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**National
Telecommunications
Regulatory Commission
(NTRC)**

Annual Report 2012

1. Mission Statement

To monitor efficiently, the operations of Telecommunications Services under the laws of St. Vincent and the Grenadines whilst providing an open market to all Telecommunications Providers, ensuring fair treatment for consumers and providing Universal Service to all Vincentians.

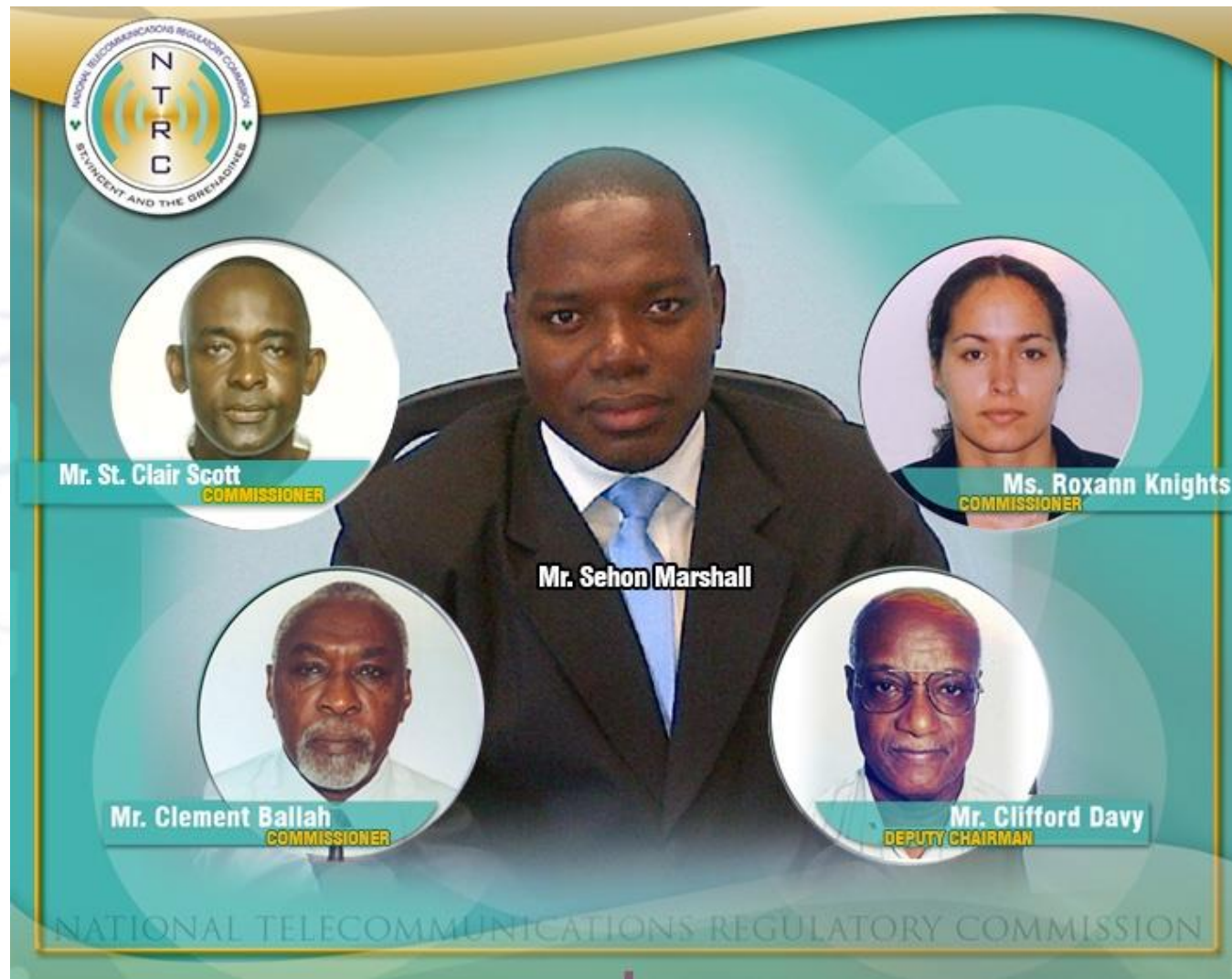
2. Vision Statement

To ensure that the demand for existing and future Telecommunications Services is met, in order to support economic growth and diversification, by providing a suitable environment for the tourism, information and financial sectors through a liberalized and competitive telecommunications environment.

3. Functions

The NTRC in collaboration with ECTEL is responsible for carrying out a variety of functions that are associated with regulating the telecommunication sector in St. Vincent and the Grenadines. These functions are outlined in detail in the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines of 2009.

