



ANNUAL REPORT

2013 / 2014

LIBERIA
TELECOMMUNICATIONS
AUTHORITY

OUR **MISSION**

“ TO CONSISTENTLY CREATE AN ENABLING ENVIRONMENT THAT PROMOTES MARKET DRIVEN FAIR COMPETITION, WHICH PROVIDES ACCESSIBLE AND AFFORDABLE COMMUNICATION SERVICES FOR ALL. ”

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Note: All data graphs and charts within this report are from January 2013 to December 2013.





WE ARE PLEASED TO NOTE THAT THE **WARCIP LIBERIA PROJECT HAS SURPASSED, BY MORE THAN 100%, ALL STIPULATED PROJECT MONITORING AND EVALUATION INDICATORS, AS AGREED TO BY THE WORLD BANK AND THE GOVERNMENT OF LIBERIA.**

Chairperson's Message

ANGELIQUE EUPHEME WEEKS

In 2013 the Liberia Telecommunications Authority (LTA) successfully implemented its regulatory responsibilities over the Liberian ICT/telecommunications sector. During the year, the LTA's fulfillment of its statutory duties to efficiently manage Liberia's scarce telecommunications resources led to the sector's contribution to national social and economic development by generating more than US\$14 million in revenue for the national budget.

Significant accomplishments of the Authority include achievement of the LTA's project implementation responsibilities under the **West Africa Regional Communications Infrastructure Program (WARCIP) Liberia Project** that led to the launch and operationalization by the Cable Consortium of Liberia (CCL) of the Africa Coast to Europe (ACE) submarine fiber optic cable in January 2013. That achievement, for the first time in our national history, made available to Liberia's populace through their service providers, true high-speed international broadband connectivity at improved cost, and connected Liberia to the global networked society. All major licensed service providers now have direct access to international broadband capacity through the CCL's Terminal Station. This massive national imperative, funded by a loan from the World Bank through the WARCIP Liberia Project, is just the beginning of a capital intensive effort to provide the national backbone infrastructure that can deliver access to high-speed, affordable, international broadband connectivity and services to all residents of Liberia, irrespective of location.

Once fully deployed, the national access to international broadband connectivity will signifi-

cantly improve the way that this government conducts business. It will also meaningfully impact the manner in which the various ministries, agencies and government institutions interact with each-other and improve how government services are delivered to our citizens and how our much needed revenue is collected and accounted for. The development and deployment of this national backbone infrastructure will bring to reality, the Government of Liberia's vision to create a knowledge based society by using Information and Communications Technologies (ICT) in all aspects of development and governance.

We are pleased to note that the WARCIP Liberia Project has surpassed, by more than 100%, all stipulated project monitoring and evaluation indicators, as agreed to by the World Bank and the Government of Liberia. Presently, close to 60% of Liberia's population has access to mobile telephone service and approximately 4% of our residents have access to broadband internet service. Additionally, the wholesale price of international broadband connectivity has dropped to as low as US\$2,000 monthly for 2Mbs, from a staggering baseline price of US\$8,000 monthly in 2011. The retail price is also trending lower.

The LTA's new **International Gateway Monitoring** program monitors the performance of incoming international calls to Liberia in real time and provides accurate revenue assurance, improved call quality of service and enhanced anti-fraud management. Since its official launch in April 2013, the IGM program has made a significant contribution to the GOL by generating additional revenues of US\$4.5 million to the Ministry of Finance and the LTA collective-

ly. This amount could have been significantly more; however the program experienced losses attributable to the use of illegal SIM Boxes by fraudsters, to evade the regulated fees payable to the Government of Liberia on all incoming international calls through the IGM system. SIM Boxes, which are illegal in Liberia, enable fraudsters to re-route incoming international calls to their destinations so that they appear as local calls. This practice deprives the Liberian Government and registered service providers of hundreds of thousands of US Dollars. In keeping with applicable Laws and Regulations, the LTA will continue to vigilantly pursue entities and individuals who try to deprive government and licensed service providers of revenues generated from the telecommunications sector.

The LTA issued eighteen (18) new licenses in 2013, and renewed forty-eight (48) licenses during the period under review.

The LTA also developed and issued a **Consumer Bill of Rights** and guidelines that affirm for all consumers of telecommunication services in Liberia: the right to safety; the right to privacy; the right to be informed; the right to choose; and the right to be heard. In May 2013, LTA hosted the first **Consumer Parliament** in Gbarnga, Bong County, bringing together parliamentarians, service providers and the LTA; and providing a platform for the sharing of knowledge on their common understanding of the telecommunications industry, as well as addressing problems and concerns of consumers.

The **Universal Access Program**, a collective effort to bring communications services to rural, unserved and under-served areas, took a major

step forward in 2013 with the establishment of the Universal Access Governing Board and the Universal Access Implementation Committee. To fulfill the LTA's responsibilities (under the Telecommunications Act of 2007 and the National Telecommunications & ICT Policy 2010-2015) of advising the Ministry of Posts and Telecommunications on developing the requisite policies; and to implement regulations governing the administration of the Universal Access Program and the establishment of the Universal Access Fund, the LTA - with funding from the WARCIP Liberia Project, secured the services of a consortium of firms to advise and support Government in designing the regulatory framework for implementing the Universal Access Program and to establish a Universal Access Fund.

The broadcasting revolution is well underway and the transition from analogue to digital television broadcasting creates opportunities for the provision of ICT applications and multimedia services. It also contributes to the efficient use of spectrum through the digital dividend and the release of spectrum for other uses such as wireless broadband communications. It is in this regard that the International Telecommunication Union (ITU) has set 17 June 2015 as the deadline for analogue to digital migration. In preparation for the switchover, a National Digital Migration Steering Committee and a National Digital Migration Special Task Team were established in 2013 to develop the methodology for the smooth implementation of digital migration. The LTA has played a leading role in this effort by serving as Secretary to both the National Digital Migration Steering Committee and the National Digital Migration Special Task Team and providing the required technical expertise to the Spe-

SINCE ITS OFFICIAL LAUNCH IN APRIL 2013, THE IGM PROGRAM HAS MADE SIGNIFICANT CONTRIBUTION TO THE GOL'S REVENUE GENERATION EFFORTS AND CONTRIBUTED TOTAL REVENUES OF

\$4.5
MILLION
[USD]

TO THE MINISTRY OF FINANCE AND LTA COLLECTIVELY.

cial Task Team. Also, during the period under review, the LTA successfully obtained from the ITU, the digital television channel frequencies for Liberia, in preparation for digital migration. Finally, in adherence to the mandate of ECOWAS Heads of States and Governments as enshrined in the signed ECOWAS Supplementary Acts of 2007, Member States are to enact national laws that will harmonize the regulation of the telecommunications sector and facilitate the development, modernization and coordination of telecommunications networks within the region. In this regard, the LTA led the process of transposing 8 ECOWAS Supplementary Acts and one ECOWAS Directive. They were transposed specifically to mobilize national and international financial resources aimed at attracting private sector participation in the provision of telecommunications service in the sub-region. Those Acts are awaiting legislative approval.

In September 2013, the 4-year term of the Board of Commissioners (BoC) ended. Commissioners Harry T. Yuan Sr and Henry W. Benson were reappointed as Acting Commissioners and Commissioner Angelique Weeks was reappointed as Acting Chairperson, pending Senate confirmation for their second 4-year term. Commissioners Lamini A. Waritay and Abdullah

Kamara were replaced by Acting Commissioners B. Anthony McCritty Sr and Mariam Kaba.

Several organizational changes ensued, to realign the responsibilities of the reconstituted BoC. The Public and Consumer Affairs (PCA) Department was dissolved and its Consumer Affairs Section moved to the Government and National Policy Department, which became known as the Government and Consumer Affairs Department. The Service Development & Market Structure (SDMS) Department became the Licensing & Regulations Department (LRD) and the Compliance function was moved from LRD to the Legal Section of the Administration, Operations and Legal Department. The Public Affairs function of the PCA Department was moved to the Office of the Chairperson.

As we move into 2014, one of our major goals will be to acquire spectrum monitoring equipment, which will allow us to more effectively execute our regulatory mandate, while managing and monitoring the use of our scarce spectrum resource. With the achievement of this long-sought-after goal, the LTA will be poised to regulate the telecommunications sector, not only administratively but technologically, which is the norm amongst leading regulators around

the world. In addition, a compelling by-product of using such technology to regulate the sector, will be the recoupment of lost revenues from unauthorized users of Liberia's scarce spectrum resources. 2013 has indeed been a good year; 2014 has the potential to be even better. Cheers!



IN AUGUST 2013 LTA HOSTED THE **FIRST CONSUMER PARLIAMENT** IN GBARNGA, BONG COUNTY, BRINGING TOGETHER PARLIAMENTARIANS, SERVICE PROVIDERS AND THE LTA; AND PROVIDING A PLATFORM FOR THE SHARING OF KNOWLEDGE ON THEIR COMMON UNDERSTANDING OF THE TELECOMMUNICATIONS INDUSTRY, AS WELL AS ADDRESSING PROBLEMS AND CONCERNS OF CONSUMERS.

18

number of new licenses issued by the LTA in 2013

48

number of licenses renewed by LTA in 2013



PRESENTLY, **CLOSE TO**

60%

**OF LIBERIA'S POPULATION HAS
ACCESS TO MOBILE TELEPHONE
SERVICE AND APPROXIMATELY 4% OF
OUR RESIDENTS HAVE ACCESS TO
BROADBAND INTERNET SERVICE!**



01

ADMINISTRATION, OPERATIONS AND LEGAL DEPARTMENT

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Department Summary



tions were filled and 19 vacancies published in 2013. Staff attended capacity building programs during the year in review including training in the following areas:

- Designing Legislative, Institutional and Regulatory Frameworks for Successful PPPs.
- Financial Management in Public Sector and Financial Statements Interpretation and Understanding.
- Executive Masters - Strategies for Business Administration.
- International Traffic Management: Issues & Opportunities/Terrific Rate Strategies and Cost Recovery Requirements.
- Corporate Governance Strategies for Public and Private Enterprises.
- Cisco Networking Training.
- Emerging Telecom Regulation Essentials.
- International Traffic Management

Administration

Funding for a Provident Fund and Employees' Life Insurance Plan were approved in this year's budget.

