignments, that might explain (for instance) why one set of respondents would be most likely to focus on the Internet as a media source whereas another set was rather dependent on the radio. Once again, we found that demographics had no real statistical significance and provided next to no explanation.

However, we did find that the ecosystem clusters correlated strongly with the activity and impact clusters. The ecosystem cluster assignment related to the activities cluster in positive and understandable ways. For instance, members of the *Internet* ecosystem cluster were more likely to be members of the *sophisticated* activities cluster (33 percent as compared with 20 percent from the *bifurcated* cluster, 17 percent from the *mixed* cluster, and zero from the *radio* cluster). Similarly, the ecosystem clusters correlated with the impact clusters. Again we found some understandable differences when we examined the intersections of these clusters. A full 75 percent of the ecosystem *Internet* cluster members were members of the *positive* impact cluster, as compared with 45 percent from the *bifurcated* cluster, and 27 percent for both the *mixed* and *radio* clusters.

This multi-cluster correspondence points to a particularly important set of respondents that is worth further examination.



**Figure 12: User groups based on three thematic areas and location of "super-techies" among all users.**

## 2.9. The super-techies: Sophisticated users report positive impact and Internet propensities

As already mentioned, the data reveals a subset of sophisticated technology users emerging from or returning to this post-conflict state. Who are these users? They are *sophisticated* users who rely considerably on the *Internet* as their primary information media and who view computers and the Internet as providing very *positive* impacts to them and their friends and family.

Nine respondents, or approximately 10 percent of the subjects, sit at the intersection of all three categories examined above: online activities, ICT impacts, and information ecosystem preferences. This is illustrated in Figure 11. These techies, as noted in the individual cases above, share most demographics with the sample overall. All but one are male, 50 percent of them are between 25 and 34 year of age, half of them get their water from a public well, and half of them are self-employed. Only two of the super-techies are students. They all have at least three years of experience with computers and the Internet. And they all consider themselves good or very good with computers and the Internet, though most identify themselves as good (78 percent for computing and 67 percent for the Internet) as opposed to very good. These techies are perhaps not so much modest as aspirational—they know that there are additional talents and skills they can acquire.

The 10 percent of our sample that makes up these most sophisticated technology users suggest that, even in the immediate post-conflict context of Liberia, a group of high-tech individuals is present, is making use of a range of computer and Internet services, views these technologies as highly impactful, and yet aspires to still more skills and expertise. In conflict-stressed situations in Nigeria and Kenya, as well as in the Arab Spring countries, a small set of technology-sophisticated individuals have emerged to play critically important roles in political and civic engagement and, at times, in economic growth. Prior to these cybercafé results, it was not obvious that such a population would exist in Liberia. These results are promising—a small group of young, savvy, technologically optimistic and aspirational individuals exists even in as stressed an environment as Liberia. This has implications for initiatives led by the government or international organizations that require local expertise, the potential for locally led innovation in the economy, and perhaps most important, evidential support for nurturing a local pool of talent and skills in the Liberian ICT sector.

# Chapter 3

## Reconciliation and the Web

### 3.1. Introduction

The World Wide Web has become a leading method for information dissemination and interaction. Not surprisingly, truth and reconciliation commissions (TRCs) have increasingly turned to the web to help them publicize their work, disseminate their findings, and (to a lesser degree) interact with their constituencies. Indeed, today's online interactive, social, and rich multimedia facilities (sometimes referred to as Web 2.0) seem suitable not only for helping a truth commission distribute information, but also as a tool for assisting their core missions of providing a platform for victims to tell their story, and an opportunity for all affected parties to interact, and engage with each other in healing dialog.

In a recent related study,<sup>100</sup> the authors developed evidence of the post-conflict psychological healing nature of interactive and rich multimedia (such as audio and video material) through a systematic study of Liberians using these technologies under controlled experimental conditions. The main argument of this chapter is that TRC websites that support interaction and rich multimedia offer a powerful environment to facilitate post-conflict reconciliation and healing.

The argument is developed through a narrative case study in the design, development and operation of an interactive multimedia website for Liberia's Truth and Reconciliation Commission. The chapter will briefly look at the concept of a TRC and the role of this institution in Liberia. This is followed by an overview of the use of websites by different truth commissions, a description of the process under which a new website for Liberia's truth commission was designed, and how that resulted in a process-oriented interactive multimedia site. The chapter proceeds with an examination of the patterns of use observed on the site, and concludes with observations for future work.