4. Photo of Commissioners



5. Photo of Staff Members



Back Row (Left to Right): Rohand Charles (Accountant), Kyron Duncan (USF Administrator), Apollo Knights (Director),
Front Row (Left to Right): Keisha Gurley (Office Assistant II), Andra Keizer (Administrative Officer), Ashell Forde (ICT Officer),
Nadine Hull (ICT Manager), Mishka L. Quashie (Office Assistant I)

6. *SWOT Analysis*

6.1 Strengths

- The NTRC has responsibility for regulating most aspects of the telecommunications sector.
- Availability of ICT infrastructure and software to efficiently carry out our regulatory functions.
- Diversity of relevant skills and experience among current staff and Commissioners.
- Staff members are keen to participate in capacity building programmes in line with the needs of the organization.

6.2 Weaknesses

- Inadequate pricing control mechanism existing for those services offered by the incumbent operator that are not exposed to sufficient competition at this time, such as Internet service.
- Lack of a formal relationship between the ECTEL organizational structure and that of the NTRCs.
- Absence of an appropriate Fund to cover potential litigation costs.
- Lack of regulatory oversight on retail pricing and promotional activities of mobile service providers.

6.3 Opportunities

- Ability to develop projects under the Universal Service Fund that can try filling the current gaps that exist within our communities as it relates to data communication and knowledge sharing.
- Changes in technology and services being offered within the sector present a perfect opportunity for updating our legislative framework.

- The current age of our mobile networks and technology should provide an opportunity for leap frogging of our networks to the state of the art in the short term.

6.4 Threats

- Continued possibility of litigation from Licencees.
- Churn of Commissioners and Staff when considering the small staff complement of the NTRC and the resources expended on developing the regulatory skills of both Commissioners and staff.
- The inability of the current fee structure to maintain an adequate funding source for the regulatory system (ECTEL and the NTRCs) in the short term.
- The issue of Cyber crime and Cyber security is a threat facing not only the NTRC but our country and the region.
- The continued convergence of the ICT sector due to IP technology which facilitates cross border services that evade our regulatory framework.



7. Critical Issues

Currently, there are two critical areas that need to be addressed in the sector:

1. Cyber Security and Broadcast Standards

These issues were highlighted in detail in our 2009 Annual Report and remains as relevant today. Such issues, however, have to be addressed on a regional scale to be successful. Ideally, they should be addressed at the level of Caricom but if this may not be possible, ECTEL should take the lead as a matter of urgency. Additionally, both areas should be addressed in our new Telecommunications Regulatory framework so that our legislative provisions would guide the actual work that would need to be done by our respective regulatory agencies. In the interim, the NTRC is trying to play its part on this issue with the development of an Associate Degree program at the St. Vincent and the Grenadines College via funding from the USF. This programme will commence in September 2013.

2. Broadband penetration level

It is critical that as a country, we look to increase our penetration levels of Broadband access to our consumers, if our country is to be able to compete on the global market in any serious fashion, irrespective of the sectors targeted. Broadband is now seen as an essential service that is comparable to that of electricity, telephone and water. In these later three, we are well into the 90% penetration levels at the household level. While we have made good strides in broadband penetration over the last decade, it is still less than 50% at the household level. Imagine our country still being below 50 % in electricity or water penetration! We have to develop a national strategy to bring our broadband penetration above 90% by 2015. During 2012, the ECTEL Council of Ministers mandated the ECTEL Directorate to develop a National broadband plan and strategy. This is a very important step and should include all stakeholders.

8. Sector Review

8.1 Financial Data Review

8.1.1 Telecommunications Sector Revenue

Note: The years in the table run from April 1 to March 31 e.g. 1998 runs from April 1 1997 to March 31 1998. This coincides with the financial years of Cable & Wireless (WI) Ltd and Digicel (SVG) Ltd. For the remaining entities whose financial years are not the same, their revenues have been apportioned to the same periods using an average monthly revenue figure calculated by dividing its total revenue for its financial year by 12.

	Cable and Wireless (SVG) Ltd					Digicel St. Vincent Ltd			Kelcom Int'l			Caribbean Business Machines Ltd	
	Inter. Revenue (EC\$)	Domestic Rev (EC\$)	Data/Internet Rev (EC\$)	Mobile Rev. (EC\$)	Total Revenue (EC\$)	Mobile Rev (EC\$)	Data/ Internet Rev(EC\$)	Total Revenue (EC\$)	Cable TV & Fixed Line Rev (EC\$)	Data/ Internet Rev(EC\$)	Total Revenue (EC\$)	Total Revenue (EC\$)	Grand Total (EC\$)
Year													
2000	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2001	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2002	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2003	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2004	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2005	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2006	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2007	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2008	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2009	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2010	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx
2011	xxxxxxxx	xxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxx	xxxxxxxx
2012	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx		xxxxxxxx	xxxxxxxx	xxxxxxxx