In keeping with LTA's practice and policy of ensuring human capacity development, 44 posi-

Operations

During the period under review the LTA contributed US\$10,988,833.30 to the Government of Liberia's General Revenue Account through payments to the Ministry of Finance for license fees, US\$1,000,000.00 was also paid to the Ministry of Finance from

Table 1: LTA Revenue & Expenditure for period January 1, 2013 To December 31, 2013.

	Fees Paid to GoL (Actual)	Fees paid to LTA (Actual)
Beginning Cash Balance		87,473.72
Total		87,473.72
Revenues		
Cellcom	1,200,000.00	1,504,917.05
Lonestar	6,250,000.00	1,846,051.40
Novafone	486,674.66	628,803.87
West Africa Telecom	200,000.00	20,000.00
Non GSM	53,223.64	271,980.81
IGMS	2,798,935.00	1,100,471.41
Total Revenue	10,988,833.30	5,372,224.54
Total Cash Balance		5,459,698.26
Expenses		
Operating Expenses		4,640,711.03
Capital Expenses		497,574.60
Corp Social Responsibility		191,350.00
Total Expenses		5,329,635.63
Ending Cash Balance		130,062.63

Figure 1:

Contribution to the Government of Liberia's General Revenue Account through payments to the Ministry of Finance for license fees.

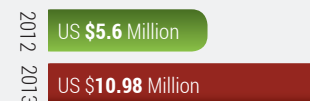
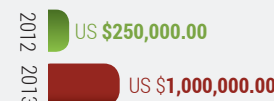


Figure 2:

Payment to the Ministry of Finance from Fines and Penalties.



US \$191,350.00

AMOUNT CONTRIBUTED
TO THE GOVERNMENT OF
LIBERIA, NATIONAL CAUSES
AND CHARITIES IN LINE WITH
THE LTA'S COMMITMENT TO
CORPORATE SOCIAL RE-
SPONSIBILITY.

Fines and Penalties. LTA commenced the year with a cash balance of US\$87,473.72 from fees paid during the previous year.

LTA's total revenue received in 2013 was US\$5,372,224.54, which funded operational expenses (US\$4,640,711.03) and capital expenses (US\$497,574.60).

Corporate Social Responsibility is a very important part of our culture at the LTA. In 2013 we contributed US\$191,350.00 to the Government of Liberia, national causes and charities. We ended 2013 with a cash balance of US\$130,062.63.

A financial snapshot of LTA's Revenue and Expenditure is presented in Table 1.

LEGAL AFFAIRS

Combating Sector Fraudsters

The LTA continues to aggressively pursue violators of fair market practices who deprive Government and service providers of substantial revenues from the sector. LTA's investment in a Subscriber Identity Module (SIM) Box detection device has greatly improved the sector's ability to promptly locate and apprehend illegal SIM Box use. This investment has been instrumental in deterring the illegal use of SIM boxes and has led to the arrest of four individuals presently awaiting trial on charges ranging from forgery and theft to Economic Sabotage.

On June 21, 2013 three Nigerian nationals were arrested as the result of a tipoff from an informant. Those arrested were suspected of illegal-

ly terminating international calls through the use of SIM Boxes. The three have been charged for defrauding Government and service providers of US\$9.6 million that could have been earned by the sector through the normal and legal call termination process. The defendants remain in custody awaiting trial.

On December 13, 2013 a Lebanese national employed with Novafone was arrested and charged with Economic Sabotage for allegedly using SIM Box equipment at a residence in Congotown. The suspect is also awaiting trial. Information filed with the Court indicates that 1,665,088.46 minutes were lost as a result of the suspected perpetrator's SIM Box scheme, totaling US\$466,201 lost revenue to Government and service providers.

Libercell Suspension Pending Judicial Review

In September 2013, the LTA Board of Commissioners issued an Order to suspend the license and frequency authorization of Atlantic Wireless Liberia Incorporated (d/b/a Libercell) for twenty one days pursuant to Article IV Section 20 of the Telecommunications Act of 2007.

The LTA Order was precipitated by Libercell's failure to satisfy its financial obligations to the Ministry of Finance and the LTA. The service provider also failed to comply with the LTA's SIM Card Registration Regulation, failed to migrate to the new National Numbering Plan and neglected its obligations to customers.

The Order mandated that Libercell remedy the breach within the suspension period of October 1st 2013 thru October 21st or risk having its li-

cense and frequency authorization revoked.

In response, Libercell filed a petition for Judicial Review before the Civil Law Court of Montserrado County. A full hearing is now being sought pending notice of assignment.

Compliance & Regulatory Officer (Moved to the Department of Administration, Operations & Legal)

After the reconstitution of the new Board of Commissioners and the ensuing reorganization of the LTA, the Compliance Section of the erstwhile Service Development and Market Structure Department was moved to the Administration, Operations and Legal (AOL) Department. The new BoC approved the restructuring in October and the transition was finalized in December 2013.

CORPORATE SOCIAL

RESPONSIBILITY IS A VERY

IMPORTANT PART OF OUR

CULTURE AT THE LTA.

Table 2: LTA Contracts Awarded In 2013

Unit	Date	Expiration Date	Contract Price	Name of Contract	Procurement Method	Remark
1	05/01/2013	06/30/2013	US\$3,000.00	The Dave Garnett Show	SS	Service
2	01/25/2013	05/31/2013	US\$6,000.00	Citizens United To Enhance Democracy	SS	Service
3	04/22/2013	07/31/2013	US\$8,000.00	The Flashpoint Media Institution	SS	Service
4	03/01/2013	05/30/2013	US\$7,500.00	Mr. Amos Sendolo	SS	Consultancy
5	02/01/2013	08/30/2013	US\$3,900.00	Liberia Broadcasting System	SS	Service
6	02/01/2013	08/07/2013	US\$6,000.00	The Renaissance Comm. Inc.	SS	Service
7	02/01/2013	08/02/2013	US\$5,640.00	SKY Communications Inc.	SS	Service
8	02/01/2013	08/01/2013	US\$4,200.00	Fanima Recording & Broadcasting Corp	SS	Service
9	02/01/2013	08/01/2013	US\$1,200.00	The Liberia Media Initiative	SS	Service
10	02/01/2013	08/01/2013	US\$800.00	Mr. Dominic W. Rennie	SS	Service
11	04/01/2013	07/31/2013	US\$19,800.00	SOGUSS Security Guard Services	RB	Consultancy
12	02/01/2013	06/31/2013	US\$9,765.00	Liberia Media for Democratic Initiatives	SS	Service

The Public Affairs Section played a pivotal role in notifying the public of LTA's decision to suspend and possibly revoke Libercell's license for failure to satisfy its financial obligations to the Ministry of Finance and the LTA.



Public Affairs

2013 was a year of quiet transition for the Public Affairs Section. After six years of dedicated service that shaped the information dissemination process of the LTA, Professor Lamini A. Waritay's tenure as Commissioner for Public and Consumer Affairs came to a close. The Department was subsequently dissolved and the Public Affairs function moved to the Office of the Chairperson.

During the year under review, LTA's Public Affairs Section continued to produce its informative and successful *LTA Diary* for radio broadcast. The program, which is disseminated through mainstream and community radio stations, breaks down complex issues shaping the LTA's responsibilities into simple concepts for the general population.

The Section responded swiftly to media reports issued by the General Auditing Commission (GAC) in 2013, alleging that the LTA had operated without a signed budget during a transitional period in 2009. GAC's press release conspicuously failed to include LTA's prompt and legitimate responses to the audit findings, which provided background and context during the audit review process.

The Public Affairs Section also played a pivotal role in notifying the public of LTA's decision to suspend and possibly revoke Libercell's license for failure to satisfy its financial obligations to the Ministry of Finance and the LTA. A full report of the violations and the actions taken are included in the Legal Affairs Summary. Public Affairs staff also supported the Consumer

Affairs Section's implementation of the Consumer Parliament held in Gbarnga, Bong County in May 2013. The forum brought consumers from several counties face to face with service providers and the LTA, to discuss issues and concerns, providing clarity to improve the level of service delivery.

The Public Affairs Section will continue to chart a proactive course of action to engage the public and create new avenues to advance the LTA's Mission and Vision.



PICTURED: LTA SPONSORS THE FEDERATION OF CYCLIST DURING THE 2013 NATIONAL COUNTY MEET.



02

LICENSING AND REGULATIONS DEPARTMENT

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Department Summary

The Licensing and Regulations Department (LRD), formerly the Service Development and Market Structure (SDMS) Department, is the arm of the LTA responsible for licensing, regulations, due diligence, economic regulatory analysis, and market research and monitoring. The Department is currently headed by Commissioner Bayogar Anthony McCritty Sr. who replaced Commissioner Abdullah L. Kamara who ended a successful four years term as head of the Department.

The year under review was a remarkable one for the Department, which successfully achieved most of its strategic goals for 2013, despite the numerous challenges and financial constraints the LTA faced during the period. Paramount among these achievements were the segmentation of the telecommunication market, the drafting of key regulations that will further increase market competition when implemented, recommending the grant of operational license to SATCON (a direct-to home television service provider), which is expected to elevate competition in the direct-to-home television market; and recommending the award of Universal Mobile Telecommunications System (UMTS) Licenses to Lonestar Communications Corporation and Novafone Incorporated for the provision of broadband internet data services as well as other innovative mobile telecommunications services.

Other achievements were the changing of the Department’s name and its partial reorganization that led to the transfer of the Compliance Section to the Administration, Operations and

Legal Department. The Department also represented the LTA at a Cost Modeling and Regulatory Auditing workshop in Banjul, Gambia and a Spam Control and Mobile Roaming workshop in Nairobi, Kenya. This was in response to an international effort to encourage cost-based regulations, promote the collective combating of spam, and draft mobile roaming guidelines to be used by regulators for the effective regulation of the mobile roaming market in Africa.