### 3.2. Truth Commissions and the TRC in Liberia

Truth commissions are vehicles through which people in a society can together investigate the nature of human rights violations during a period of conflict. This often means allowing all parties to a conflict to offer testimony (in various forms) on what they experienced. This exercise can provide an important outlet for victims, and perpetrators alike to share their stories. At times such stories are not secret and the victims themselves may not learn anything new about their specific cases. Instead, truth commissions provide a means of publicly acknowledging the victims' plight, something more powerful than just knowing what happened. This is particularly true where such acknowledgement was denied by authorities in the past.<sup>101</sup> One of the most well-known examples of a truth commission is that of South Africa (1995–2002). This was established as a way for all the people of that country to reconcile the violence and human rights abuses of the Apartheid era.

The overall goals of a commission can include creating a body of evidence to understand what happened, acknowledging and addressing some of the needs of victims, promoting accountability and ultimately creating some measure of closure for the society. Practically, one of the main outputs of truth commissions is a final, publicly available report that documents testimonies received and offers recommendations to meet specific goals.

Truth commissions can complement and inform legal actions in the post-conflict environment and can therefore be an important element in realizing justice. They are, however, not automatically created as part of the criminal justice system and instead often operate outside of that system through a special mandate. In that case, the commission will often have no power to prosecute perpetrators. Some may see this as an attenuated compromise in a post-conflict setting, while others argue that given the reconciliatory nature of these commissions, they are an important way of sustaining peace and forestalling retribution.

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<sup>100</sup> Best, M. L., Long, W. J., Etherton, J., & Smyth, T. (2011). *Rich Digital Media as a Tool in Post-Conflict Truth and Reconciliation*. *Media, War & Conflict*, 4(3), 231–249.

<sup>101</sup> Hayner, P. (2011) *Unspeakable Truths: Transitional Justice and the Challenge of Truth Commissions*. New York: Routledge.

To date there have been more than 40 such commissions globally.<sup>102</sup> While there is still debate about their efficacy and how to assess their impact,<sup>103</sup> they are often viewed as a crucial part of the post-conflict development process by both international and local actors.

In the case of Liberia, after a long period of conflict in that country a peace agreement was signed in 2003 among the various factions and relevant stakeholders. Among other things, the agreement called for the establishment of a Truth and Reconciliation Commission to promote reconciliation in the country, following similar models elsewhere. In 2005, the interim legislature in Liberia passed the Truth and Reconciliation Act. This detailed the creation of the Truth and Reconciliation Commission of Liberia that eventually began operations the following year. Its mandate was to investigate human rights violations, causes of the conflict, exploitation of Liberia's natural resources and the experiences of women and children. The remit of the Commission covered the period January 1979 to October 2003.

The TRC was required to provide an opportunity for victims and perpetrators of the conflict to express their views and experiences to the Commission. It was unique in that this opportunity was not only offered to those Liberians in Liberia but also to those living in the diaspora. This is based on the recognition of the impact of the conflict on forced migration, the creation of refugee communities in other countries, and the critical role the diaspora played in elements of the conflict and in ongoing post-conflict reconstruction. Participation from the Liberians living abroad was facilitated in part through the implementation of the TRC Liberian Diaspora Project.<sup>104</sup>

Several methods were employed to collect information on the conflict. This included confidential and structured interviews using prepared statement forms; a team of statement takers was trained by the TRC for this purpose. In addition, the TRC hosted hearings across the country, and in the United States. These included testimony by victims, witnesses, and perpetrators. In addition, the hearings also addressed specific themes related to the conflict such as children, religion, and education.<sup>105</sup>

In all, some 20,000 statements were submitted to the TRC from persons in Liberia and the diaspora (the United States and West Africa).<sup>106</sup>

The final report of the TRC of Liberia was released in December 2009. While it was controversial in some respects (for instance it sanctioned the sitting president, Ellen Johnson Sirleaf), it nevertheless remains a crucial part of the reconciliation process in Liberia. What follows is an analysis of one way in which ICTs facilitated some important aspects of the Commission's work.

### 3.3. TRCs and the World Wide Web

Truth commissions have been slow to use the internet as a central tool. A 2007 analysis of TRC websites found that some commissions had successfully used the Internet to disseminate reports and information, but none were making full use of the web's interactive features or employing rich media such as video and audio.<sup>107</sup> Muñoz's study was based on content analysis of nine truth commission websites. The websites were chosen through an exhaustive search of official truth commission sites across the web. Unofficial websites, such as those maintained by international organizations, were excluded from the study. A few websites (e.g., a site from Guatemala<sup>108</sup>) were discarded because of their poor information value and some websites were excluded due to language issues (e.g., a site from South Korea). The remaining nine commission websites were from: East Timor, Ghana, Greensboro USA, Haiti, Liberia (their original commission site prior to the redesign described in this chapter), Peru, Rwanda, Sierra Leone, and South Africa. Results of the study are summarized in Table 1 below. All sites were accessed in July of 2007.