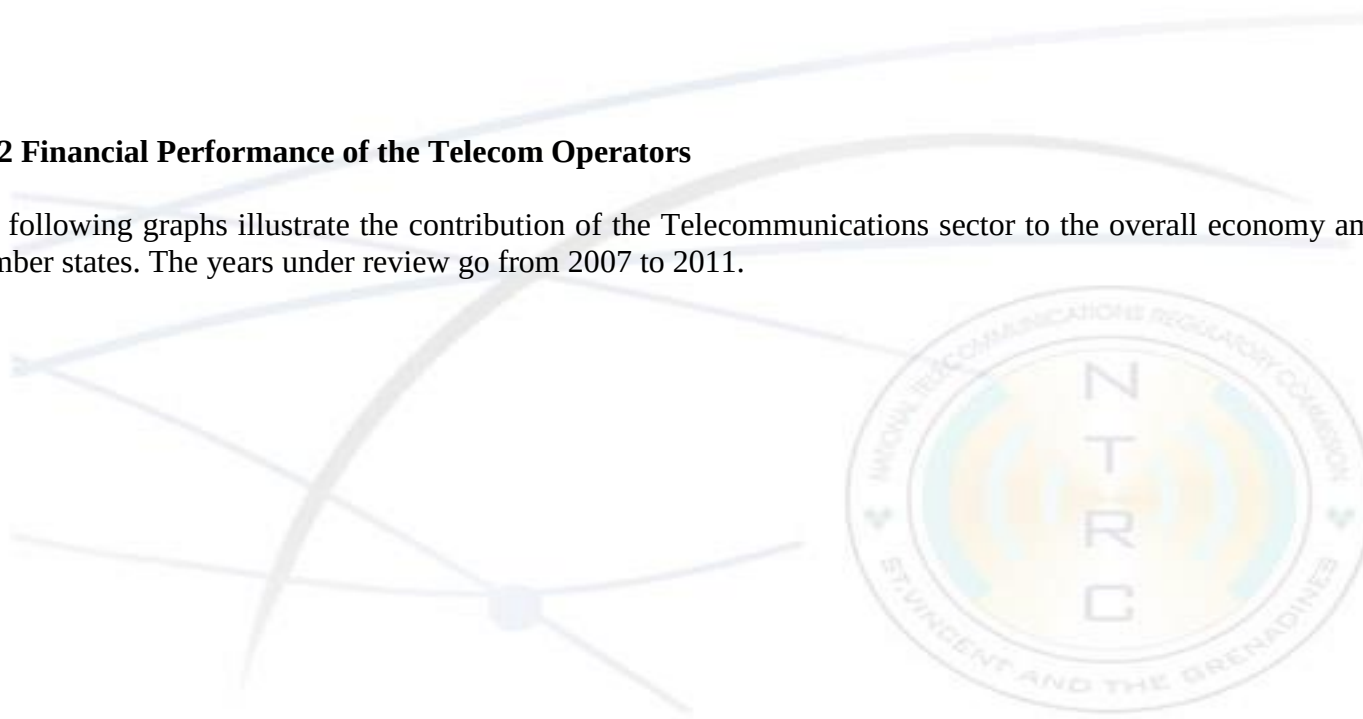
Table #1: Total Revenue earned by providers of telecommunications services 2000 to 2012