Licensing

During the year under review, there was a considerable decline in expression of interests (EOIs) for licenses. Total EOIs received were 44 as compared to the 90 received in 2012, which represents a 51.11% reduction. See Table 3 below.



Commissioner Bayogar Anthony McCritty Sr

Table 3: EOIs/Applications for License in 2013

Category/Service Type	Expressed Interest	Fulfilled Applications Requirements	Awaiting Applicant's Response	Applications Being Processed	Licenses Awarded
GSM	3	--	3	--	--
WINMAX	0	0	0	0	0
UMTS	2	2	--	0	2
CDMA	0	0	0	0	0
ISP	7	1	6	0	1
Community FM	4	1	3	0	1
Commercial FM	2	2	--	0	2
Non-Commercial FM	6	2	4	0	2
UHF Radio	1	1	--	0	1
HF	2	2	--	0	2
VHF	5	4	1	0	4
VSAT	3	1	2	0	1
Free to Air TV Broadcast	3	1	2	0	1
INMARSAT	1	1	--	0	1
Direct to Home TV Broadcast	4	1	3	0	1
Network Installation	1	--	1	0	--
Totals	44	19	25	0	19

The commercial deployment and expansion of the fiber cable networks has caused an increased preference for fiber connectivity due to its higher broadband speed and cost efficiency as compared to VSATs.

The decline in EOIs during the period is largely attributed to the substitution of VHF, UHF and HF radios with mobile phones by some entities and the switch over from VSATs to fiber cable networks by others.

This decline may be because parts of the country where VHF, UHF and HF radios once sufficed

as the only possibility for communications services are now benefiting from mobile telecommunication services as a result of the continued expansion in mobile telecommunications networks.

Additionally, the commercial deployment and expansion of the fiber cable networks has caused an increased preference for fiber connectivity due to its higher broadband speed and cost efficiency as compared to VSATs. For instance, since the beginning of the commercial operationalization of the fiber networks in late 2012, the number of VSATs in operation declined from 28 in 2012 to 18 in 2013. Also, the expression of interest for VSATs operation declined from as high as 15 in 2012 to as low as 3 in 2013.

Table 4: Renewal Requests in 2013

Category/Service Type	Renewal Request	Fulfilled Renewal Requirements	Licenses Renewed
GSM	NA	NA	NA
WINMAX	NA	NA	NA
UMTS	NA	NA	NA
CDMA	NA	NA	NA
ISP	4	4	4
Community Radio	1	1	1
Commercial Radio FM	2	2	2
Non-Commercial FM	2	2	2
Non-Commercial SW	1	1	1
UHF	--	--	--
HF	2	2	2
VHF	12	11	11
VSAT	18	18	18
Free to Air TV Broadcast	--	--	--
INMARSAT	3	3	3
Direct to Home TV Broadcast	--	--	--
Totals	45	44	44

Licenses Renewed

During the year under review, there were 45 license renewal requests submitted to the LTA. As in the prior year, all of those requests were from Class License holders. This is understandable, as most of the Class Licenses are issued on an annual basis. The total renewal request was 45 as compared to 46 in 2012, and 44 of those requests were processed. See table 4.

Regulations

During the year under review, several regulations that will promote a viable and competitive telecommunications sector were drafted or amended. The Amended and Restated Telecommunications Licensing Authorization Regulations has undergone stakeholders' consultations; while the Amended and Restated Interconnection

Regulations have been approved by the Board of Commissioners for stakeholders' consultation. The LTA is working very hard so that these seminal regulations can be finalized, approved and adopted during the next reporting period.

Other regulations drafted during the period under review include:

1. Licensing Fees Regulations
2. Numbering Regulations
3. Universal Access (UA) Regulations
4. Penalty and Fines Regulations
5. Quality of Service Regulations
6. Type Approval Regulations

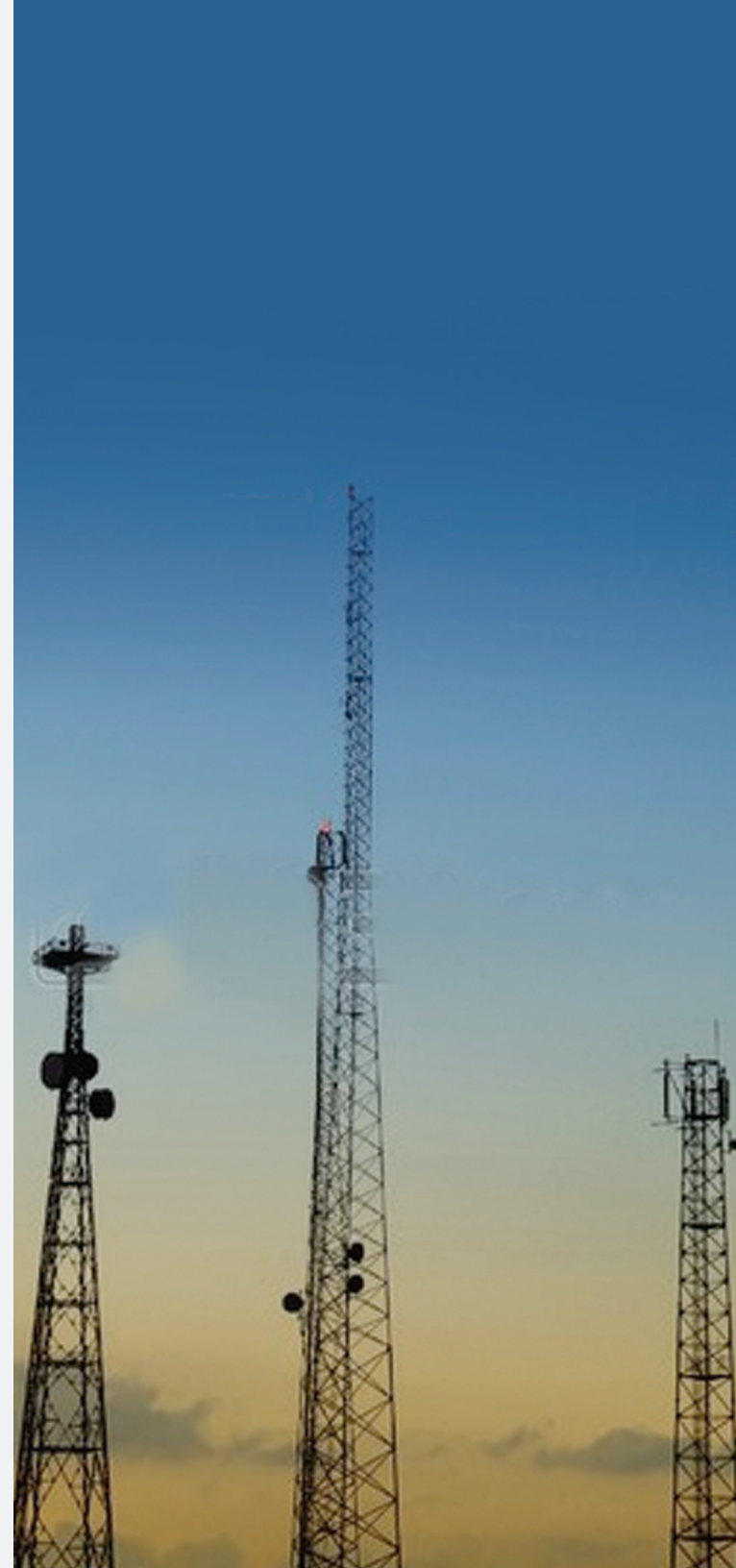
All of these regulations, as mentioned earlier, are significant to the economic development of the telecommunications sector. The Licensing Fees Regulations, for instance, is a performance-based licensing regime which promotes technology neutrality. In other words, when implemented, it will reduce or remove barriers to market entry caused by huge upfront capital costs and charges to new entrants; it will also allow flexibility for service providers to offer innovative telecommunications services by utilizing any available new technology without the need to acquire additional licenses. Moreover, it will remove the burdens of huge license fees for smaller operators by requiring them to pay percentages of their annual gross revenue as license and regulatory fees, thereby encouraging them to invest more in infrastructures and the improvement of quality of services.

Additionally, the Numbering Regulations will ensure the proper utilization of the limited numbering resources so that the Government of Liberia may maximize the optimal benefits required.

Likewise, the Universal Access Regulations will guarantee the seamless provision of needed telecommunications services to unserved and under-served areas of the country that service providers may consider economically unviable to invest in infrastructures and expand their telecommunications networks. The Penalty and Enforcement Regulations establish fines and penalties to operators who breach conditions of their licenses, thereby serving as a deterrent to committing wrong in the sector.

Regulatory Compliance

The LTA continues to apply administrative measures in its efforts to transform the nation's Telecom sector into a more competitive, regulated and compliant environment. However, the market remains polarized in most instances. The LTA's attainment of its strategic vision to be the premiere Regulator continues to be hampered by the dearth of technologically sophisticated equipment to adequately monitor activities in the sector; thus, a rigorous compliance and enforcement program is a challenge. Notwithstanding, the Compliance Program will increase its manual monitoring and evaluation activities across the country, with regular and impromptu field audits aimed at curtailing illegal operations in the sector. The overall long-term objectives are to establish a robust compliance framework that promotes a fair-competition market environment, and encourages innovation and entrepreneurship within a regulated and compliant sector.



Radio and Television Stations Operating in Monrovia and Environs

In August 2013, SDMS (now LRD) staff joined others from the E&T Department, PCA Department and some vacation students, to conduct a joint field audit of spectrum users operating radio and television broadcasting stations in Monrovia and its environs.

Radio Stations - Spectrum users operating in this category are classified and licensed in three groups including: 1) Commercial Broadcast; 2) Non-Commercial Broadcast; and 3) Community Broadcast. The validity of each Class License is 12 months, so each must be renewed annually, before the expiration of the time-frame specified in each License issued by the LTA.

Television Stations - The Audit Team found six television stations with operations in Monrovia and its immediate environs.