Each website was analyzed for its complete feature set. While dissemination of a commission's final report seems like a basic facility to offer on a TRC website, only four of the eight study sites (excluding Liberia, which at the time had not released a final report) actually provided a link to their report. For example, East Timor had not updated the site to include this document, despite the fact that the report was delivered on July 2005, and the home page states, "We will post information about the final report and these products on this website soon, including details of how you can order a copy of the report."

<sup>102</sup> *Ibid.* Also see <http://www.usip.org/publications/truth-commission-digital-collection>. *The US Institute of Peace Truth Commission Digital Commission* (accessed September 3, 2012).

<sup>103</sup> Brahm, E. (2007) *Uncovering the Truth: Examining Truth Commission Success and Impact*, *International Studies Perspectives* 8:16–35.

<sup>104</sup> [http://www.theadvocatesforhumanrights.org/Liberian\\_Truth\\_and\\_Reconciliation\\_Commission\\_Project\\_2.html](http://www.theadvocatesforhumanrights.org/Liberian_Truth_and_Reconciliation_Commission_Project_2.html), *The Advocates for Human Rights description of Liberia's TRC* (accessed July 25, 2012).

<sup>105</sup> <http://trcofliberia.org/reports/final-report>, *The Truth and Reconciliation Commission of Liberia Final Report* (accessed July 25, 2012).

<sup>106</sup> *Ibid.*

<sup>107</sup> Muñoz, J. A. 2007. *The Use of Internet in Truth and Reconciliation Commissions: Missed e-opportunity?* Georgia Institute of Technology, Sam Nunn School of International Affairs, Atlanta.

<sup>108</sup> <http://www.odhag.org.gt/INFREMHI/Default.htm>, *commission review by the Human Rights Office of the Archbishop of Guatemala* (accessed July 2007).

Many of the websites had sections devoted to media reports, where they provided access to press releases, articles from print and broadcast media, etc. In fact, seven of the nine analyzed sites included some kind of media-related content. Another common feature of these sites was the presentation of information about the members of the commissions. Six of the websites included pictures and biographies of the commissioners, and in the case of Sierra Leone, personal e-mail addresses were provided so that interested persons could contact them. Most sites provided ways to contact the entire commission via email and indeed only two of the websites (Haiti and Peru) did *not* provide some way of contacting the commission via e-mail. Five of the websites included links to related local or international institutions and other TRC sites.

More advanced features, such as search capabilities and multimedia components, were less common. Only Peru, Sierra Leone and East Timor included search capabilities, that is a box on the site itself that allowed users to search for keywords within the site pages. Only the Peru and Greensboro sites offered some forms of video content. In the case of Peru, the website offered video testimonies of people who told their stories to the commission. Greensboro's website included videos of the swearing-in ceremony of the commissioners, as well as an interview with its research director. In addition, during hearings in 2005, the website provided live coverage via streamed video. Other sites included transcripts, though no videos, from hearings (East Timor, Sierra Leone, Peru, and Greensboro). While video content was rare, six of the websites published pictures from commission hearings, inaugural events and other meetings.

**Table 3: Results of a content analysis of nine extant TRC websites.**

	FINAL REPORT	COMMISSIONERS	HEARINGS	MEDIA COVERAGE	RELATED LINKS	LANGUAGE
East Timor		X	X	X	X	English Portuguese
Ghana		X		X		English
Greensboro <sup>109</sup>	X	X	X	X	X	English
Haiti	X					French
Liberia <sup>110</sup>		X		X	X	English
Peru	X	X	X	X	X	English, Spanish
Rwanda						English, French
Sierra Leone	X	X	X	X	X	English
South Africa				X		English

	CONTACT INFO	SEARCH ENGINE	MULTIMEDIA FEATURES	URL <sup>111</sup>
East Timor	X	X		<a href="http://www.easttimor-reconciliation.org">http://www.easttimor-reconciliation.org</a>
Ghana	X			<a href="http://www.nrcghana.org">http://www.nrcghana.org</a>
Greensboro	X		X	<a href="http://greensborotrc.org">http://greensborotrc.org</a>
Haiti				<a href="http://www.haiti.org/truth">http://www.haiti.org/truth</a>
Liberia	X			<a href="http://www.trcofliberia.org">http://www.trcofliberia.org</a>
Peru		X		<a href="http://www.cverdad.org.pe">http://www.cverdad.org.pe</a>
Rwanda	X			<a href="http://www.nurc.gov.rw">http://www.nurc.gov.rw</a>
Sierra Leone	X	X		<a href="http://www.trcsierraleone.org">http://www.trcsierraleone.org</a>

In summary, all sites were designed in some ways to disseminate and *inform*, for instance by sharing information about the commissioners or to distribute electronic copies of their final report (Rwanda was a bit of an exception in not providing any of these features). Most sites

<sup>109</sup> Greensboro, North Carolina, USA.