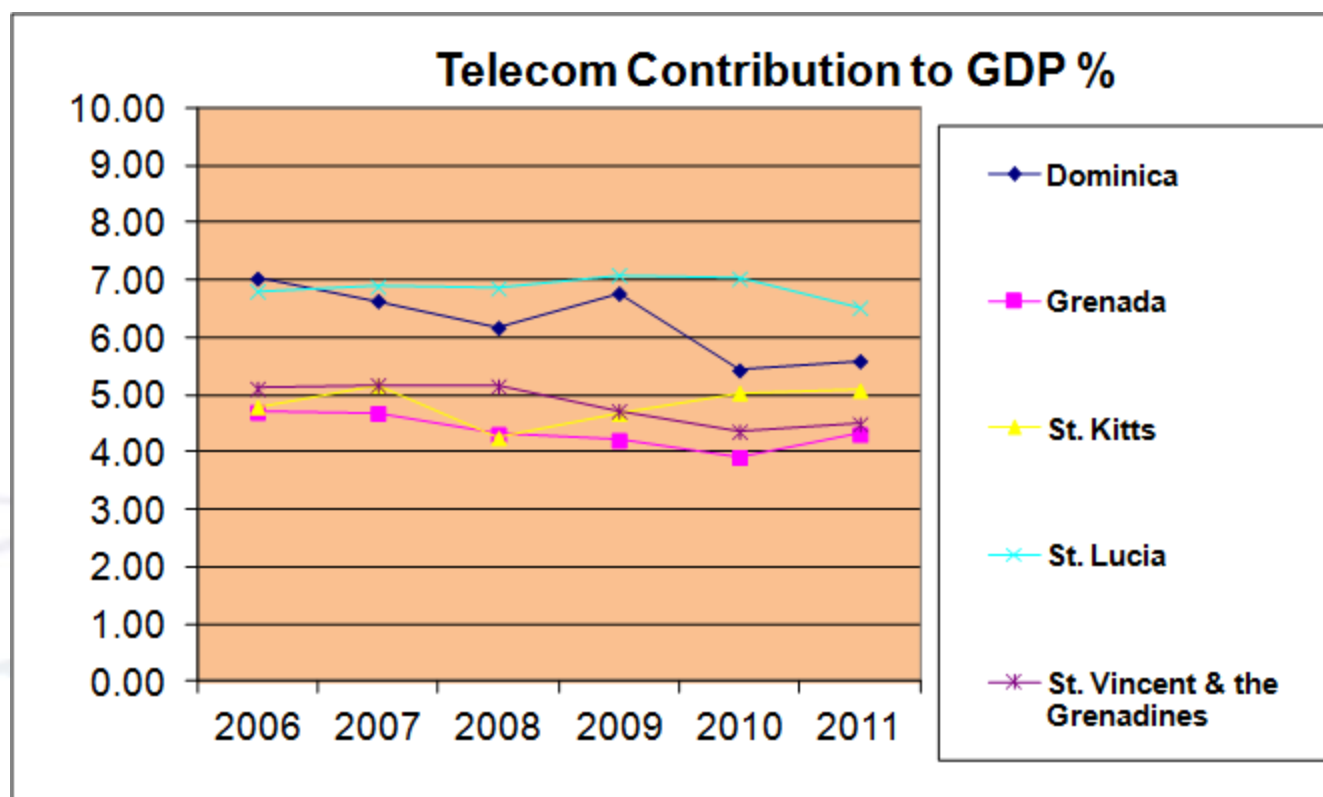
Source: For 2012, the breakdown of revenue submitted to the NTRC was used for Digicel and Cable & Wireless (SVG) Ltd and Cable & Wireless Mobile.

The gross revenue for 2009 and 2010 are based on conservative estimates from the previous year while 2006 to 2008 is based on gross revenues breakdown for these years which were submitted to the NTRC. For previous years, the figures are based on Gross revenue as per audited statements. Note that the revenues outlined for 2010 and 2011 in relation to Karib Cable/Kelcom International are based on their audited financial statements. The Internet/Data revenues for the providers are shown in a separate column for 2011. This revenue stream accounts for 15% of the telecom sector revenue received in 2011.

8.1.2 Financial Performance of the Telecom Operators

The following graphs illustrate the contribution of the Telecommunications sector to the overall economy among the ECTEL member states. The years under review go from 2007 to 2011.