Table 5 provides a snapshot of the compliance status of the radio and television stations.

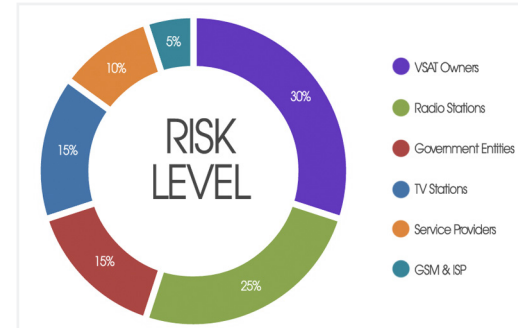


Figure 3

The lack of adequate resources to operate a full compliance and enforcement program is proving to be a challenge and the end result is giving rise to more illegal operations. The overall longterm objective hence, is to establish a robust compliance framework. With the collective and supportive efforts from stakeholders, the challenge may be enormous, but yet very possible to overcome. The compliance program will increase its monitoring and evaluation activities to cover the entire country with regular and impromptu visits field audits to curtail illegal operations in the sector.

Participation in International Workshops

During the year, the Licensing and Regulations Department represented the LTA at a Cost Modeling and Regulatory Auditing workshop in Banjul, the Gambia, and a Spam Control and Mobile Roaming Workshop in Nairobi, Kenya. Mr. Kwatama Q. Bettie, Economic Regulatory Analyst represented the department at both workshops. It is important to note that all costs associated with the department’s representation were borne by the International Telecom-

Table 5: Snapshot of the Telecom Market

	Category Stations			Licensed (Up to 2013)	Authorized/Delinquent	Not Licensed OR Authorized
	Commercial	Non-Commercial	Community			
Radio	15	12	2	8	17	4
Television	6	0	0	0	4	2

munication Union (ITU) and the African Telecommunication Union (ATU) respectively.

The objective of the Banjul workshop was to train participants in telecommunication networks cost modeling and regulatory auditing, while the Nairobi workshop focused on spam control and the preparation and adoption of turnkey guidelines to be used by regulators in addressing consumers' outcry relative to the hefty international mobile roaming charges in Africa. Both workshops did not only provide a learning opportunity for the LTA's participant, but also a platform to interact with scores of representatives of regulators, service providers, policy makers, and other stakeholders in the drafting and adopting of needed guidelines for the regulation of the international mobile roaming market in Africa. The Instrument drafted and adopted at the Nairobi workshop is the "African Union (AU) International Mobile Roaming Guidelines" which was submitted to AU for onward submission to its meeting of Ministers for approval. Once approved, the guidelines will be used by regulators all over Africa for the regulation of international mobile roaming market in Africa.

It is worth noting that skills acquired as a result of this workshop have elevated the capacity of participating staff; and through knowledge transfer to other staff, those skills will be fully utilized in achieving the goals and objectives of the LTA.

Market Trends

Table 6: Snapshot of the Telecom Market

Key ICT Indicators	2012	2013
Mobile-Cellular/Fixed Wireless Networks		
Fixed Wireless Telephone Service Providers	2	1
Mobile Service Providers	5	4
Mobile Cellular Telephone Subscriptions	2,393,634	2,555,396
% Change over the Previous Year	18%	6.76%
GSM Mobile Subscribers	2,379,890	2,550,775
CDMA Mobile Subscribers	13,734	4,621
Cellular Subscriptions Per 100 Inhabitants	68.4	68.3
Market Shares of Private Operators	99.43%	99.82%
Market Share of National Operator	0.57%	0.18%
Domestic Mobile Traffic	1,154,947,289	1,604,080,482
International Mobile Traffic	285,110,833	254,855,718
SMS Sent	75,013,430	60,775,911
Internet & Broadband Networks		
Internet Service Providers (Licensed)	13	9
Total Market Penetration	5%	21.53%
Total Recorded Internet Subscribers	181,537	804,724
% Change over the Previous Year	80%	343.28%
Internet Users Per 100 Inhabitants	5.2	21.5
International Internet Bandwidth Mb/s	175	1,345
Broadcasting & Television Networks		
Total Number of BTS Registered With LTA	39	55
Number of Television Stations	8	10
Number of Direct to Home Service Provider	2	3
Number of Non-Commercial Radio Stations	15	21
Number of Commercial Radio Stations	10	16
Number of Community Radio Stations	4	5
Staff *		
Total Full-Time Telecommunication Staff	817	732
Female Telecommunication Staff	214	195
Investment (USD) **		
Total Annual Investment in Telecom	\$29,448,039.58	\$29,784,035.00
Mobile Communication Investment	\$24,862,238.88	\$29,784,035.00
Foreign Investment	\$1,000,000.00	\$ -

* Includes 2012 data from two of the seven operators who provided data for 2013.

** Data obtained from two major service providers.



A significant increase in domestic calls of

4 BILLION MINUTES

was recorded in 2013.

Also, total mobile subscription for the period under review was 2,555,396.

This is **6.75% more** than the figure reported in 2012



Market Development

A significant increase in domestic calls of 1.4 billion minutes was recorded in 2013. Also, total mobile subscription for the period under review was 2,555,396. This is 6.75% more than the figure reported in 2012. The major jump, however, was recorded in Internet Data subscriptions. From a total of 159,444 subscriptions reported in 2012, this year recorded a total subscription of 804,724, indicating a growth of 404.70%

The number of direct-to-home TV service providers increased from 2 to 3 during the period. It is anticipated that the newest addition (SAT-CON) will bring some level of competition in this market. Licensed Free-to-Air TV stations increased from 8 to 10; however, only 6 are currently active on the market. Commercial radio stations increased by 60%, non-commercial radio stations by 33.33%, and community radio stations by 25% during the period.

Total international outgoing voice traffic was recorded at 185,047, 961.28 minutes, indicating a decline of 1.78% as compared to the 2012 figure. Similarly, total international incoming voice traffic captured during the year was 75,077,013.59 minutes, which is 22.26% less than what was reported last year.

There was also a reduction in the demand for some authorizations. For example, the demand for VSAT declined by 37.5%, HF 42.86% and VHF 37.5%. The decline in the demand for these authorizations is primarily attributed to the expansion in mobile and fiber cable networks in the country.

Employment in the sector also increased during the period. The figures reported herein include only full-time employees hired directly by telecommunications service providers on a full-time basis. It excludes other employees who have full-time jobs as a result of broadband networks externalities and spillover but are not in the full-time employ of telecommunications service providers. The total number of full-time employees recorded was 867, indicating an increase of 6.12% despite the closure of Libercell and the reorganization of Comium/Novafone, which saw the laying off of some workers. Of the total full-time workers in the sector, women represent about 26.41%, showing an increase of about 7.01% when matched against last year's figure. With the expansion of the fiber networks, a catalyst for increased broadband penetration, employment in the sector is expected to grow significantly in the future.

Table 7: Voice Traffic Minutes Per Service Providers

Voice Traffic (Minutes)	LONESTAR	CELLCOM	NOVAFONE	LIBTELCO	TOTAL
On-Net Calls	916,010,397.00	543,163,253.00	19,653,494.08	N/A	1,478,827,144.08
Out-going Calls to other Networks	48,052,392.00	60,647,230.00	16,553,716.20	N/A	125,253,338.20
Out-going Calls to International	141,652,905.00	28,745,014.00	1,495,897.28	154,145.00	185,027,961.28
Incoming Calls from other Networks	76,153,359.00	45,509,727.00	7,260,625.75	N/A	128,923,711.75
Incoming Calls from International	64,438,585.79	8,982,018.06	1,579,211.54	25,198.20	75,077,013.59
SMS On Net	57,711,032.00	2,448,420.00	616,459.00	N/A	60,775,911.00
SMS from other networks	4,868,473.00	69,090.00	258,064.00	N/A	5,195,627.00

Total investment into the sector during the period stands at \$29,784,035, indicating a 10% increase when matched against last year figure. There was no foreign direct investment (FDI) reported by service providers for the period.

Vibrant developments in the sectors are the direct effects of the necessary and significant interventions made by the LTA (though with resource constraints) over the past years in addressing and countering unfair market situations that have the potential to adversely affect the expansion of telecommunications networks throughout the country.

The reduction in international inbound voice traffic is significantly attributed to the grey routing plague being perpetuated against the telecommunications sector by unscrupulous individuals and businesses in the country. Also, alternative modes of communication via social media, email exchanges, Skype, etc, which have increased as the result of affordable internet data service, are factors that could have an impact on both inbound and outbound voice calls. This trend is likely to continue as more people subscribe to internet data services.

Table 6 reflects changes in Key ICT Indicators from 2012 to 2013.

Figure 5 shows that Lonestar Cell/MTN continues to maintain its lead in the market, with a penetration share of 51.53%, which represents an increase of 1.88% when compared to last year's figure of 49.65%. Cellcom follows as a strong competitor with market share of 39.02%, indicating a decrease of 1.76% over its last year recorded figure of 40.78%. Novafone and Libtelco follow as third and fourth with

respective market shares of 9.27% and 0.18%. Novafone's figure indicates an increase of about 1.35% while Libtelco's market share reduced by 0.39% during 2013.

2* Market Population used to calculate the penetration rates were calculated using LISGIS population growth rate of 2.1% over the last 5 years.

There has been a steady growth in the rate of mobile penetration from 2007 to 2013. The rates were calculated using the population estimate of 3.5 million.

Figure 4 shows the growth rates in mobile subscription over the period 2008-2013. On the average, mobile subscription has been increasing at about 27.5%.

Figure 6 below compares mobile telephony and Internet data subscriptions from 2007 to 2013. The substantial increase in Internet Data-subscription from 2012 to 2013 is a direct result of the landing and distribution of fiber cable in Liberia, as well as the deployment of technologies by operators that enable mobile broadband.

