

LIBERIA TELECOMMUNICATIONS AUTHORITY *The premier regulatory authority...*



Data is the future with submarine fiber optic cable broadband beckoning on Liberia's telecom horizon

2010 ANNUAL REPORT

ACRONYMS

ACE	Africa Coast to Europe
BoC	Board of Commissioners
CCL	Cable Consortium of Liberia
CDMA	Code Division Multiple Access
EOI	Expression of Interest
FATL	Frequency Allocation Table of Liberia
FDL	Foreign Direct Investment
HF	High Frequency
ICT	Information Communication Technology
IFC	International Finance Corporation
ITU	International Telecommunication Union
LCAN	Liberia Consumer Action Network
LEL	Liberia Equipment Limited
Libtelco	Liberia Telecommunications Corporation
LTA	Liberia Telecommunications Authority
MoPT	Ministry of Posts and Telecommunications
NATCOM	National Telecommunications Commission
NCCL	National Consumer Council of Liberia
NNP	National Numbering Plan
NPAS	National Postal Address System
PPP	Public Private Partnership
SPV	Special Purpose Vehicle
UHF	Ultra High Frequency
UMTS	Universal Mobile Telecommunications System
VHF	Very High Frequency
VSAT	Very Small Aperture Terminal
WARCIP	West Africa Regional Communications Infrastructure Project
WAT	West Africa Telecom
WATRA	West Africa Telecommunications Regulators' Assembly
WCRD	World Consumer Rights Day

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Angelique Weeks
Chairperson

1.0 CHAIRPERSON'S MESSAGE

The year 2010 was a period of major accomplishments by the LTA; accomplishments that positively impacted the ICT and telecommunications sectors and reinforced regulatory stability and predictability. These accomplishments were within the framework of a four year strategic plan of action designed in 2009 by the LTA to give the entity a clear vision of what it wishes to achieve in the Liberia's telecom industry in the short to medium term.

Perhaps the most challenging and extensive regulatory activity embarked upon by the LTA was to facilitate the formation of the Cable Consortium of Liberia (CCL) as the Special-Purpose-Vehicle (SPV) to construct, own and operate the \$25 million Africa Coast to Europe (ACE) Liberia Landing Station. The CCL is a Public-Private Partnership (PPP) venture comprised of the Government of Liberia (GoL) represented by the Ministry of Finance (60% shares), Liberia Telecommunications Corporation (Libtelco) (20% shares), Lonestar Communications Company (Lonestar) (10% shares), and Cellcom Telecommunications Inc. (Cellcom) (10% shares). On June 5th, 2010, it signed the ACE Construction and Maintenance Agreement and finalized Liberia's membership in the ACE Cable Consortium. The Consortium will build a \$700 million submarine fiber optic cable extending 17,000 km and connect up to 24 countries with a minimum broadband capacity speed of 1.92 Tb/s. The ACE submarine fiber optic cable system is expected to commence service by mid to late 2012. The ACE undersea cable project will provide new business opportunities through high speed internet service and increased bandwidth to support developments in e-commerce and e-governance.

This positive development is due in no small part to the high degree of confidence exhibited by the GSM operators in the ability of the LTA to maintain a fair, stable and transparent regulatory environment in which their investments would be protected. The Board of Commissioners (BOC) of the LTA recognizes and congratulates the Board of Directors and managements of Lonestar, Cellcom and Libtelco, as well as the authorities of the Ministry of Finance, for their level of cooperation and support in this ongoing telecommunications endeavor.

During the year under review, the LTA, with support from the World Bank, proactively commenced

the process of formulating the necessary regulatory framework required for an efficient and competitive broadband environment. This is essential to ensure that the policy objectives of achieving open access to broadband connectivity, with no monopolistic control, and at affordable pricing to support development, are achieved.

In line with its statutory responsibilities to advise the Ministry of Posts and Telecommunications (MPOT) on policy issues, the LTA, during the period under review, facilitated the convening of a national stakeholder's forum in Monrovia which reviewed and endorsed a draft National ICT and Telecommunications Policy for the Government of Liberia. The Authority was also instrumental in assisting the MOPT to finalize, and submit for Cabinet's endorsement, the draft Policy. The formulation of the policy document is a major national telecom measure which, when endorsed by the Cabinet, will create the enabling policy and regulatory framework to stimulate economic and social development in other sectors of the Liberian economy.

In 2010, with the perspective of developing and maintaining the human resource capability required to meet the emerging regulatory demands in the ICT and Telecommunications sectors, the LTA implemented a staff augmentation program that resulted in an increase of employees from 28 to 52. The majority of our new employees consist of technicians with diverse sector experience and capabilities who bring substantial value to the LTA. To accommodate the additional staff the LTA opened a new Sub-office to house the Administration and Operations Department of the Authority on Leona Chesson Lane located off VP Road.

Consistent with its Strategic Plan of Action

and in compliance with the regulatory requirement to standardize "prior licenses" and harmonize frequencies, the LTA in 2010 completed the standardization of the licenses of all GSM companies and finalized the harmonization of frequencies for the various companies. During the period, the LTA also finalized the award of a WiMax license to West Africa Telecom (WAT) and commenced the process of awarding a 3G UMTS license to Cellcom. The LTA also completed the standardization of 90% of the licenses of non-GSM service providers and processed 20% of the 57 applications for licenses to provide various telecommunications services ranging from community radio stations to Next Generation Services.

Another major accomplishment for the LTA during 2010 was the preparation of a new National Numbering Plan (NNP) consistent with the International Telecommunication Union's (ITU) recommendation E.164. The new plan is based on a closed numbering format containing a three-digit access code and a seven-digit significant number and diminishes the need to revise Liberia's numbering plan for generations to come.

Major strides were also made during the year under review in keeping with the LTA's statutory responsibility for consumer protection and education. During the period, a Consumer Help Desk was launched along with a corporate website, while the LTA's radio awareness program, the LTA Diary, was re-launched. Additionally, a consumer information and education outreach campaign was implemented by way of national consultations covering the 15 counties. This process led to the convening of the first National Telecommunications Consumer Forum held in Monrovia and which adopted 13 resolutions that were presented to the LTA. When implemented, actionable resolutions will lead to immediate reforms aimed at improving sector performance.