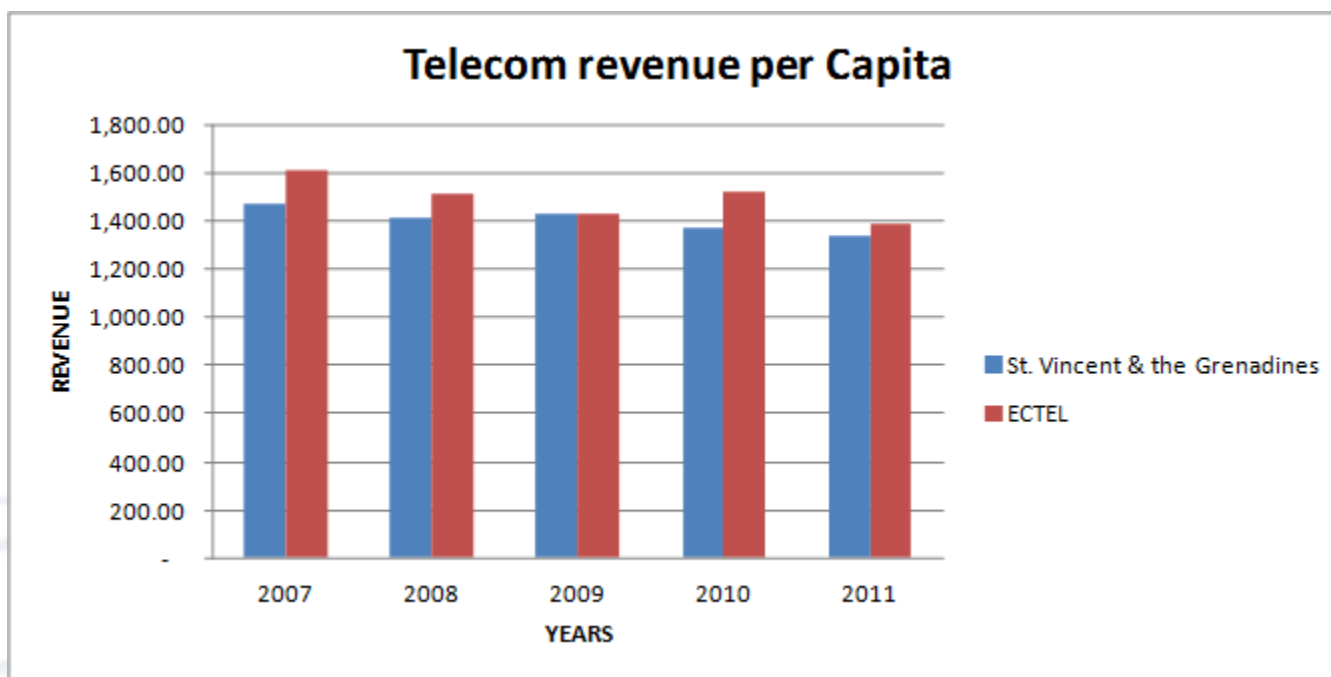




Figure# 1

Source: Eastern Caribbean Telecommunication Authority and the National Telecommunication Regulatory Commission of Grenada

The Telecommunications sector to GDP represents what percentage of the Gross Domestic Product was contributed by the Telecommunications Sector. The comparison was done for the countries of the Eastern Caribbean Telecommunication Authority member states. All the countries in the Telecommunications sector contributed above 4% to GDP for the years under review except for Grenada who slightly went below this amount in 2010. St. Lucia had the highest percentage contribution with an average of 6.27% over the six year period while Grenada had the lowest contribution to GDP with an average of 4.35% over the same period. In relation to St. Vincent and the Grenadines, the highest contribution the Telecommunications Sector made to GDP was in 2007 with a percentage of 5.17% and the lowest percentage was recorded in 2010 of 4.36%. The period under review for St. Vincent and the Grenadines fluctuated with slight increases in 2007 and 2008 and decreases in 2009 and 2010.



Figure# 2

Source: Eastern Caribbean Telecommunication Authority

The Telecommunications revenue per capita is a representation of the amount of revenue for the sector divided by the population of the country. This is compared to the average revenue per capita for the same sector for the ECTEL member states. For the period under review, the average revenue per capita for the ECTEL states surpass that of the St. Vincent and the Grenadines except in 2009 where the amount for St. Vincent and the Grenadines was slightly above the average amount for the other ECTEL member states. During the period 2007 to 2011 St. Vincent and the Grenadines has recorded a small but gradual decrease in Telecommunications revenue per capita. This trend is due mainly to the fall in fixed line revenue over the same period.