Market Segmentation and Monitoring Mechanism

Two essential achievements among the many laudable accomplishments of the Licensing and Regulations Department during the year in review were the segmentation of the telecommunications market and the development of a fully comprehensible and flexible market monitoring mechanism that will enable the LTA to identify, record and analyze market situations, from time to time, to determine the market conditions and

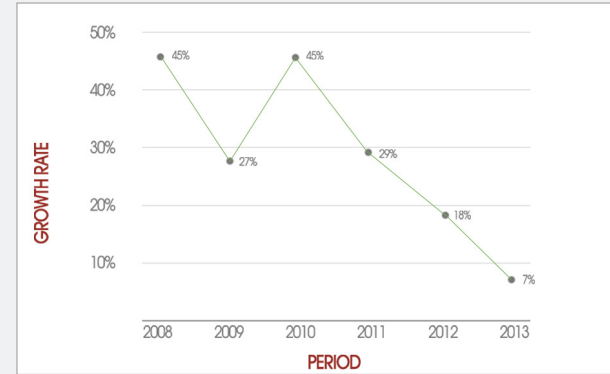


Figure 4

Year 2013 Mobile Market Penetration				
Market Population	Market Penetration Rate	Voice subscriber information retrieved from subscriber data submitted by operators in 2014		
3,740,000	68.33%			
		Operators	Mobile Subscribers	Penetration Rate
		Novafone	236,778	6.33%
		Cellcom	997,091	26.66%
		Lonestar	1,316,906	35.21%
		Libtelco	4,621	0.12%
		Total	2,555,396	68.33%
				Penetration Shares
				9.27%
				39.02%
				51.53%
				0.18%
				100.00%

Figure 5

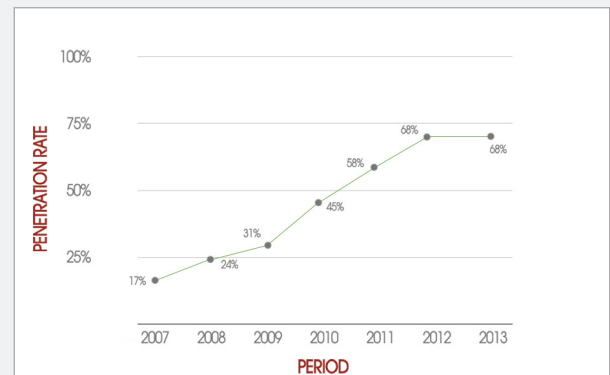


Figure 6

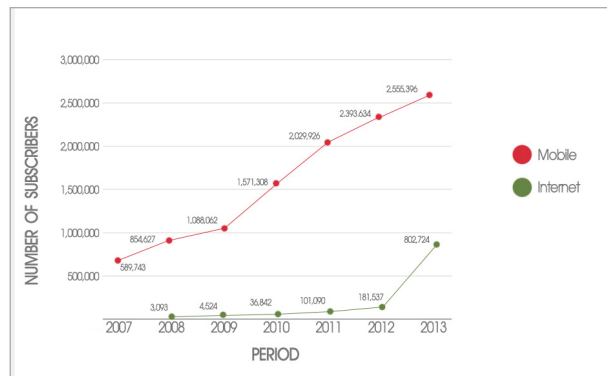


Figure 7

Description	Lonestar	Cellcom	Nova fone	Libtelco	W A T
On Net Calls at peak time (Monday to Friday)	\$ 0.1500	\$ 0.167	\$ 0.14	\$ 0.05	\$ 0.25
On Net Calls at off peak time (Monday to Friday)	\$ 0.1166	\$ 0.167	\$ 0.14	\$ 0.05	\$ 0.25
On-Net Calls at peak time (Saturday and Sunday)	\$ 0.1166	\$ 0.167	\$ 0.14	\$ 0.05	\$ 0.25
On-Net Calls off-peak time (Saturday and Sunday)	\$ 0.0972	\$ 0.167	\$ 0.14	\$ 0.05	\$ 0.25
Outgoing Calls to other networks at peak time (Monday to Friday)	\$ 0.1620	\$ 0.167	\$ 0.15	\$ 0.15	\$ 0.12
Outgoing Calls to other networks at off-peak time (Monday to Friday)	\$ 0.1620	\$ 0.167	\$ 0.15	\$ 0.15	\$ 0.12
Outgoing Calls to other networks at peak time (Saturday and Sunday)	\$ 0.1620	\$ 0.167	\$ 0.15	\$ 0.15	\$ 0.12
Outgoing Calls to other networks at off peak time (Saturday and Sunday)	\$ 0.1670	\$ 0.167	\$ 0.15	\$ 0.15	\$ 0.12
MMS to International	\$ 0.10	N/A	N/A	N/A	N/A
MMS on-net	\$ 0.10	N/A	N/A	N/A	N/A
MMS to other networks	\$ 0.10	N/A	N/A	N/A	N/A
SMS on-net	\$ 0.03	\$ 0.050	\$ 0.05	\$ 0.04	N/A
SMS to other local networks	\$ 0.08	\$ 0.080	\$ 0.08	\$ 0.06	N/A
SMS to International Network	\$ 0.10	\$ 0.100	\$ 0.1	\$ 0.10	N/A
Outgoing calls to USA and Canada	\$ 0.05	\$ 0.050	\$ 0.05	\$ 0.18	\$ 0.25
Outgoing calls to China and India	\$ 0.050	\$ 0.050	\$ 0.05	\$ 0.18	\$ 0.25
Outgoing calls to Dubai	\$ 0.00	\$ 0.580	\$ 0.24	\$ 0.18	\$ 0.12
Outgoing calls to Ghana and Nigeria	\$ 0.400	\$ 0.32 & \$ 0.38	\$ 0.27 & \$ 0.18	\$ 0.18	\$ 0.56
Outgoing calls to Guinea and Sierra Leone	\$ 0.50	\$ 0.58 & \$ 0.40	\$ 0.60 & \$ 0.56	\$ 0.18	\$ 0.56
Outgoing calls to UK and Ukraine	\$ 0.20 & \$ 0.40	\$ 0.35 & \$ 0.45	\$ 0.40 & \$ 0.24	\$ 0.18	\$ 0.25
Outgoing calls to Pakistan and Lebanon	\$ 0.15 & \$ 0.20	\$ 0.32 & \$ 0.37	\$ 0.12 for landline	\$ 0.18	\$ 0.42
Outgoing calls to Ivory Coast and Bangladesh	\$ 0.40 & \$ 0.10	\$ 0.42 & \$ 0.36	\$ 0.40 & \$ 0.08	\$ 0.18	\$ 0.56

Note: Charges are quoted in United States Cents and they are on a per minute basis unless where stated otherwise.

Table 8

appropriate intervention methods that can be applied in addressing occurring market situations.

The Liberia telecommunications market was segmented into the following three broad categories: (1) Facility Based Operators, (2) Non-Facility Based Operators and (3) Broadcasting Services.

Service providers classified as “facility based operators” are the ones owning, as opposed to leasing, core infrastructure used to provide telecommunications services excluding broadcast services; and those classified as “non-facility based operators” are service providers not owning core infrastructure used to provide services. On the other hand, operators classified as “broadcast service providers” are those that are involved with the transmission of radio or video programming to the public on a free, pay, subscription or other basis, whether by cable television, terrestrial or satellite means, or by any other means of telecommunications.

Segmentation of the market is important because it provides a categorization of services based on similarity, thereby providing a transparent and fair basis for the determination and imposition of licensing and regulatory fees.

Table 8 gives details of service providers’ consumer tariff, rates and charges for both local and international voice calls, MMS and SMS as reported by service providers in 2013. Both local and international calls are charged on a per minute basis.

The causes of the increase in prices of calls across local networks are attributed significantly to increase in prices of goods and services during the year. The Central Bank of Liberia (CBL) reported that the rate of inflation in 2013

was about 8.50% (CBL Annual Report, 2013). Constraints enumerated by service providers are also contributing factors relative to increase in the prices of voice calls.

Despite the increment, the prices of local calls in Liberia remain one of the lowest in the sub-region and other parts of Africa.

Market Challenges and Prospects

There remains score of challenges and constraints facing both service providers and the sector regulator. The major constraints cited by operators are (1) high cost of electric power (utilities), (2) poor national infrastructure (roads), (3) High taxation (including import duties and tariffs), (4) high spectrum charges, (5) low level of patronage, (6) inadequate skilled manpower (especially for the national operator), (7) difficulties in accessing funds, (8) high cost of funds, (9) inadequate logistics, (10) achieving adequate bandwidth, (11) staff loyalty and retention problems, (12) ensuring networks security, (13) and high cost of network operations and maintenance, among others.

Challenges facing the regulator include (1) financial constraints, (2) getting operators’ cooperation in responding to data request on time, (3) inability to verify some data submitted by operators, (4) lack of appropriate mechanism to fine operators for their failure to submit requested data on time, and (5) lack of appropriate equipment to identify illegal users of frequencies, etc.

Despite all of the constraints enumerated above, the telecommunications market in the country has high prospects. The mobile telecommunications networks continue to expand, connecting many rural parts of the country. Libtelco and the Government of Liberia continue to invest millions of dollars in building fiber

ring around the City of Monrovia and beyond so as to increase broadband penetration in the country which will positively impact the Liberian economy. According to many studies that have been conducted, for every 10% increase in broadband penetration there is a 1% growth in gross domestic product (GDP) on average; and that in every developing and emerging market, broadband penetration has a significant effect on economic growth, with 80 jobs created for every 1,000 broadband connections (Impact on Broadband – ITU Broadband Report, April 2012).

The direct-to-home TV market is also expanding. Currently, there are three players in this market with the prospect of licensing additional ones. The expansion of this market will not only induce competition and make direct-to-home TV service more affordable for the consuming public, but will also contribute significantly to GDP.



The mobile telecommunications networks continue to expand, connecting many rural parts of the country. Libtelco and the Government of Liberia continue to invest millions of dollars in building fiber ring around the City of Monrovia and beyond so as to increase broadband penetration in the country which will positively impact the Liberian economy.