<sup>110</sup> Original website prior to re-design.

<sup>111</sup> All sites accessed July 2007.

also provided some means to *connect* by offering contact information and email addresses for the commission. However, no sites offered facilities to *interact* such as discussion fora, places to upload images, or ways to comment publicly on commission material. And, finally, only a couple of sites offered much in the way of multimedia features, such as video or sound.

### 3.4. TRC of Liberia Website Design Case Study

The above content review of existing truth commission websites shows that the full capabilities of the web have yet to be exploited by truth commissions. This chapter will now employ a case study method describing the methods and process used to re-design the Liberia TRC website, along with an analysis of its use after deployment. This case study and usage analysis provides evidence as to the particular role and value of ICTs in post-conflict reconciliation, and details a digital design method particularly appropriate to the post-conflict context.

In early 2007, after meetings with Jerome Verdier, Chair of Liberia’s Truth and Reconciliation Commission, and other commissioners and stakeholders, the Technologies and International Development Lab (TID) at the Georgia Institute of Technology (Atlanta, USA), under the direction of the author of this chapter, undertook a participatory design exercise with the aim of redesigning, implementing and hosting the Liberia TRC’s website. While the Commission had already developed a simple web presence (Figure 8), there was shared recognition that the site failed to meet all of the possibilities of an online rich and interactive online presence. As noted in the previous section, while the original Liberia website could inform and connect visitors, it lacked facilities for them to interact and did not make use of multimedia materials.



Figure 13: Original Liberia TRC website prior to the re-design efforts.

Liberia has very limited internet penetration as well as low levels of computer and print literacy among its population.<sup>112</sup> Thus, it was immediately evident that the TRC website user base would consist primarily of small elites in Liberia, Liberians in the diaspora, and a broad base of other international and domestic stakeholders in the post-conflict reconciliation process, such as relevant NGOs and international organizations. While this broader potential user base was recognized, based on consultations with the TRC commissioners, the site first focused on Liberians in the diaspora as the most important user population. This follows from the TRC's overall inclusion of Liberians in the diaspora as a key target group, as mentioned above.

As Beyer & Holtzblatt note,<sup>113</sup> identifying the principal end-user population is a critical first step in the redesign of an online portal such as that of the TRC. Members of the TID Lab at Georgia Tech employed participatory design methods with representatives from this end-user group to develop and refine usability and design elements. The representative end users consisted of Liberian expatriates from the Atlanta area, where Georgia Tech is based. The design team also consulted TRC officials, and on one occasion received advice from visiting Liberian dignitaries. This follows the participatory design approaches outlined, for example, by Schuler & Namioka.<sup>114</sup> In total, eight meetings took place with this set of informants, to cover the requirements of the gathering, user analysis and initial design evaluation phases.<sup>115</sup> This series of meetings began in the first quarter of 2007. Based on information gathered from these meetings the TID Lab formulated an initial list of requirements for the site, which included:

- Support for online entry of formal written statements to the commission;
- Repository of multimedia content resulting from TRC activities;
- Communication channels with the TRC;
- Moderated discussion forum and collaboration space for discussion and interaction;
- Secure, encrypted storage of submitted official statements and prominently displayed security guarantee;
- Linkages with other TRCs as part of the global TRC movement.



Figure 14: Some preliminary re-designs employing original site's basic structure and imagery.

During these initial sets of meetings the TID Lab members brought to the user group some very preliminary design sketches that explored new imagery and color palates while still maintaining the original site's organizational structure (Figure 2). These early design sketches were used to facilitate dialog and elicit reaction and response from the end-user informants. This process quickly established an important

<sup>112</sup> World Bank Group. (2011). *World development indicators*. Washington, D.C.: World Bank.

<sup>113</sup> Beyer, H., & Holtzblatt, K. (1998). *Contextual design: defining customer-centered systems*. San Francisco, Calif.: Morgan Kaufmann Publishers.

<sup>114</sup> Schuler, D., & Namioka, A. (1993). *Participatory design: principles and practices*. Hillsdale, NJ.: L. Erlbaum Associates.

<sup>115</sup> Best, M. L., Smyth, T. N., Serrano-Baquero, D., & Ehterton, J. (2009). *Designing for and with diaspora: A case study of work for the truth and reconciliation commission of Liberia. Proceedings of the 27th international conference extended abstracts on Human factors in computing systems (pp. 2903–2918)*. ACM.

over-reaching design principle; namely, the expatriate informants stressed that the original TRC website (and the initial re-designs) was too reliant on the bureaucratic structures of the commission itself as an organizing principle. The original site was organized around the offices of the commissioners, the various commission departments and so forth. Based on the above review of websites, this structure is, in fact, the standard for most institutional sites. In contrast, the end-user informants argued that the TRC site should instead be structured around the TRC's reconciliation *process* and the various constituent goals of this process.