In keeping with the LTA's responsibilities with reference to international treaties and agreements relating to the ICT and Telecommunications sectors between Liberia and other nations, in 2010 the LTA spearheaded the process that will lead to the transposition of six ECOWAS Supplementary Acts into national laws. (This process aims at achieving as much as possible sub regional policy and regulatory harmonization in the telecom industries of ECOWAS countries). Also during the year under review, in the spirit of regional consultation, the LTA hosted the West African Telecommunications Regulators Assembly (WATRA) Workshop to validate ECOWAS Guidelines on Access to Submarine Cables and the harmonization of ECOWAS Protocols on the Enhancement of Telecommunications and ICTs.

With these accomplishments, the LTA has sought to reaffirm its commitment to not only maintaining the regulatory stability built over the last two years, but to further enhance regulatory transparency. This approach has been fostered by an ongoing process of frank consultation and engagement with all actors in the sector and has yielded substantial gains to the benefit of all stakeholders.

The success achieved by the LTA during the year under review has also been in large part due to the continued ongoing cooperation and support received from the Government of Liberia, sector players, our international partners, and the consuming public. The BOC of the LTA is indeed grateful for the support and looks forward to continued collaboration with all stakeholders throughout 2011.



Angelique Weeks
Chairperson
Liberia Telecommunications Authority



Administration and Operations Department Staff (L to R): Anthony George, Joe Sumo, Famatta Kallon Sirleaf, Dauson Kamara, Augustus Randall, James Gono, Prince Goah, Theo Johnson, Beatrice Kollie, Othello Coleman, Christiana Saye, Cecelia Best, Franiel Powell, Wilmot Toe, Alphanso Vuogon, Kolubahzizi Howard, Boyonnoh Teh, Jeanne Juste



Abdullah L. Kamara
Commissioner

2.0 SERVICE DEVELOPMENT AND MARKET STRUCTURE

The Department of Service Development and Market Structure contributed immensely to the overall achievements of the LTA regulatory mandate especially in the area of processing applications for telecommunications licenses, monitoring telecom market development trends and primary data collection and analysis on sector performance. The department also provided leadership in preparing the roadmap for the Universal Access program which was extensively deliberated upon by the BOC.

2.1 Continued Demand for Various Kinds of Licenses

The LTA received a total of 69 “Expression of Interests” (EOIs) to provide various forms of telecommunications services ranging from Telephony and Cable TV to community radios using a variety of technologies including 3G (WiMAX, UMTS, etc). Out of this amount, only 30 actually submitted applications for licenses and with support from the Engineering and Technology Department and the Legal Section, 13 applications were processed, for which licenses and authorizations were issued. The remaining 17 applications are being processed for issuance in 2011, assuming all requirements are met by the applicants. Meanwhile, responsibility for the Licensing function has been moved to the Legal Section of Public, Consumer and Legal Affairs through an internal arrangement but the SDMS will continue to collaborate in the licensing processes. The following tables contain details of licensing activities in 2010:

Table 2.1**Aggregates of EOIs and Applications and their statuses at the LTA**

Category / Service type	Expressed Interest	Applied for License	Applications being processed	Licenses Issued
GSM	1	0	0	0
WIMAX	1	1	0	1
UMTS	1	1	1	0
ISP	6	2	2	0
Community/Rural FM	11	4	2	2
Non Commercial (FM)	6	4	3	1
Non Commercial (SW)	1	0	0	0
Commercial Radio (FM)	3	2	2	0
HF Radio	10	4	3	1
UHF Radio	2	1	0	1
VHF Radio	10	5	2	3
VSAT Installations	8	5	2	3
Free To Air TV Broadcast	5	0	0	0
VoIP-Number (Telephony)	1	0	0	0
Value added & Premier Number Service	3	1	0	1
Total	69	30	17	13

Note: Compared to previous years, there were more EOIs and the LTA actively engaged the concerned entities by collecting information, advising about LTA regulatory requirements and process-

License Renewal requests**Table 2.2**

Category / Service type	Number of Renewal Requests	Number of Licenses Renewed
ISP	2	2
Community/Rural Radio	1	1
Commercial Radio (FM)	1	1
VSAT Installations	14	14
Free To Air TV Broadcast	0	0
Total	16	16

2.2 License and Regulatory Fees Structures

In 2010 there was a decrease in license and regulatory fees collected as compared to those collected in 2009. This necessitated the process of collecting various data from the operators consistent with the Telecommunications Act. Although the exercise was initially greeted with skepticism, as shown in the initial low response rate, the operators gradually developed confidence and became compliant with the process. Data requested include financial reports

and call traffic information.

The LTA intends to continue and intensify this process in 2011. In this regard, and in order to ensure compliance with the terms and conditions of their licenses, operators have been requested to submit operating data to the LTA for review. This should enable the SDMS department to verify whether operators have conducted their businesses within the framework of their operating licenses and in accordance with the Act.

Data so received will also be analyzed for the purpose of using the operators' financial models such as forecast income and cash flow statements to make revenue projections.

2.3 License Standardization

The standardization of the license of the West Africa Telecommunications (WAT) as a provider of broadband wireless service was also initiated during 2010. And with the LTA poised to license the designated National Operator, LIBTELCO, the standardization of prior license holders was, under the year under review, well on the way to completion. The conclusion of the exercise would solidify LTA's commitment to creating a level playing field and a harmonized telecommunications landscape for existing as well as potential new entrants in Liberia's telecom sector.

2.4 Tariffs and Rates

The LTA reviews its existing tariffs periodically and make appropriate adjustments to reflect regulatory cost. Although the LTA intends to maintain stability in the sector, new tariffs and fees were introduced and approved by the BoC to take immediate effect in 2010. These tariffs only affected new services that were not anticipated in the existing tariff regime.

The completion of the ongoing standardization process of non-GSM operators would lead to the establishment of a more efficient tariff regime. Toward this end, consultative meetings have been held and follow up meetings scheduled

between the department and Radio and TV stations on the one hand, and ISPs and VSAT operators on the other. Essential inputs provided by stakeholders have been incorporated in the proposed new tariff regime.

2.5 Changing times and conditions Require Adaptive Approaches

The prevailing License regime is currently being challenged by the realities of today. Technology Neutrality and operators' limited ability to meet their financial obligations are evidence of a need to make changes to this regime. For this reason, the LTA in 2010 embarked on the process of implementing a new License regime.

The LTA Board of Commissioners deliberated on a new License regime that is currently being discussed with relevant stakeholders for consideration. Preparation and implementation of new regulations to create the necessary legal enabling framework to support the concept is in progress. Under this framework, regulatory and license fees will be determined from the overall performance of an operator so that the most significant barrier to market entry can be removed, thereby increasing competition in, and further liberalizing the sector.