03

INTERNATIONAL GATEWAY MONITORING SYSTEM (IGMS)

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Department Summary

The LTA's International Gateway Monitoring System (IGMS) contributed significantly to the growth and development of the telecommunications sector in 2013. The IGMS contributed close to US\$4.5 million of revenue distributed from International Inbound Calls to the Government of Liberia and the LTA for their respective operations. The system has demonstrated that it is capable of increasing LTA's revenue generation capacity. The IGMS also has the capability of combating fraudsters and monitoring the quality of service across all networks.

The IGMS derives its monitoring mandate from the Telecommunications Act of 2007 and is also supported by the LTA's 2011 International Traffic Regulation (LTA-REG-0005), which provides traffic monitoring mechanisms and punitive measures for violators.

Commencing in March 2013, Engineers, Billing Agents, Supervisors and Network Operating Center Agents were recruited and intensively trained to manage the secured web applications that run the system's operations and on June 4th the 24/7 international traffic monitoring operation began with twelve NOC Agents and Supervisors divided into four groups rotating in three shifts. In October 2013, the IGMS was separated from the SDMS Department and a new Department was formed with a designated Commissioner at its helm, with added responsibilities for regulatory oversight of the forthcoming Internet Exchange Point (IXP) and man-

agement of the country code Top Level Domain (ccTLD).

In conformity with the International Traffic Regulation, all service providers have IGM equipment connected to their Signal Transfer Points (STP's), to facilitate the assessment of the quality of service in real time. Inbound international traffic call detail records (CDR) are generated through an automated system that facilitates cold and real time call data collection. Records are generated on an hourly basis by service providers and analyzed by NOC Agents and Supervisors, forming the basis for revenue assurance.

Revenue Assessment

In 2013, the IGMS assessed aggregate revenue of US\$10,510,781.90. During the period under review, 75,077,013.59 aggregate minutes were logged from the four functioning service providers.

Lonestar Communications Corporation registered 86% of all international inbound calls to Liberia with 64,488,585.79 minutes. Cellcom Telecommunications, Inc. had 12% of the market share with 8,984,018.06 aggregate minutes and Novafone, Inc. captured 2% of the market share with 1,579,211.54.

Revenue Collection

IGM fees are collected in arrears with a 25 day grace period; therefore, for a given period, revenue assessed for a given month - which refers

Commencing in March 2013, Engineers, Billing Agents, Supervisors and Network Operating Center Agents were recruited and intensively trained to manage the secured web applications that run the system's operations.

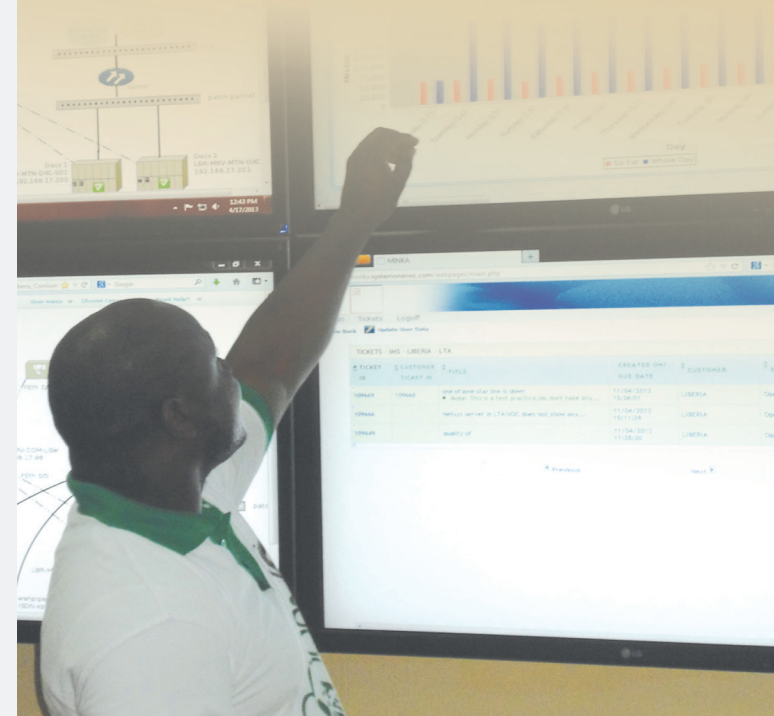


Table 9: Service Providers

SERVICE PROVIDERS	CDR MINUTES	UNIT PRICE/MIN	REVENUE ASSESSED (USD)	REVENUE PERCENTAGE
Lonestar Communications Corporation	64,488,585.79	0.14	9,028,402.01	86
Cellcom Telecommunications Inc.	8,984,018.06	0.14	1,257,762.53	12
Novafone, Inc.	1,579,211.54	0.14	221,089.62	2
Libtelco	25,198.20	0.14	3,527.75	0
TOTAL	75,077,013.59		10,510,781.90	100

to the aggregate monetary value of CDR minutes will not be collected until the following month. Therefore revenue assessed will not necessarily be the same as revenue collected.

For the period under review, the IGMS' Department collected total revenue of US\$11,784,894.98 from the four functioning service providers.

The total collection is composed of US\$2,992,623.12 outstanding revenue assessed in 2012, but was not collected and US\$8,792,262.86 as actual collection made from the 2013 assessment.

It is worth noting that Lonestar Communications Corporation is the only entity whose monthly payments are not in line with the LTA's issued invoices of their declarations. Lonestar's payments have been based on the CDR declarations made by its international carrier; Begacom International Carrier Service (BICS) instead of the LTA issued invoices. As a result, there was a revenue variance of US\$48,150.66 for the period under review. The LTA is taking action to resolve this issue.

Revenue Sharing

The IGMS contributed close to US\$4.5 million of revenue distributed from International Inbound Calls to the Government of Liberia and the LTA for the period under review. The IGMS was largely pre-financed by Global Voice Group S. A (GVG) and is operated on a revenue sharing concept supported by monthly payments of regulatory charges imposed by the LTA on service providers for international inbound calls.

The Government of Liberia receives 40% (Ministry of Finance, 30% and LTA 10%) and GVG receives 60% (GVG, 40% and Conex, 20%) Conex is GVG's local logistical support partner. LTA's 10% share is applied against the cost of operating the program. LTA started receiving this 10% in February, 2013.

Table 10: 2013 Stakeholders Revenue

STAKEHOLDERS REVENUE IN 2013

MINISTRY OF FINANCE	3,390,752.35	30
GLOBAL VOICE GROUP	4,491,188.46	40
CONEX	2,245,604.97	20
LTA	1,100,487.72	10
GRAND TOTAL	11,228,033.50	100

With a signed MOU between the stakeholders and the UBA, revenue collected in a current month is distributed amongst the stakeholders in the first week of the subsequent month. Therefore, this creates carried forward and brought forward issues. Meanwhile, the collection of US\$779,02940 made in December 2013 was not distributed. Additionally, a check of US\$898.08 received from Libtelco was not deposited hence did not form part of the distribution as well.

During the period January 1, 2013 to December 2013, the total of US \$11,228,033.50 was distributed to the stakeholders of the IGMS Project. This amount is comprised of US\$11,004,967.50 as collection made in 2013 and a brought forward of US\$223,066 from 2012 collection that was not distributed.

Anti Fraud Management

This aspect of the IMGS is focused on ensuring fair market practices in the termination of international inbound calls by service providers. The purpose of the Anti-Fraud Management is to identify and terminate unregistered communications service providers' inbound international calls and to deter service providers who fail to fully disclose Signal Transferring Points (STP). Also, it is to identify and block grey routed numbers terminating international calls as local calls in the country. The department uses intelligence gathering, whistle blowers and the SIM Box Locator Equipment to combat fraudsters in collaboration with the Liberia Security Apparatus.

A major accomplishment in 2013 was the establishment of the joint Anti-Fraud Management

Committee to combat fraudsters within the telecommunication sector. This body is composed of service providers and LTA representatives who meet regularly to review and formulate anti-fraud management strategies. The adopted operational strategies include the regular administration of inbound international calls termination on random

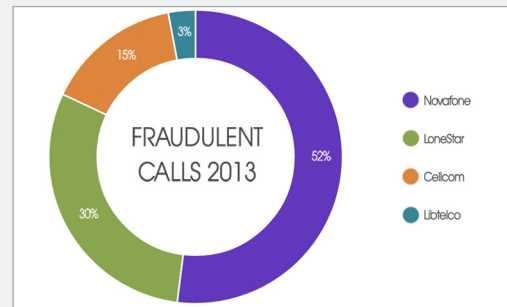


Figure 8

telecommunications service providers. Fraudulent test results identify grey routed numbers which are used to locate SIM Box Equipment used to facilitate grey routing. Test results are sometimes sent to the relevant telecommunication service provider for blocking.

The procurement of the Septier Guardian by the Liberia Telecommunications Authority through the Global Voice Group was a tremendous boost to the anti-fraud management efforts. This specialized equipment is used to locate SIM Box equipment that facilitates the termination of grey routed calls. During 2013 three arrests were made related to illegal terminating calls in Liberia, two of those cases have been sent to court for trial.

In 2013 a total of 512,614 test calls were made

to telecommunications service providers. Records indicate there were 32,435 fraudulent calls detected within this test period and 10,273 numbers were identified as fraudulent numbers routed through unidentified Signal Identification Module (SIM) Box. Out of 10,273 fraudulent calls reported, CELLCOM conducted the most effective internal control with 198 calls or 4%, NOVAFONE accounted for 4,663 or 82% and Lone Star as the second highest accounted for 817 numbers or 14%.

GVG also facilitated a ten day advanced training in Ghana for IGM Technical Engineers and the Anti-Fraud Coordinator. This training provided basic information on the equipment used in Gateway Monitoring Systems and its related configuration as well as maintenance of those systems. As required by the IGM Contract, the training is part of the road map toward building LTA's capacity to manage the IGMS when GVG's contract ends.

ENGINEERING AND TECHNOLOGY

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Department Summary

Frequency Management, Equipment Compliance and Numbering Resource Management are just a few of the initiatives undertaken by the Engineering and Technology (E&T) Department in 2013.