Following these focus group findings, the next site mock-ups were structured around the core set of reconciliation processes and goals identified in the user meetings: speaking the truth, forgiveness, reconciliation, and justice. Figure 3 shows a preliminary design mock-up featuring this process orientation; the four goals are presented on the left side of the page under the heading "Our Process."



Figure 15: First design mock-up to feature a reconciliation process orientation.

The focus groups also revealed that the choice of the site's visual imagery would be both critically important and difficult. While visually conveying the ideals and "Liberian-ness" of the TRC was essential, finding appropriate and broadly acceptable images was difficult, given Liberia's ethnic and linguistic diversity. Avoiding bias toward any one group was critical. These considerations affected choice of color scheme, visual icons, and other decorative imagery.

For instance, when asked "What is Liberian?" the user group members agreed only on the Liberian flag. Based on that answer, some suggested use of the flag colors of red, white, and blue for the site, while others felt that this would make the TRC, an independent commission, appear too closely aligned with the government. Still others pointed out that in traditional cultures red is commonly associated with blood, war and violence.

Based on these at-times conflicting user inputs, the TID Lab developed a new design mock-up that implemented both the process orientation and inputs on color and imagery (Figure 4). This new design had an overall green palate, which was seen as neutral and comforting. The TRC logo was deemed an important branding element so it was included, and the Liberian coastline was integrated into the head banner. This coastline represented Liberia to the user-group without associations to a particular politic or narrow identity. The reconciliation process was encoded in the original four steps with accompanying iconography:

- *Speak the Truth* was represented by a palava hut<sup>116</sup>;
- *Forgive With an Open Heart* was represented by the sharing of cola nuts;
- *Justice* was represented by scales;
- And *Reconcile* was represented by two clasped hands.



**Figure 16: First design mock-up to implement the full set of inputs from the user participatory design meetings including process orientation and new color palate and esthetic. The home page also had facilities for a slide show, news items and navigation facilities.**

In addition to the Liberian coastline as an element in the title banner, the initial design included a photograph of the white *Strophanthus Gratus* flower, a selection made on the advice of a botanist at New York’s Museum of Natural History who claimed that the species was endemic to Liberia (Figure 4). However, at a subsequent focus group meeting the choice of the flower was rejected by the Liberian informants who claimed to have never before seen such a flower. This finding demonstrates how domain experts, such as the botanist, can never fully represent actual user populations. In the end, the flowers were replaced with a familiar image of palm fronds.

Another result of the focus group engagements was a call for the inclusion of several interactive multimedia content areas, including photo, audio and video galleries. Other areas for interaction were also added, including a discussion fora, a means to contact the commissioners and a facility to offer sworn sealed testimony over the internet. This would be the first time that a truth commission had accepted sworn

<sup>116</sup> In Liberia, a “palava hut” is similar in concept to a town hall, where people in the community come together to discuss local issues.

official testimony over the internet. Finally, some of the more traditional TRC web components were kept, including areas for reports, details on the commissioners, the TRC schedule of programs and so forth.

In addition, based on user input, a fifth process element was added to the four already in place, highlighting web material that explained how the site was *Safe and Secure*. A skeleton key icon represented this concept. This was an important element, especially given that the site allowed for direct user contributions and included an area where visitors could provide sworn testimony.



**Figure 17: Final design with process elements now in an oval, the inclusion of the *Safe and Secure* icon, and the removal of the *Justice* icon.**

The final step prior to launching the new site was to work with the TRC commissioners and chair to ensure that the design met with their approval. These interactions resulted in one significant change, namely the removal of the *Justice* Process icon. Cllr. Verdier noted that the TRC’s mandate focused on transitional justice measures but stopped short of formal justice. Thus, the inclusion of justice as an element of the process was inaccurate and inappropriate. Figure 5 shows the final home page for the site, which was finalized, tested and launched in October 2007.

### 3.5. Usage Patterns of the Website

The new site was launched with special instrumentation that recorded all visits to the site and accumulated data on each visit, such as exactly which pages were visited, how long a user stayed on a page, where the visitor was located, etc. Note that this data does not personally identify the individuals accessing the site but instead only accumulates generic information such as their general location. This data allows for some evaluation as to the reach and impact of the site. A simple figure of merit for the website's impact was the number of unique visitors the site attracted. The web visit analysis tool distinguished between the *raw* total number of visits, which counts repeat visits from the same person as separate impressions, versus the number of *unique* visits which tries to count the number of actual individuals to visit the site. Figure 6 graphs this number of unique visits per day from the initial site launch till August of 2011.