2.6 Market Development

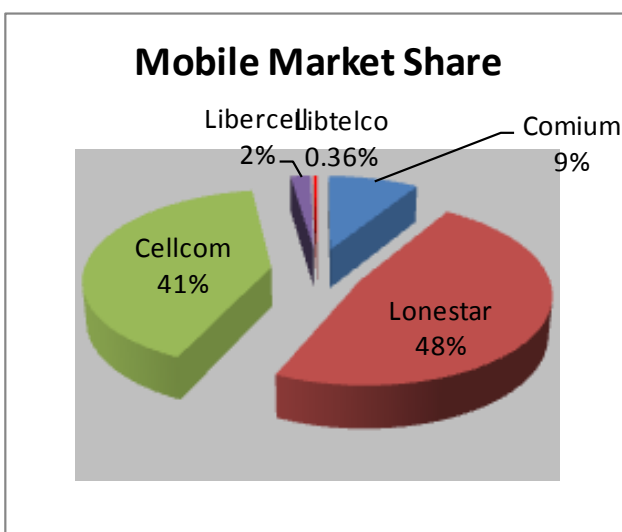
Although efforts were made to institute the first ICT and Telecoms market survey in 2010, the LTA was not successful in conducting such an intensive study due to lack of resources on one hand and the lack of readily available local capacity on the other. However, when finally, a suitable candidate was selected to carry out the market research, the year had come to an end. The LTA has budgeted for a comprehensive study of the sector to be conducted in 2011.

Meanwhile, the department (through sector players and international research) was able to compile the information in the tables

which gives a partial representation of developments in the sector.

2.7 Sector Data

Statistics submitted by major operators in Liberia revealed that there has been a tremendous increase in sector growth in terms of mobile telephony. Between 2007 and 2008, the sector experienced an increase in mobile subscribers of 45%. There was a drop in subscriber growth rate between 2008 and 2009 with the sector experiencing only 27% growth. However, the sector bounced back and again



Mobile telephony Subscriber Data				
Prepaid subscribers				
	2007	2008	2009	2010
LiberCell			27,332	29,159
Libtelco			1,800	4,463
Comium	63,734	64,373	60,343	134,401
Cellcom	201,000	282,500	363,500	639,526
Lone Star	321,982	504,385	630,307	762,159
Total prepaid Subscribers	586,716	851,258	1,083,282	1,569,708
Postpaid subscribers				
	2007	2008	2009	2010
LiberCell				246
Libtelco			1200	
Comium	3,027	3,369	3,553	3,446
Cellcom				1,000

experienced a 45% growth during the period under review.

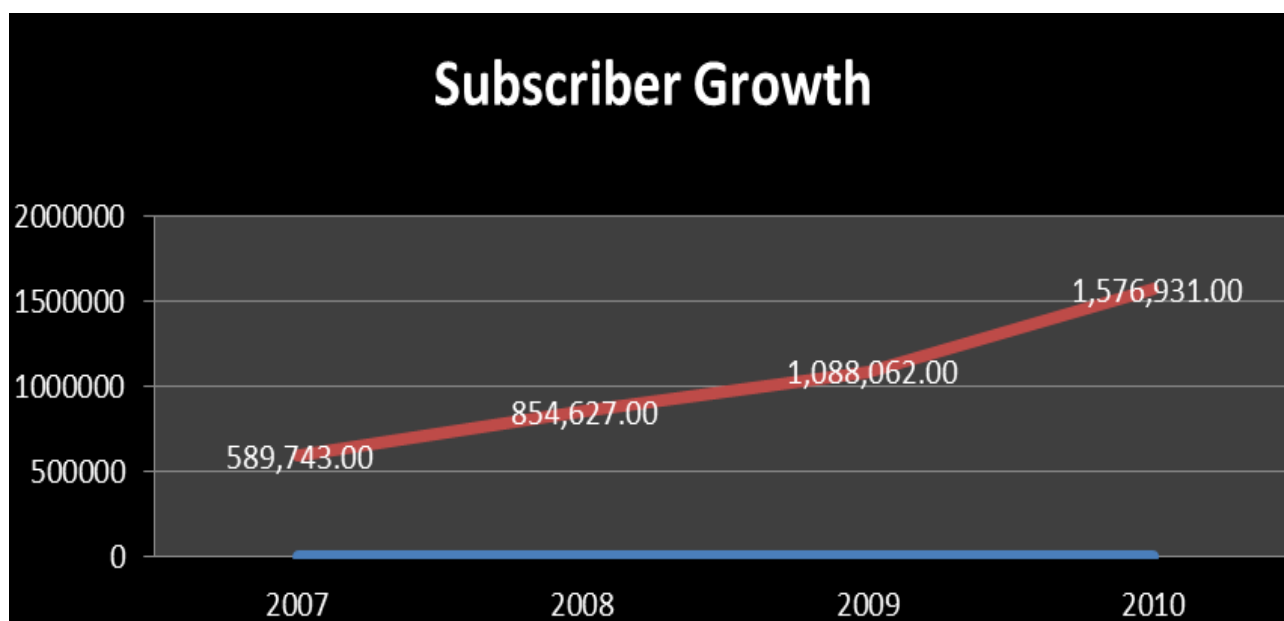
The statistics also indicate that Lone Star Cell/MTN network still has the highest subscriber base in Liberia despite significant gains in market shares by Cellcom and Comium. Lone Star now has a market share of 49%, representing a 9% drop in market share. Cellcom now has a market share of 41%, which represents a significant increase from 31% last year. Comium recorded a 3% increase, adding up to 9% in market share as opposed to 5.8% for last year. LiberCell has a subscriber base representing 2% of the market.

The data above shows that, Cellcom and Comium have significantly increased their market shares, thus indicating a rising level in competition in the mobile sector. It must be noted that though LiberCell experienced no increase in her market share, there was a gain in subscriber base because the mobile penetration is much higher than last year.