In keeping with decisions of the 2012 World Radiocommunication Conference held in Geneva, Switzerland, the E&T Department updated the national Frequency Allocation Table. The changes made involved the re-farming, re-planning, and reallocation of several frequency bands. Some of the major updates made in the Frequency Allocation Tables include the following:

Reservation of the 700 MHz band (from 694MHz – 790MHz) to be used for mobile broadband after channel plan is finalized at WRC15.

22GHz band to be used for advanced digital satellite broadcasting, which requires high capacity.

Field Assessment on FM frequency Usage

A joint field assessment was conducted in collaboration with other LTA Departments to determine the usage of FM frequencies and to identify illegal users. The assessment was done in response to mounting complaints of interference in the FM band. The exercise revealed that many broadcasters are illegally using FM frequencies and the LTA has instituted administrative measures to curb the practice.

Spectrum Utilization and Availability

The charts to the right present the usage and availability of major mobile broadband and backhaul frequencies.

ICT Services

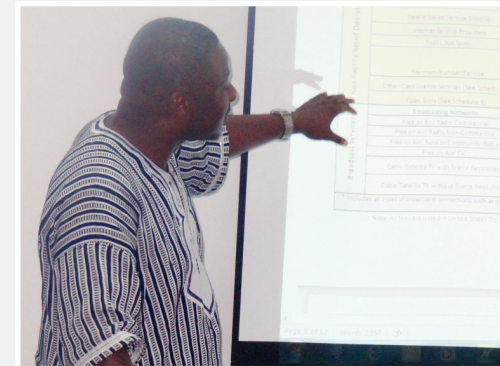
There was an increase in productivity and IT network efficiency in 2013, a direct result of the improvement in ICT sector services.

Analog to Digital Migration

LTA is the technical focal point for Digital Migration in Liberia, with the collective efforts of the Ministry of Posts and Telecommunications and stakeholders, Liberia is on course to meet the International Telecommunication Union (ITU) June 17, 2015 deadline.

LTA is serving as secretary to both the National Digital Migration Steering Committee and the National Digital Migration Special Task Team, providing the required technical expertise. In preparation for the migration, LTA has also successfully obtained the digital television channel frequencies for Liberia via an ITU/ATU GE-06 frequency re-planning process.

The Liberia Broadcasting Service (LBS) has also obtained approval from the LTA to run a Digital Terrestrial Television (DTT) trial in the 700 MHz band.



Commissioner Henry Benson

Figure 9

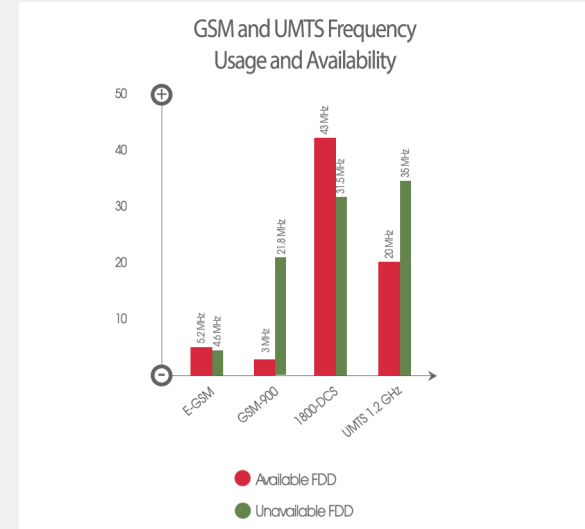


Figure 10

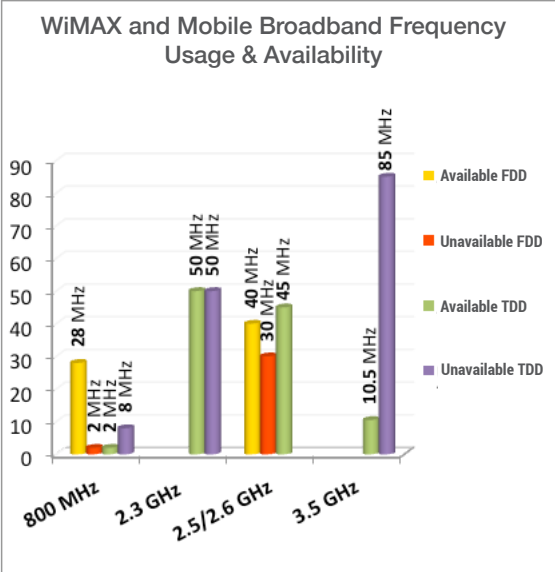
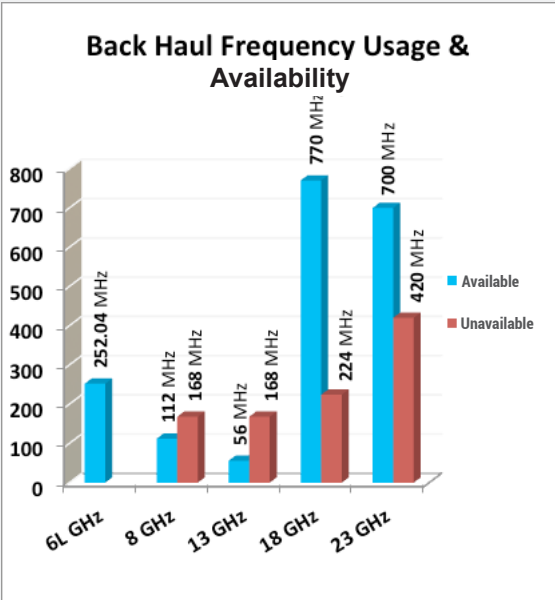


Figure 11



Numbering

COUNTRY	Code	Operator	Number Series
LIBERIA	231	Cellcom Telecommunications Corporation	(77)5 XXXXXX

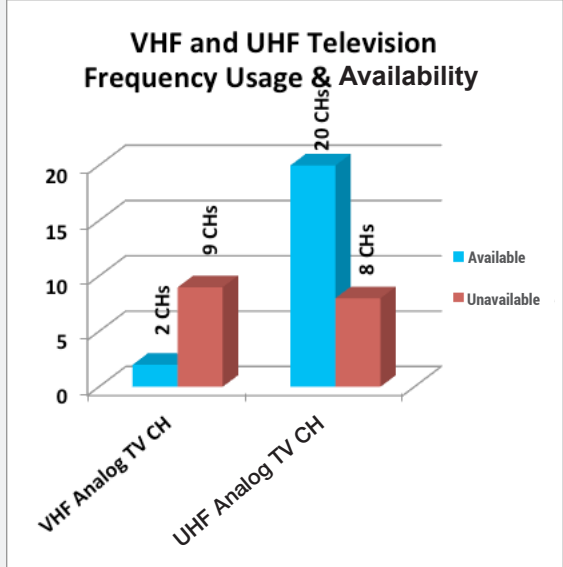
Type Approval

Telecommunications equipment type approval is the process of verifying that equipment intended for use in a country meets the prescribed international and national standards. The LTA issued thirty (30) type approval authorizations during the period under review.

INMARSAT Global Satellite Services

INMARSAT Global Satellite services allow mobile satellite communications on land, air and sea. This is very important to Liberia because it provides communication services in places where terrestrial (land based) services cannot reach. In 2013 the LTA gave authorization for the services of INMARSAT Global Satellite to be used in Liberia’s territorial land, air and water space.

Figure 12





Pictured: LTA sponsors the Federation of Cyclist during the 2013 National County Meet.



05

GOVERNMENT AND CONSUMER AFFAIRS

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Commissioner Harry T. Yuan Sr

The enactment of the ECOWAS Supplementary Acts will no doubt put Liberia in compliance with regional Protocols and further enhance economic growth and development of our telecommunications sector.

Department Summary

The Department of Government and Consumer Affairs prides itself with the achievement of rapid regulatory successes in 2013, with major policy implementation and the realization of successfully meeting specific goals mapped out at the start of the year in review.

Transposition of ECOWAS Instruments

Prominent among these regulatory successes was the transposition of the ECOWAS Supplementary Acts which were prepared in collaboration with the International Telecommunication Union (ITU). It is anticipated that the transposed Acts will be subsequently enacted into Law by Liberia’s National Legislature and incorporated into the Telecommunications Act of 2007, consistent with requirements of ECOWAS, as enshrined in the Mandate of the Thirty-First Session of the Authority of Heads of States and Governments of ECOWAS held on January 19, 2007 in Ouagadougou, Burkina Faso.

The Mandate required all ECOWAS Member States to enact national laws that will develop, modernize, coordinate and standardize their telecommunications networks in order to provide reliable interconnection within the ECOWAS region, coordinate efforts to mobilize national and international financial resources aimed at attracting private sector participation in the provision of telecommunication services in the Sub-region.

Realizing the link between telecommunications development and poverty reduction in the Sub-region, ECOWAS issued Six (6) Supplementary Acts, namely: the Harmonization

of Policies and the Regulatory Framework for the Information and Communication Technology (ICT) Sector; the Management of Radio-Frequency Spectrum; Improving Access and Interconnection in respect of ICT Sector Networks and Services; Numbering Plan Management, Standardization of the Legal Regime Applicable to Network Operators and Service Providers, and Coordinating Universal Access/Service.

Additionally, two Supplementary Acts were issued on 16 February 2010 while a Directive was issued on 19 August 2011. The Supplementary Acts were named as Electronic Transactions and Data Protection, while the Directive was on Cyber-crime. Both Supplementary Acts and the Directive on Cyber-crime were issued in the Nigerian Capital of Abuja.

The enactment of the ECOWAS Supplementary Acts will no doubt put Liberia in compliance with regional Protocols and further enhance economic growth and development of our telecommunications sector.

Universal Access Program

The Universal Access Program is an ITU Millennium Development Goal Program of the United Nations, which obligates Member States, Liberia included, to provide telecommunications services to rural, under-served and unserved communities that are not commercially viable to attract the investment interest of service providers.

Although mobile telephone service has been a significant development phenomenon in post-war Liberia since its introduction in 2000, mobile telephone service penetration in the country is

still less than 60%, which leaves room for significant growth. Likewise, Internet access is very low, with less than 10% of the population having access to Internet service.