The histogram shows some interesting dynamics in the number of unique visits to the website over its initial years. At the left of the graph, during the month of March in 2008, zero visits were logged. In fact, during this period there were indeed visitors to the site; however, due to an error in the logging tool installation, all visits during this month were lost. Ignoring this short period without any visitor data, on average the site received nearly 2,500 unique visitors per month. Starting in mid-2009, monthly visits to the website increased steadily. This continuous growth in interest spiked with the release of the preliminary final report in July of 2009, and spiked again with the release of the final report at the end of the year. Indeed, during the month when the final report was released, November 2009, the site experienced 10,935 unique visits. The number of visits then fairly quickly dropped off. This pattern makes sense: as public hearing activity builds and anticipation of the final report grows, one sees the steady rise in visits, culminating in a dramatic number of visits for the final report and then a fairly rapid decline back to about 1,000 unique visits a month.

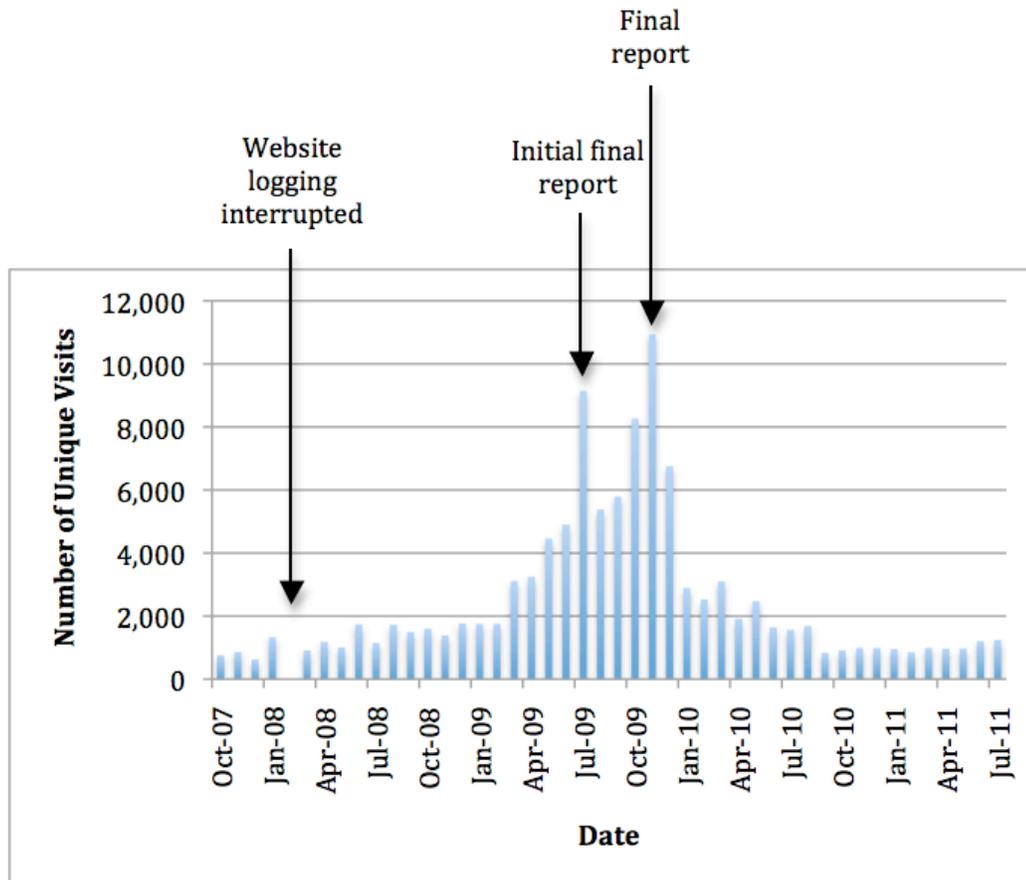
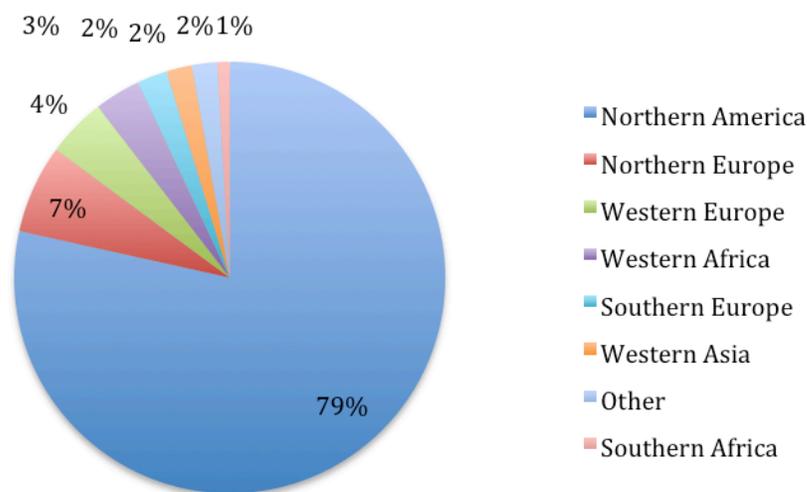


Figure 18: Histogram of over three years of number of unique visits per day to website.