2.8 Revenue Generated by Key Sector Players in 2010

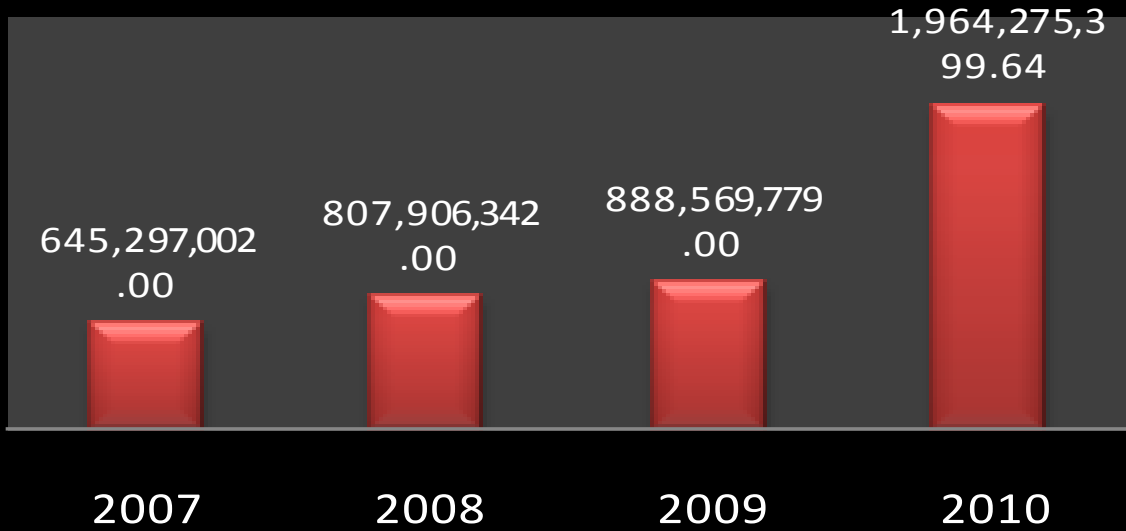
Our analysis of market data obtained from mobile operators, indicates the monthly average revenue per mobile phone user in Liberia is US\$13.66. The analysis of yearly domestic traffic data indicates that Liberia's mobile phone users spent an average of 4.14 minutes daily on the phone. When considering these statistics, readers should keep in mind that the calling behavior of subscribers may vary from individual to individual and amongst the various networks.

While we await the final financial statements from the major operators, all indications point to a total revenue generated by the key sector players (major carriers with more than 500 customers) exceeding US\$125 million in 2010. Due to the unavailability of data before going to press, a number of other players including Consolidated Group (DSTV), Nanasat, Telelinks and Power Tech, whose numbers would have slightly affected the results, were excluded.

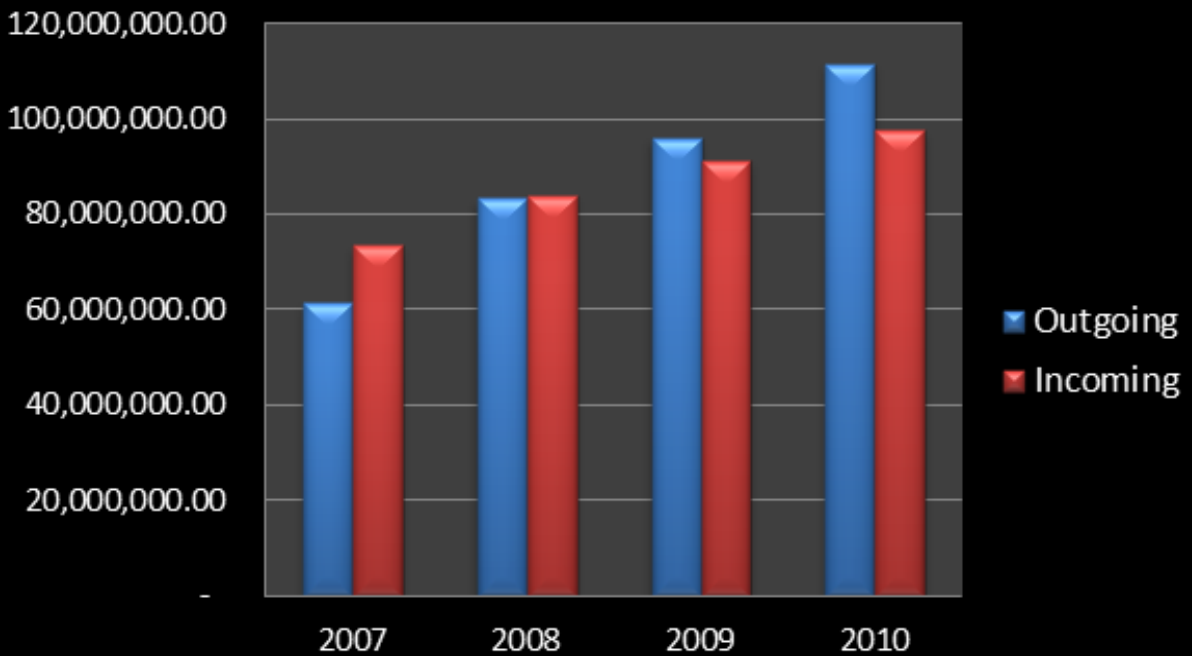


MOBILE PHONE USAGE IN 2010				
Total domestic minutes used	Total international minutes used	Overall Traffic	Average minutes per user per day	Average monthly revenue on each user
1,964,275,399.64	209,312,251.25	2,173,587,650.89	4.14	\$13.66

Total Domestic Traffic in Minutes



Incoming & Outgoing Traffic in Minutes



2.9 Foreign Direct Investments (FDI) in the Telecom Sector:

Tens of millions of dollars in FDI came into the sector in several forms, a significant portion of which is attributed to the purchase of a 51% ownership stake in LiberCell by Hits Africa, a leading global telecom operator. This capital injection was helpful in maintaining the stability of the sector at a time when the LTA and the Ministry of Finance witnessed astonishing delinquencies in LiberCell's payment of its financial commitment to the LTA and National budgets. With this injection, LiberCell, which was on the verge of folding up, survived and instead of retrenching staff, has recruited more qualified Liberians to take on the new challenges at the company.

Shareholders of Cellcom, including a US-based sustainable investment firm provided more than US\$10 million to the company to implement services using 3G technologies. With this, Cellcom has applied for a license to operate on a Universal Mobile Telecommunication System (UMTS) technology. Also in 2010, West Africa Telecommunication Limited (WAT) acquired a license to operate using WiMAX technology, leading to the attraction of approximately US\$1 million more to GoL general revenue account.