The mobile revolution is booming in urban and semi-urban areas where the market is commercially viable. However, rural dwellers are still deprived of this important service. Social equity and economic development interests are compelling arguments in favor of establishing a Universal Access Program (UAP). The It will provide services to vulnerable as well as potential customers in remote rural areas by enabling them to gain access to communications.

It was on that basis, that the Ministry of Posts and Telecommunications (MOPT) and the Liberia Telecommunications Authority (LTA) jointly started work in 2009 to develop and implement the Universal Access Program by firstly hosting in October 2009, an ITU-sponsored workshop on Universal Access. That was followed by a chain of events to get the Program off the ground and running. In 2010, the MOPT and the LTA collaborated to draft the National Telecommunications & ICT Policy, which outlined the structure of the Universal Access Program. With the adoption of the National Telecommunications and ICT Policy in 2011, the Universal Access Governing Board and Implementation Committee subsequently came into being, setting the stage for collaboration with World Bank funding through the WARCIP Liberia Project.

The WARCIP Liberia Project made funding available for the following purposes:

- to procure the services of experienced international consultants to assist the LTA in

developing the regulatory framework for the Universal Access Program;

- to provide advisory services on the implementation and management of the Universal Access Fund.

In furtherance of this venture the LTA, in its capacity as Chair of the National Universal Access Implementation Committee, took a major step forward in 2013, by contracting the services of an international consortium of firms to advise and support Government in the establishment of a Universal Access Program and management of a Universal Access Fund (UAF or Fund).

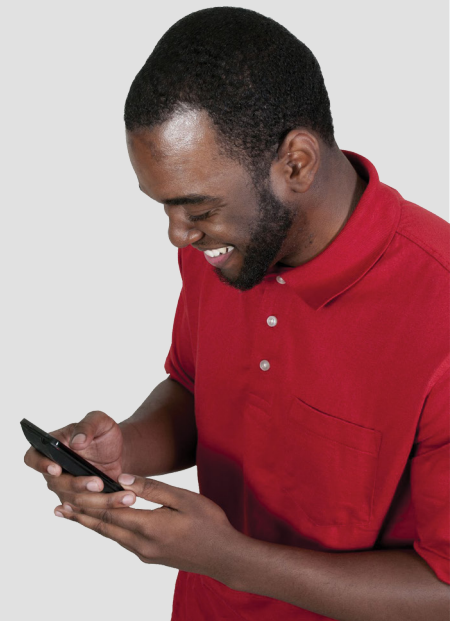
Once the overall framework is in place, it is expected that with financing from the UAF, the Universal Access Program will bring communications services to rural, under-served and unserved areas of the country. Following the requisite Stakeholders Consultation in 2014, the UAF is expected to be established and the final report issued by December 2014, including results from the roll-out of Universal Access pilot projects. Thereafter, the Fund will finance Universal Access projects throughout the country.

Consumer Affairs

Consumers are the heartbeat of the LTA. They are the end-users of products & services that are delivered by service providers. Hence, there is a compelling need to ensure that consumers are educated adequately to make the right choices consciously, void of coercion, misrepresentation of products & services, etc. Consumer Education continues to be provided regularly through the LTA diary, a flagship public affairs program that highlights activities of the LTA.

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Participants from all 15 political subdivisions attended the Gbarnga Consumer Parliament providing a vibrant forum for them to voice their concerns and hear directly from service providers.

The LTA recognizes that the lack of consumer education or having insufficient information may lead to vulnerabilities, suspicions, and other undesirable outcomes. Therefore, it behooves the LTA to ensure that consumer education is facilitated through forums, interactions with service providers and other assemblies such as the Consumer Parliament, are held periodically.

To address these concerns and in an effort to create a vibrant and responsive telecommunications environment, the LTA convened a Consumer Telecommunications Parliament in Gbarnga, Bong County on May 17, 2013. The assembly, which was the first of its kind in the country, brought together the LTA, service providers, telecommunications consumers and other stakeholders from the fifteen political subdivisions of Liberia.

Held under the theme: “GIVING CONSUMERS A VOICE,” the parliamentary assembly created a platform for consumers, service providers and the LTA to interact directly in the same setting. During the interactions, consumers came face-to-face with service providers and raised issues of concern regarding the delivery of services in the sector. Service providers were also afforded the opportunity to respond to consumers’ concerns, provide some clarity and learn from the consumers’ perspectives about improving their level of service delivery.

The assembly was preceded by town hall meetings, forums and other informal meetings with citizens as a means of providing continuous education and awareness. The Consumer Telecommunications Parliament coincided with World Telecommunication and Information Society Day (WTISD). The purpose of WTISD is

to help raise awareness of the possibilities that the use of the Internet and other information and communication technologies (ICT) can bring to societies and economies, as well as of ways to bridge the digital divide. The Minister of Posts and Telecommunications, Dr. Frederick Norkeh, delivered on behalf of President Ellen Johnson Sirleaf and the Government of Liberia, a statement in observance of World Telecommunication and Information Society Day, as well as an International Telecommunication Union (ITU) Proclamation commemorating WTISD.

Several recommendations were advanced by consumers at the end of the parliamentary assembly. In addition to consumers, service providers and the LTA, other key stakeholders were in attendance at this first Consumer Parliament, including the Chairman of the Senate Standing Committee on Posts and Telecommunications, Maryland County Senior Senator John Ballout; a member of the House Standing Committee on Posts and Telecommunications, Bong County Representative, Edward Karfiah; the Superintendent of Bong County; the Mayor of Gbarnga City; traditional chiefs and local government officials.

LTA’s Participation in a NATELCO Sponsored Consumer Forum

From time to time, the Consumer Unit of the Department of Government and Consumer Affairs represents the LTA at forums involving sector stakeholders, including consumers of telecommunications services and products.

In July 2013, the LTA Consumer Affairs team participated as an observer in a consumer forum that was held in the port city of Buchanan,

Bringing telecommunication services to under-served or un-served areas is the focus of the Universal Access Project.

Grand Bassa County. The forum was organized by the National Association of Telecommunications Consumers (NATELCO) and brought together sector stakeholders including service providers, the media, students and consumers. This was also an opportunity for consumers to interact with service providers directly. Aside from its observer status, the LTA was able to provide clarity on issues from a regulatory perspective when necessary.

Liberia's accession to the World Trade Organization (WTO)

During the period under review, the LTA and the Ministry of Posts and Telecommunications were invited to the Technical Working Group for Liberia's accession to the World Trade Organization. The Group initially underwent general orientation in understanding the WTO.

The WTO is an international governmental organization with its current membership at 159 members while 24 other countries including Liberia are in line to accede. In all of West and Southern Africa, Liberia is the only country that is in the process of acceding. All others have completed accession to the WTO.

LTA, as a member of the Technical Working Group, is analyzing all legal texts on the telecommunications sector, including the Telecommunications Act of 2007, the National Telecommunications & ICT Policy, Regulations, Orders, other sector instruments of interest and texts of the WTO.

Key impact on Telecommunication services

Committing to Liberia's current market access

and foreign participation in Telecommunications in the WTO, would be in line with full market access and non-discrimination commitments in the WTO. This may lead to several positive outcomes, some of which are:

- The perceived risk of entering the telecom market will decrease; investors will know that regulations will not be reversed;
- Competition, efficiency and investor confidence may increase: the LTA and pro market players would get greater leverage to perform their duties. WTO members will put pressure on Liberia to better enforce regulations leading to reduced interference;
- The beneficial reforms that Liberia has implemented will be locked in. The risk of reversing gains will be removed by WTO membership. Such stability would enhance further attraction of foreign direct investment in the sector.

Participation at International Forums

Consistent with the Telecommunications Act of 2007, LTA led a 3-man delegation to participate at the ECOWAS Meeting of Experts and the 12th Meeting of ECOWAS Ministers in Charge of Telecommunications and ICT which took place in Banjul, The Gambia from September 23rd -27th, 2013.

Honorable Harry T. Yuan, Sr., LTA's Commissioner for Government and Consumer Affairs, headed the delegation which included MOPT Deputy Minister for Technical Services Honorable Zotawon Titus, and Mr. Kolubahzizi Howard, LTA's Director of Strategy.

The objectives of the meeting were to consider the report of the Meeting of Experts, adopt its conclusions and make recommendations for the proper conduct of Telecommunications and ICT activities in the ECOWAS sub-region.

The First Conference of African Telecom Regulators on Consumers Affairs also convened on Victoria Island, Lagos, Nigeria, during the period under review, with LTA Chairperson Angelique Weeks and Commissioner Harry T. Yuan, Sr., in attendance to discuss the THEME **“Harnessing Regulatory Policies to Protect Telecom Consumers in Africa”**.

Deliberating from October 17 – 18, 2013, participants from over 15 African countries discussed and provided varying and fresh perspectives on issues affecting telecommunications service delivery to consumers across Africa. The Conference drew participants from Angola, Benin Republic, Cameroun, Ghana, Liberia, Malawi, Niger, Rwanda, Sudan, South Africa, Uganda and Nigeria, the host country, as well as representatives from the African Telecommunications Union.

The Conference was held under the auspices of the Consumer Affairs Bureau of the Nigerian Communications Commission.

Having fully exhausted the discussion of a wide range of challenges confronting the telecommunications industry across Africa, the delegates concluded the deliberations with the following resolutions:

- That telecommunications infrastructure should be declared as critical national in-

frastructure; and calls on legislators to pass enabling laws;

- As a result of the increasing challenges of cyber security and e-commerce, authorities must come up with regulation that must protect operator systems and information from cyber-attacks and cyber-crimes;
- To enjoin African states to enact legislation to protect minors and other vulnerable people within the society from cyber-crimes, pornography and other illicit activities perpetrated over the internet;
- That regional commitment is critical to liberalization and harmonization of regulatory frameworks; and collaboration across the region will also ensure uniformity of standards and will reduce transaction costs, enhance demand and competition;
- That technology cannot be regulated; rather regulators should find effective ways of regulating the services being proffered by technology.





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