Beyond the raw number of unique visitors to the website, the logging tool accumulates information about each visit, including a rough attempt at geographically locating each visitor. This process is not precise, and many visitors from Liberia (and other African countries) will be logged as coming to the site from other locations, due mostly to the technical realities of routing all international internet connectivity via satellite gateways. With that caveat in mind, Figure 7 shows the estimated percentage of visits by sub-continental region. Nearly 80 percent of visits are logged as from North America. Northwest Europe accounts for close to 11 percent of visits. (Visits from Liberia might be logged as coming from North America or Europe.) Next is West Africa with 4 percent. This is the largest region of Africa, with South Africa accounting for less than 1 percent and East Africa even smaller. Western Asia, or the Middle East, account for about 2 percent of visits.

The technical challenges to these visit logs notwithstanding, it seem clear that the large majority of visitors came from North America, specifically the USA (with 40 times more visits than Canada). When this data is broken down by city, the most significant traffic comes from cities with large Liberian diaspora, with 17 percent originating from New York City, 3 percent from Miami, 3 percent from Minneapolis, 2 percent from Chicago, and 1.5 percent from Washington DC.

These results seem to confirm the initial design principle that the website would be visited mostly by people in countries with substantial Internet infrastructure and penetration, such as in North America and Europe, and would be used significantly by those Liberians in the diaspora.



**Figure 19: Percentage of visits by sub-continental region.**

Finally, the traffic analysis counts not only total visits to the entire website but also isolates each part of the website, counting the number of visits for each. This data highlights those parts of the site that were of most interest to the visitors. Table 2 lists the twenty most visited areas of the website; these are either specific pages or groups of pages that are coherently related. By far the most visited were the video homepages and video search areas. These locations are not the pages with specific videos but are instead the homepage and navigational and search facilities where visitors are able to locate specific videos they are interested in viewing. The site contains over 1,000 videos available for playback, nearly all of which document the public hearings conducted by the commission. While the general video navigation facilities are the most visited part of the site, the eighth most visited page (with 1.1 percent of all page views) is the video of Prince Johnson’s hearing. Prince Johnson was a notorious rebel force commander during the civil war. He is now a politician in Liberia. Beyond Prince Johnson, certain other videos also enjoyed significant viewership. For instance, the 15<sup>th</sup> most visited portion of the site contained videos from the diaspora hearings held in the USA.

After videos, the second most popular page on the website was the home page, ([www.trcofliberia.org](http://www.trcofliberia.org), and as depicted in Figure 5 above) with 13.4 percent of all page views. The third most popular area of the website was the page where visitors could download the final report. This area attracted 4.4 percent of all visits to the website.

In summary, Table 2 underlines how popular and potentially impactful the rich media material of the site was. Videos were by far the most popular materials. While these facilities focus on informing visitors on the activities of the commission, related research work has demonstrated that viewing-rich media can be effective in processes of national reconciliation and healing.<sup>117</sup> The second most popular facility on the site was information delivery of primarily textual materials such as the final report, news, information on the commissioners, etc. The third most popular type of facility was the components that connected visitors to the commission or allowed for interaction. The interaction page for submitting formal statements accounted for 0.8 percent of all visits to the website. Another 0.5 percent of visits were to the page with information on how to contact the commission. However, the interaction pages allowing visitors to contribute public material such as pictures, or the discussion fora of the website did not receive many visits at all. So while some elements of connection and interactivity were appreciated, they enjoyed considerably less traffic compared with the rich media facilities, and the more traditional informational pages.

**Table 4: Twenty most visited areas of the website.**

PERCENTAGE OF TOTAL PAGEVIEWS	NUMBER PAGEVIEWS	SITE LOCATION
16.0%	108487	Video Homepages
13.4%	90753	Homepage
4.4%	29673	Final Report
2.4%	16088	Photos Homepage
1.9%	12671	News
1.5%	10438	Hearings Homepage
1.1%	7526	Prince Johnson Video
1.1%	7370	Commissioner Bios
1.0%	6877	Press Releases
1.0%	6857	TRC Mandate
1.0%	6508	Final Report Press Release
0.8%	5481	Statement Submission
0.5%	3409	About the TRC
0.4%	2918	USA Hearing Videos
0.4%	2754	Scholarly Resources
0.4%	2745	Contact the TRC
0.4%	2673	Women Children Homepage
0.4%	2666	Hearing Transcripts
0.4%	2498	Reports Homepage

<sup>117</sup> Best, M. L., Long, W. J., Etherton, J., & Smyth, T. (2011). Rich Digital Media as a Tool in Post-Conflict Truth and Reconciliation. *Media, War & Conflict*, 4(3), 231–249.