2.10 Job creation in the Telecom Sector

In 2010, the sector offered more than 50 new professional jobs mostly through the major operators; namely, Lonestar, LiberCell, WAT, Cellcom and Comium.

2.11 Universal Access Progresses Absent Approved ICT Policy

To fulfill the Universal Access requirements set forth in the Telecommunications Act of 2007, the SDMS department in 2010 initiated the development of a framework that will facilitate the eventual establishment of a Universal Access Board which will implement a Universal Access Program following cabinet approval of GoL's ICT policy. The framework, which sets out the roadmap for the UAP take off, is to be considered for approval by the LTA Board. The planning for and subsequent implementation of the Universal Access Program has been identified as LTA's contribution to the government's Poverty Reduction Strategy. The project's overall objective is to ensure that telecommunications services are accessible and affordable to the un-served and underserved populations of Liberia.



Service Development & Market Structure Department Staff (L to R) Jeddi Armah, Evelyn Thomas-Hill, Kwatama Q. Bettie, Elijah Glay, Venesa Kamara, Andrew Kromah and Alex Swen



(L-R) Angelique Weeks, Dr. Archimede Palazzo and Abdullah Kamara at the signing of WAT Wimax license



Finance Minister Augustine Ngafuan, World Bank Country Manager Ohene Nyanin and LTA Chairperson Angelique Weeks signed financing and project agreement for West Africa Regional Communications Infrastructure Project (WARCIP) at the Ministry of Finance in Monrovia



Henry W. Benson
Commissioner

3.0 ENGINEERING & TECHNOLOGY SERVICES

The LTA is continuing the process of harmonizing all frequency assignments amongst licensees. The objective is to ensure that frequency interference, impedance and other distortions are subsequently minimized or eliminated, and that end-users will benefit from significant improvements in quality of services delivered by licensees.

3.1 Frequency Allocation Table of Liberia

The first Frequency Allocation Table of Liberia (FATL) produced in 2006 mandates the LTA to continuously monitor changes and amendments to the documents on which the FATL is based. Accordingly, in 2010, some modifications to the FATL were identified for endorsement by the BoC after which they will be submitted to the MoPT for adoption.

3.2 Frequency Modulation (FM) Radio Stations

A total of four FM Radio Stations were authorized to operate in Liberia. The radio stations and assigned frequencies are as follows:

Table 3.1

Name of Radio Station	Assigned Frequency	County
Fanima Recording & Broadcasting Corporation	FM 89.9 MHz	Montser-rado
Mano River Women's Peace Network	FM 96.7 MHz	Montser-rado
Liberia Women Media Action Committee	FM 91.1 MHz	Montser-rado
Firestone Plantation	FM 89.5 MHz	Margibi

3.3 Shortwave (SW) Radio Stations

Star Radio Liberia, was assigned a shortwave broadcasting frequency of 3960 KHz. This frequency replaced 3400 KHz and 5870 KHz that were previously assigned to the station by the MoPT in 2005.

3.4 High Frequency (HF), Very High Frequency (VHF) and Ultra High Frequency (UHF) Assignments

Table 3.2

Institution	HF/ VHF/ UHF	Assigned Frequency
Embassy of the United States of America*	HF / VHF	HF 9200.5 KHz - 18260.5 KHz VHF 30.025 MHz—46.975 MHz
Ministry of Health & Social Welfare	HF	5066 KHz /7471 KHz
Ministry of Health & Social Welfare	VHF	148.425 MHz / 153.425 MHz
Bureau of Maritime Affairs	VHF	149.925 MHz /154.925 MHz
Golden Gate (Liberia) Incorporated	VHF	146.8125 MHz / 151.4125 MHz
Liberia National Police	VHF	165.2375 MHz / 169.8373 MHz / 169.4000 MHz
Liberia National Police	UHF	419.9875 MHz / 429.9875 MHz / 406.1000 MHz
European Union	VHF	157.46875 MHz / 162.06875 MHz / 160.56875 MHz / 165.16875 MHz
Total Liberia Incorporated	UHF	446.00625 MHz

3.5 The 2.5 Gigahertz (GHz) Band

As part of the standardization process, Lonestar and Comium Liberia were each assigned 30 MHz (Megahertz) in the 2.5 GHz band. The assignment to Lonestar ranged from 2500 MHz to 2530 MHz while Comium’s assignment ranged from 2530 MHz - 2560 MHz. The assigned bandwidth to Lonestar modifies an earlier version which was reported to be problematic. Meanwhile, the process

of assigning frequency to NANA-SAT* in the 2.5 GHz band is ongoing and is expected to be concluded shortly.

** Note: NANASAT is a MMDS-Wireless TV Systems which stands for Multichannel, Multipoint Distribution Systems*

** The HF and VHF frequencies were temporary assignments to the US Embassy to support the Africa partnership Station Training Exercise in Liberia from April 1-30, 2010 .*

3.6 The 3.5 GHz Band

The mapping process in the 3.5 GHz band has been concluded and tentative bandwidth slots assigned to Comium Liberia, Lonestar and Cellcom, pending final negotiation between the LTA BoC and the service providers, which will lead to confirmation of those assignments.

Meanwhile, the Boc has confirmed assignment of 21 MHz to WAT as follows: Uplink—3421.50—3442—50; and Downlink 3521.50—3542.50 MHz.

3.7 Backhaul Frequency

The backhaul frequencies (GO & RETURN) displayed in the chart below were assigned to WAT to serve as transport links for its Wi-MAX operations.

Table 3.4

8 GHz (PO8RFM01xx)		
Frequency range	7.9 – 8.5 GHz	
Reference	CEPT/ERC/REC 02-06	
Duplex spacing	310 MHz	
Channel bandwidth	14 MHz	
Channel number	Frequency (MHz)	
	GO	RETURN
1	7912.00	8222.00
2	7926.00	8236.00
3	7940.00	8250.00
4	7954.00	8264.00
5	7968.00	8278.00
6	7982.00	8292.00
7	7996.00	8306.00
8	8010.00	8320.00
9	8024.00	8334.00
10	8038.00	8348.00
1	8052.00	8362.00
2	8066.00	8376.00
3	8080.00	8390.00
4	8094.00	8404.00
5	8108.00	8418.00
6	8122.00	8432.00
7	8136.00	8446.00
8	8150.00	8460.00
9	8164.00	8474.00
10	8178.00	8488.00

3.8 The 4.9 GHz Band

The Liberia National Police was assigned a bandwidth of 15 MHz (4940 – 4955) in the 4.9 GHz band to accommodate seven channels for emergency preparedness and response as indicated in the table below.