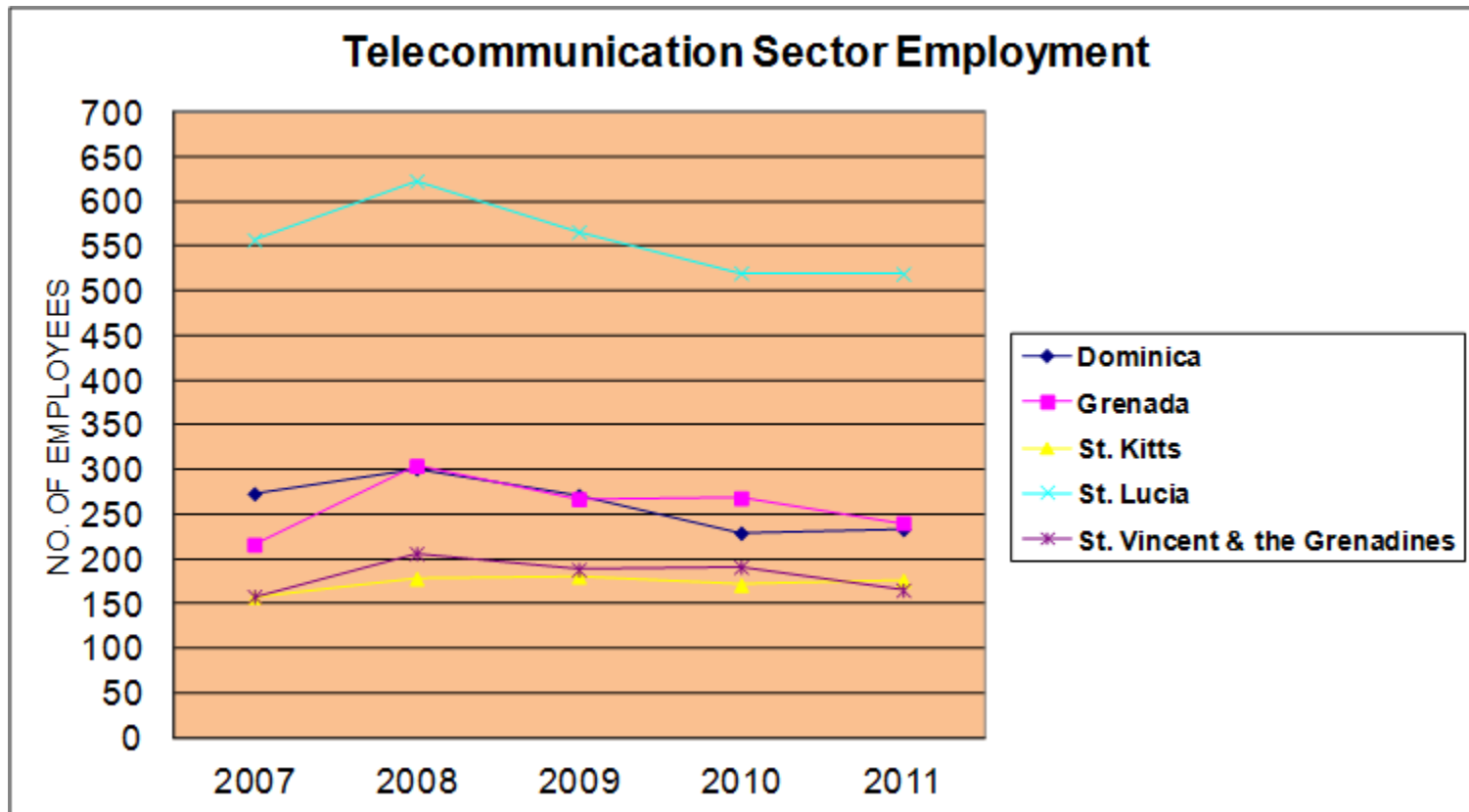


Figure 3

Source: Eastern Caribbean Telecommunication Authority

The Telecommunications sector employment shows the number of persons who were employed by the sector during the period 2007 to 2011. For the entire period under review, the number employed is above One Hundred and fifty persons in each island in the ECTEL territories. St. Lucia has the lead in the number of persons employed with the minimum number of persons being employed above Five hundred in each of the years under review. This has exceeded the other islands and is due to the major telecom providers setting up call centers in this island to handle queries from the other islands. However, all the islands have recorded decreases in all the year except for 2008 when there was an increase in the number of persons employed. In relation to St. Vincent and the

Grenadines, the number of persons employed has decreased over the period 2008 to 2011. This is due to the restructuring done by Cable and Wireless over the years.