# Conclusion

During the period when the TRC was active, analysis of the site's usage data points to its significance in supporting several functions of the Commission. Understanding the site's design and the main points in its development suggests ways that future truth commissions can harness the web for similar goals. This is relevant in improving our overall understanding of some of the ways in which ICTs can be used to support processes of reconciliation in a post-conflict setting.

In particular, analysis reveals three important results from this usage analysis and design activity. First, it underlines the importance of employing participatory methods. These brings together not only the relevant user base—Liberians living in the diaspora—but also institutional representation, that of the TRC commissioners, and officers. Second, unlike other sites, the TRC of Liberia website emphasized the process of the TRC's work (testimony, forgiveness, etc.) rather than the organizational structure that drove the commission. This is potentially useful as a visitor develops the connection between the purposes of the TRC and his or her own experiences during conflict. Third, the multimedia materials on the website were popular, and potentially useful for users. Given related work, demonstrating the healing effect such rich media can offer in post-conflict settings, this further underlines the impact and value rich online media can have in processes of truth and reconciliation.

With publication of the final report, the TRC website has now transitioned to a static site that will be hosted by an external web company for at least 10 years.

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This report examines three disparate issues in relation to Liberia's access to and use of information communication technology (ICT) after the peace agreement of 2003. Its three chapters provide key insights into how well the government of Liberia is achieving its ICT policy goals; Liberia's 2010 National ICT & Telecommunications Policy states that Liberia's development depends in part on its people's ability to produce, use and sell ICT services. Applying different perspectives on the evolution of ICTs in Liberia, the study covers a range of topics; from an approach for improving international connectivity, to how Liberians use the internet, to a single intervention for improving the website of the TRC. All chapters represent unique aspects of the Liberian experience and point to the past, present and potential future roles of ICTs in the conflict-torn country.

#### CHAPTER 1 — THE GOVERNANCE OF SUBMARINE CABLE COMMUNICATIONS IN AFRICA: THE AFRICA COAST TO EUROPE (ACE) CABLE SYSTEM IN LIBERIA

The first chapter examines the early governance of international connectivity in Liberia through the Africa Coast to Europe (ACE) submarine cable system, considering the Cable Consortium of Liberia (CCL) role in particular. The study reveals several challenges facing the CCL: a history of strained relationships between shareholders, including several debt claims and counterclaims, a perception in the industry that the LTA is a weak regulator, and inadequate technical and human resources in the sector. On the positive side, there is public and political support for the ACE project, and significant technical support from international development partners. The study recommends, for instance, that all CCL procurement be made subject to the Public Procurement and Concessions Commission in Liberia, or that the ACE initiative be aligned to the principles held by the Open Government Partnership for Liberia.

#### CHAPTER 2 — CYBERCAFÉ USERS AND SUPER-TECHIES IN POST-CONFLICT LIBERIA

The second chapter looks specifically at Liberians who use the Internet in cybercafés in the context of post-conflict conditions. The chapter is based on a survey of 100 cybercafé users across four different venues within the greater Monrovia area, who were asked a series of questions related to their online activities. The study finds one salient group of subjects that defines Liberia's "super-techy" community. The results point to the emergence of a small group of young, knowledgeable, technologically optimistic and aspirational individuals. This has implications for initiatives led by the government or international organizations that require local expertise. The finding is evidence of the potential for locally led innovation in the economy and a local pool of talent and skills in the Liberian ICT sector.

#### CHAPTER 3 — RECONCILIATION AND THE WEB: A CASE STUDY OF THE DESIGN AND USE OF LIBERIA'S TRUTH COMMISSION WEBSITE

The third chapter focuses specifically on one intervention—the redesign of the website for the Liberian Truth and Reconciliation Commission (TRC). The chapter demonstrates the promise and possibilities of the web to support the work of truth commissions and, in particular, the use of collaborative design processes to develop and deploy rich multimedia environments and secure transactional spaces. Three important results emerged from these design activities and subsequent usage analysis. First, the design process underlined the importance of employing participatory methods. Second, unlike other sites, the TRC website of Liberia emphasized the process of the TRC's work (testimony, forgiveness, etc.) rather than the organizational structure that governed it. Third, benefits can be associated with multimedia-based imagery on the website.