Assignment (MHz)	Channel Number	Channel Spacing (MHz)
4940.5	1	1
4941.5	2	1
4942.5	3	1
4943.5	4	1
4944.5	5	1
4947.5	6	5
4952.5	7	5

3.9 Number Resource

The National Numbering Plan, under PART XII “NUMBERS” of the Telecom Act of 2007, empowers the LTA to manage Liberia’s National Numbering Plan.

The following number blocks, from the new National Numbering Plan, have been assigned to four GSM Operators (Lonestar, Cellcom, Comium LiberCell), one CDMA Operator (Libtelco), two WiMAX Operators (WAT, Lonestar), and one Telemedia Center (Telelinks International) as illustrated in the table below:

Table 3.6

Operator’s Name	Liberia’s Code	Prefix	Significant digit
Liberia Telecommunications Corporation	+231	(0)20	0XX XXXX
West Africa Telecoms Incorporated	+231	(0)33	0XX XXXX
Comium Liberia Incorporated	+231	(0)55	0XX XXXX
Cellcom Telecommunications Incorporated	+231	(0)77	0XX XXXX
Lonestar Communications Corporation	+231	(0)88	6XX XXXX
Lonestar Communications Corporation	+231	(0)88	8XX XXXX
Telelinks International (Premium Number)	+231	(0)90	0XX XXXX
LiberCell, Atlantic Wireless Incorporated	+231	(0)99	0XX XXXX

3.10 Equipment Type Approval Authorizations

Equipment Type Approval is the process by which communications devices brought into the country for commercial or domestic use are verified to be in harmony with the LTA’s spectrum requirements. The process ensures that electromagnetic emissions meet the minimum environmental safety requirements and ascertains the non-interference with other communications equipment, thus minimizing the risk of potential health hazards to users.

In 2010, the LTA granted 18 equipment type approval authorizations through 6 international organizations. Details of the organizations and communications modules authorized are shown in the table below.

Table 3.7

Name of Company	# of Authorizations	Description of Equipment
AT4 wireless, S.A	4	802.11b/g/n 1T1R WLAN Mini Card model number RT5390 manufactured in Taiwan by Ralink Technology Corporation
		802.11b/g/n Combo Card model number RT5390BC8 manufactured in Taiwan by Ralink Technology Corporation
		802.11b/g/n 2T2R Combo Card model number RT5392BC8 manufactured in Taiwan by Ralink Technology Corporation
		Bluetooth Telematics Devices model number CB2-BLUE11M manufactured in United States of America by Johnson Controls Incorporated



Engineering & Technology Department Staff; (L-R) Henry Nah, Leamoh Cooper, Harris Haliman, Lucia Quetoh, D. Maxwell Harmon, Alexander Zlehwolo and Emmanuel Payegar

International Compliance Specialist (ICS)	3	<p>Passive Personal Laptop Computer with Bluetooth and WLAN model number CF-52 manufactured in Japan by Panasonic Corporation</p> <p>Services Gateway model number SRX210 manufactured in United States of America by Juniper Networks, Incorporated.</p> <p>Services Gateway model number SRX240 manufactured in United States of America by Juniper Networks, Incorporated</p>
Test & Market Access Services Worldwide Type Approvals (TSW)	1	Bluetooth transceiver, Bluetooth Core Version 2.0+EDR model number HEADUNIT W221/C216MOPF manufactured in Germany by Harman Becker Automotive System
Valeo Schalter & Sensoren GmbH (VSS)	1	The Multi Beam Radar (MBR) System model number MBR-Gen2 Type C manufactured in Germany by Valeo Radar Systems Incorporated
Versus Technology Pty Limited (VT)	1	Bluetooth Module model number IAM2.1 BT PWB EU manufacture in Japan by Alpine Electronics Incorporated
Wireless Approval Consultants (WAC)	8	<p>Radio Frequency Receiver (RFR) model number KOBFR10A manufactured in United States of America by Lear Corporation</p> <p>Remote Keyless Entry Transmitter model number CWTWB1U793 manufacture in United States of America by Alps Automotive Incorporated</p> <p>Electrically Scanning Radar Module model number L2C0036TR manufactured in Singapore by Delphi Automotive Systems Incorporated</p> <p>Passive Anti-Theft System Transceiver model number 5wy976 manufactured in United States of America by Siemens Automotive Corporation</p> <p>Easy Key Active Antenna Transmitter model number M3N-65981421 manufacture in Mexico by Continental Automotive Systems US Incorporated</p> <p>Electronic Control Unit Transmitter model number M3NSWY8434 manufactured in Mexico by Continental Automotive Systems Incorporated</p> <p>Passive Key Transmitter model number M3N5WY8609 manufacture in Mexico by Continental Automotive Systems US Incorporated</p> <p>Tire Pressure Monitoring (TPM) Transmitter model number F55MAF4 manufacture in Northern Ireland by Schrader Electronics Limited</p>

3.11 Very Small Aperture Terminal (VSAT)

During the year under review, two entities were authorized to operate VSAT in the Republic of Liberia, namely; International Finance Corporation and Liberia Equipment Limited.



Lamini A. Waritay
Commissioner

4.0 PUBLIC, CONSUMER & LEGAL AFFAIRS

The Year 2010 recorded significant achievements in consumer outreach and education with the launch of a Consumer Help Desk, a Corporate Website and the LTA Diary (radio awareness program); and commenced a consumer information and education outreach campaign aimed at educating and empowering consumers/subscribers on their rights and responsibilities as key sector players. The campaign sought to enlighten consumers on the procedures for seeking redress relative to dissatisfaction over products and services offered by service providers.

The outreach campaign covered major cities in the 15 counties and culminated in the hosting of the first National Telecommunications Consumer Forum in Liberia under the theme “*The Consumer is King*”. The Forum brought together service providers and consumers from across the country to deliberate on burning issues affecting consumers in the telecommunications sector and chart a way forward to better consumer satisfaction, especially as it relates to such core concerns as Quality of Service (QoS), Universal Access, misleading information and promotions and unsolicited advertisements by service providers.