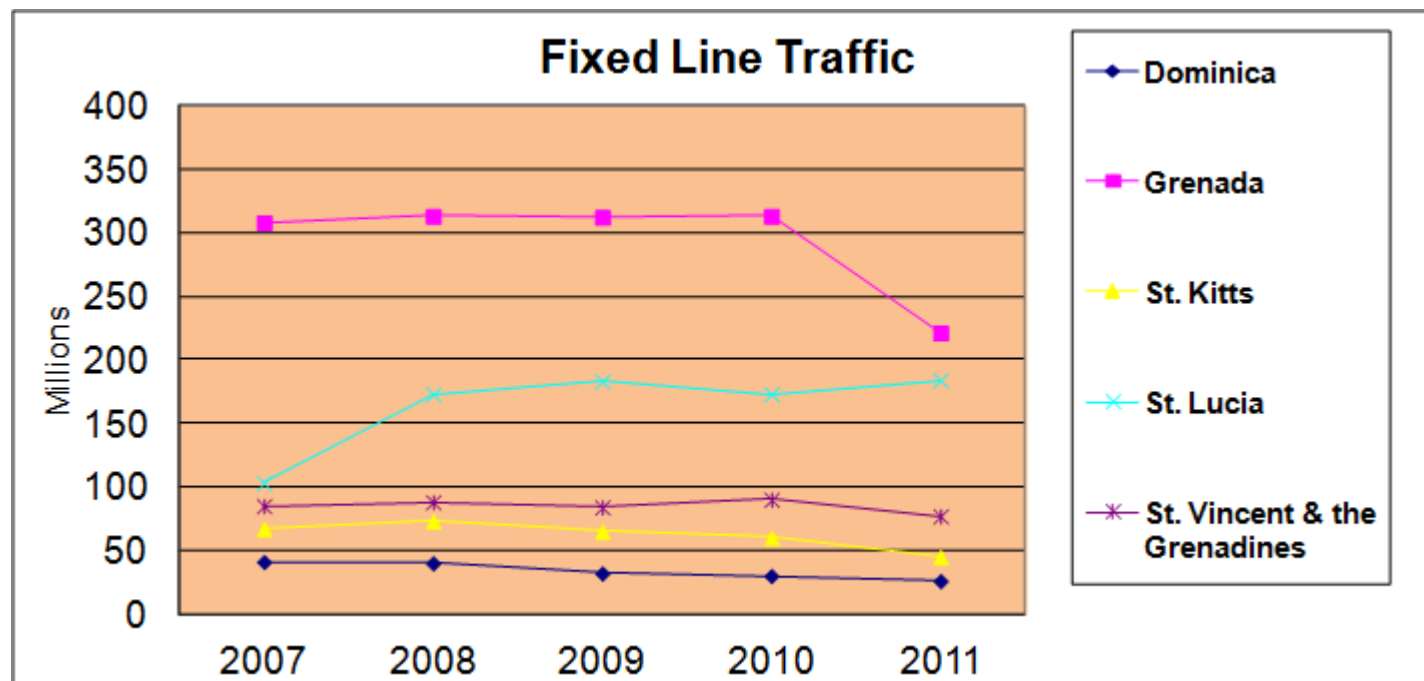


Figure 4

Source: Eastern Caribbean Telecommunication Authority

Fixed Line traffic represents the total number of Fixed Line calls that were made and received by the different Telecommunications providers in the ECTEL member states. During the period 2007 to 2011, the amount of fixed line calls on the providers' network has fluctuated. Grenada recorded the most calls for the period, recording more than Three Hundred Million each year except for 2011 when the number fell to below Two Hundred and Fifty Million calls. All the countries recorded a fall in 2011 except for St. Lucia who recorded an increase. This fall in fixed line traffic was due to a switch from fixed line usage to mobile usage. In relation to St. Vincent and the Grenadines, the fixed line traffic recorded was relatively constant except for a slight increase in 2010 and a decrease in 2011. This decrease in 2011 was due to a switch from Fixed line usage to Mobile usage.