At the close of the Forum, which was attended by 110 consumers and representatives of LTA, LoneStar, Cellcom, Comium and LiberCell, the participants adopted the following 13 resolutions which, taken together, require the LTA and service providers to institute immediate reforms to improve the sector:

- That the LTA consider the establishment of Consumer Parliaments that will serve as the driving force for consumer education and protection.
- That the LTA take immediate steps to issue Consumer Guidelines that will set the

procedures for handling consumer complaints related to QoS, unsolicited advertising, and other consumer related issues.

- That the operators must take seriously, their obligations under the Telecom Act 2007 to provide quality services and ensure value for money, provide warranties for the products they sell and that the LTA expand the scope of its equipment type approvals to include end-user handsets.
- That operators consider the provision of tailored services for physically challenged/visually impaired individuals such as voice text.
- That service providers make every effort to ensure that consumers are aware of the time limitations for the use of numbers before recycling them, through the dissemination of adequate information to consumers.
- That consumers are adequately educated on the potential health risks associated with the use of ICT and Telecommunications products and be mindful of how they use them. Service providers should ensure adherence to the relevant environmental protection regulations in the expansion of their networks and use more co-location on existing infrastructure.
- That the LTA takes the necessary measures to put in place a mechanism for both SIM card and phone registration to establish proper identification which could discourage phone theft and ensure the responsible use of cell phones.
- That the LTA give priority to the implementation of number portability to allow consumers the right to network choices without losing their assigned numbers.

- That the LTA immediately introduce toll free numbers to provide aggrieved consumers free access to its Consumer Helpdesk and establish regional offices throughout Liberia.
- That service providers introduce options that will allow consumers to block unsolicited advertising if so desired.
- That service providers implement customer call center solutions that provide efficient and respectful customer care and provide information on the estimated wait time.
- That service providers, as much as is feasibly possible, open sub-offices in the areas in which they operate to provide services to consumers.
- That service providers, as much as is possible in a commercial environment, improve the level of coordination amongst themselves.

4.1 National Consultation

The nationwide consumer outreach was planned in two phases, taking into consideration the deplorable road conditions in the remotest parts of the county. Due to limited in-house capacity, the LTA secured the services of seven national consultants to lead the nationwide consumer information and education outreach campaign. The consultants conducted 73 town hall meetings in major towns and villages, including campuses of universities and high schools, communities such as West Point, Slip Way, New Kru Town, Point Four, Gardnersville, and Clara Town. The campaign focused on issues relating to cell



Public, Consumer & Legal Affairs Department Staff (L-R) Anthony Selmah, Blamo Robinson, Chris Harris-Williams Cllr. Richard Klan, Patricia Willie, Cllr. Wiefueh Sayeh and Alexander Tamba

phone and internet users, and obtained quality information from the consumer population from various parts of the country.

The consultants' final report from the 15 counties highlighted the level of enthusiasm among consumers and the transformation taking place with the new communications technologies. The report also reflected consumer disappointment over the lack of adequate information on the telecom industry as a result of the absence of service providers in their communities. The report outlined the issue of signal failure, dropped calls, and poor QoS, deceptive advertisement and unsolicited announcements as some of the issues affecting consumers.

4.2 Consumer Engagement

The National Telecommunications Consumer Forum was preceded by a mini-stakeholder' forum in commemoration of World Consumer Rights Day observed under the theme: "***Our money, our rights***"-- highlighting consumer issues in relation to financial services. LTA supported the efforts of the National Consumer Council of Liberia, the Liberian Consumer Action Network and the Consumer Journalists

Association to hold a one day interactive dialogue at the Stella Maris Polytechnic University.

The objective of the interactive dialogue was to critique the Telecom Act of 2007 especially as it relates to consumer protection. The dialogue was attended by 85 consumers representing a cross section of organizations in Monrovia and parts adjacent. Representatives from Cellcom and Libtelco responded to the invitation and were generous in responding to the many concerns raised at the forum.

4.3 Experience Sharing

As part of efforts to build the capacity of staff in the Consumer Affairs section, the LTA sponsored a three-person team from the department to attend the third Consumer Parliament in Kenema, Sierra Leone, at the invitation of the National Telecommunications Commission (NATCOM). The objective of the study tour was to benefit from the experience of NATCOM on the basic formation and composition of consumer parliaments and how effectively these parliaments address issues of concern to consumers. The team participated in the consumer

parliament and was adequately briefed by telecommunications specialists from NATCOM on the effectiveness of open deliberations involving the consumers, regulators and service providers.

4.4 Corporate Responsibility

As part of its corporate social responsibility, the LTA contributed Thirteen Thousand United States Dollars (\$13,000.00 USD) to the Administration of the University of Liberia to improve the existing technology in the Department of Mass Communications. The LTA contribution targeted increase in the bandwidth of existing internet facilities in the department

to enhance e-learning and research capability for students pursuing studies in mass communications.

Additionally, the LTA provided three desktop computers to complement initiatives by the Press Union of Liberia in promoting quality and credible journalism through the annual media excellence award. The three computers were awarded to winners in the categories of best reporter of the year, best newscaster of the year and best feature writer of the year.



Participants at fourth Consumer Parliament in Kenema, Sierra Leone organized by the National Telecommunication Commission (NATCOM)



NATCOM Spectrum monitoring equipment mounted on a van in Kenema, Sierra Leone



National consumer forum held in Monrovia, December 14, 2010



**Harry T. Yuan, Sr.
Commissioner**

5.0 GOVERNMENT AFFAIRS & NATIONAL POLICY

Not wanting to be left behind in sub regional efforts aimed at harmonizing telecommunications policies and regulations in West Africa, the LTA led the charge for the transposition of six ECOWAS Supplementary Acts into the national laws of Liberia. While awaiting policy and legislative actions in this regard, the ECOWAS Commission has since hailed Liberia as being in compliance with the harmonization of the ECOWAS protocols and instruments.

The LTA continues to consolidate regional collaboration in the effort to strengthen regulatory regimes and at the same time increasing the dividends of Telecommunications and ICT in the sub-region. This was manifested through the involvement of the LTA in regional consultations for the validation of ECOWAS guidelines relative to access to sub-marine cables in the region and the harmonization of ECOWAS protocols on the enhancement of telecommunications and ICT.

The WATRA workshop, held in Liberia in 2010, was aimed at reviewing and amending the draft guidelines and the assessment study of national legislations and regulations regarding access to submarine cables. The workshop was sponsored by the International Telecommunication Union (ITU), European Union, GTZ and WATRA and attended by 12 West African Countries including Nigeria, Mali, Ghana, Guinea, Gambia, Sierra Leone, Senegal, Benin, Mauritania, Guinea Bissau, Niger and Liberia.

The three-day interaction in Monrovia among the 63 accredited delegates provided the opportunity for critical review of the draft guidelines crafted by telecommunications specialists engaged by WATRA. The telecommunications regulatory authorities



Government Affairs & National Policy Department Staff (L-R): Nenthur Gaye Emmanuel Tomah, Tomaa Davis, Isaac Yonly

in the region, recognizing the existence of numerous sub-marine cable systems along the West African Coast, including the planned addition of the ACE cable, have seen a need for some level of uniformity regarding access to capacity on said cable systems; thus the convening of this workshop.

In this regard, WATRA, through the support of international organizations like the ITU and the World Bank, is keen on establishing a harmonized regulatory framework that provides maximum benefits for consumers, while at the same time driving down the cost of telecommunications and ICTs in the region.

Additionally, in compliance with the decision of Heads of States of ECOWAS for member states to transpose the six telecommunications Supplementary Acts signed on 19 January 2007 in Ouagadougou, Burkina Faso, into the telecommunications laws of member countries, the LTA concluded a national stakeholder's consultative forum to validate a report presented by the national consultants. The Supplementary Acts include: The Management of the Radio-Frequency Spectrum; Harmonization of Policies and Regulatory Framework for the Information and Communication Technology Sector; Access and Interconnection in Respect of the ICT Sector Networks and Services; The Legal Regime

Applicable to Network Operators and Service Providers; Numbering Plan Management and Universal Access and Services.

On the national scene, the LTA, as a member of the Technical and Steering Committees of the National Postal Address System (NPAS) Project, which is aimed at revamping Liberia's postal system destroyed by 14 years of neglect and civil conflict, the LTA contributed Twenty Five Thousand United States Dollars (\$25,000.00 USD) to reinvigorate the initiative under the leadership of the MoPT. This contribution fulfils a pledged made by the LTA at the NPAS donors' conference held in Monrovia.

In support of other national initiatives, the LTA contributed Seventy Thousand United States Dollars (\$70,000.00 USD) to buttress the Government led Youth Empowerment Program. The program is being implemented by the Ministry of Planning and Economic Affairs and is aimed at providing leadership skills for youth through career coaching and guidance.

In addition, the LTA also contributed One Million United States Dollars (\$1,000,000.00 USD) as budgetary support to the national budget during the period under review.

LTA TEAM

ADMINISTRATION, FINANCE AND STRATEGY	
Angelique E. Weeks	Chairperson
J. Famatta Kallon Sirleaf	Comptroller
Reagan Scott	Internal Auditor
Jeanne Juste	Director of Administration
Kolubahzizi T. Howard	Director of Strategy
S. Othello Coleman	Manager - Information Communication Technology
James K. Gono	Manager – Procurement & Logistics
Augustus P. Randall, Jr.	Senior Accountant
Brenda Brewer Moore	Human Resource Officer
Dauson V. Kamara	Junior Accountant
Joe P. Sumo	Technical Analyst/Administrative Support
Prince G. Goah	Procurement / Logistic Assistant
Beatrice Kollie	Secretary / Expeditor
Christiana Gahndolo Saye	Receptionist
Boyonnoh B. Teh	Receptionist
Cecelia C. Best	Custodian
Augustine G. Jallah	Driver
Wilmot Toe	Driver
Anthony George	Generator Maintenance
Alphonso Vuogon	Generator Maintenance
James K. Ballah	Building Maintenance
GOVERNMENT AFFAIRS AND NATIONAL POLICY	
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Isaac J. Yonly	Director of Government Affairs & National Policy
T. Emmanuel Tomah	Liaison Officer
Tomaa Davis	Administrative Assistant
B. Nenther Gaye	Driver

PUBLIC, CONSUMER & LEGAL AFFAIRS	
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Anthony K. Selmah	Director of Public & Consumer Affairs
Cllr. Richard Klah	Legal Officer
E. Blamo Robinson	Communications Officer
Christiana Harris Williams	Information Officer
Patricia Willie	Administrative Assistant
Alexander T. Tamba	Expeditor
SERVICE DEVELOPMENT & MARKET STRUCTURE	
Abdullah L. Kamara	Commissioner
Alexander Swen	Director of Service Development & Market Structure
Evelyn Thomas Hill	Market Research Analyst
Jeddi M. Armah	Senior Licensing Officer
Elijah Glay	Compliance & Regulatory Officer
Andrew Kromah	Junior Licensing Officer
Kwatama Q. Bettie	Due Diligence Officer
Venesa F. M. Kamara	Administrative Assistant
Joseph G. Yeane	Driver
ENGINEERING & TECHNOLOGY	
Henry W. Benson	Commissioner
Emmanuel J. Payegar	Director of Engineering & Technology
Alexander Zlehwolo	Spectrum Engineer
Lucia W. W. Quetoh	Spectrum Engineer
Henry C. Nah	Spectrum Engineer
Leamoh M. Cooper	Spectrum Engineer
D. Maxwell Harmon	Administrative Assistant
Harris Haliman	Driver

Financial Summary

N0.	Sources of Revenue	License Fees To GOL (Actual)	Spectrum/Regulatory To LTA (Actual)
200	Cash in Bank as at January 1, 2010		1,075,430.68
	Revenue 2010:		
1.	Cellcom - GSM	540,778.39	653,802.00
2.	Comium - GSM	130,055.56	399,708.00
3.	Lonestar - GSM	1,687,500.00	795,274.00
4.	Lonestar-WIMAX	560,780.46	800,000.00
5.	Libercell - GSM	39,584.06	597,112.16
6.	West Africa Telecom - WIMAX	262,516.35	241,500.00
7.	Others (ISPs, VSAT, VHF, HF, Appl fees..)	9,126.01	231,902.23
	Total Revenue-2010	\$3,230,340.83	\$4,794,729.07
	Expenses		
	Operating Expenses		\$2,948,635.72
	Contribution to GoL National Budget		1,100,000.00
	Contribution to MOP & Telecommu- nications		25,000.00
	Contribution to UL Mass Communica- tion Dept.		13,000.00
	Contribution to Youth Empowerment		70,000.00
	Contribution to National Calls		27,825.00
	Contribution to International Associa- tion		70,000.00
	Capital Expenditure		273,783.65
	Total Capital, Contribution & other Operating Expenses		\$4,528,244.37
	Net C/F		\$266,484.70

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