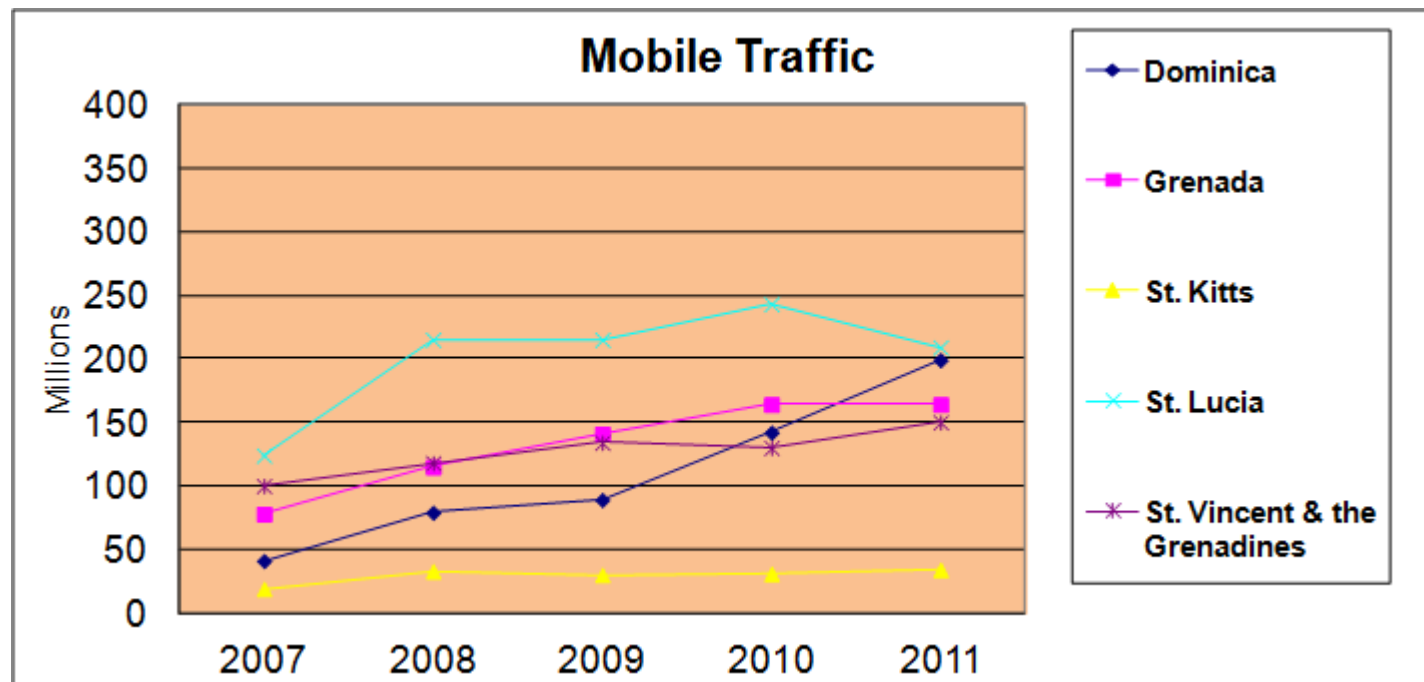


Figure 5

Source: Eastern Caribbean Telecommunication Authority

Mobile traffic represents the total number of Mobile calls that were made and received by the different Telecommunications providers in the ECTEL member states. During the period 2007 to 2011, the amount of mobile calls on the providers' network has increased. St. Lucia recorded the most calls for the period recording more than One Hundred Million calls in 2007 and increasing to Two Hundred Million calls in 2011. The country with the greatest increase is Dominica, increasing from Fifty Million in 2007 to Two Hundred Million in 2011. The increase recorded by all countries was due to a shift from fixed line usage to mobile usage. In relation to St. Vincent and the Grenadines, the Mobile traffic recorded increased gradually compared to Dominica, Grenada and St. Lucia; this also is due to a shift from fixed line usage to mobile usage.

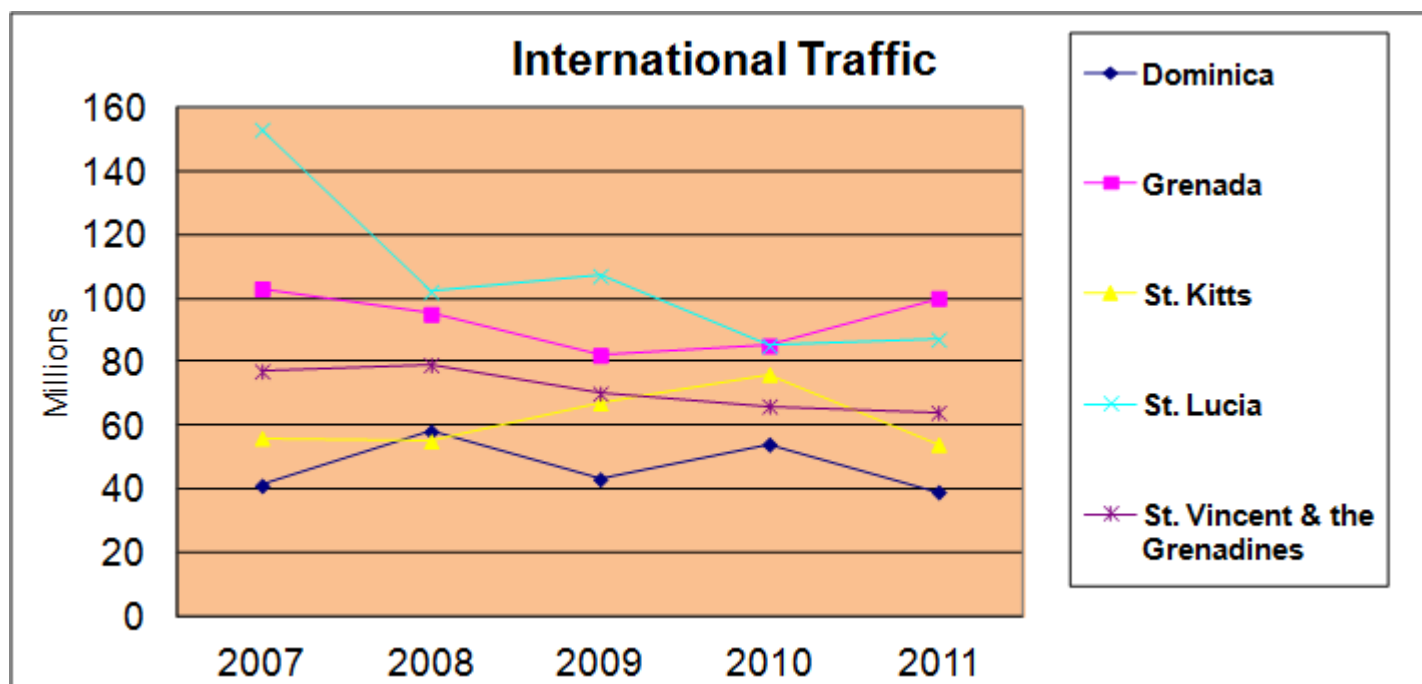


Figure 6

Source: Eastern Caribbean Telecommunication Authority

International traffic represents the total amount of International calls that were made and received by the different Telecommunications providers in the ECTEL member states. During the period 2007 to 2010, the amount of International Calls on the providers' network decreased for St. Lucia, Grenada and St. Vincent and the Grenadines, while Dominica fluctuated and St. Kitts increased. St. Lucia recorded the steepest decline from close to One Hundred and Sixty Million to just above Eighty Million Calls. In relation to St. Vincent and the Grenadines, the International traffic record decrease was gradual compared to Grenada and St. Lucia. This is due to persons using VOIP such as Skype and Magic Jack.

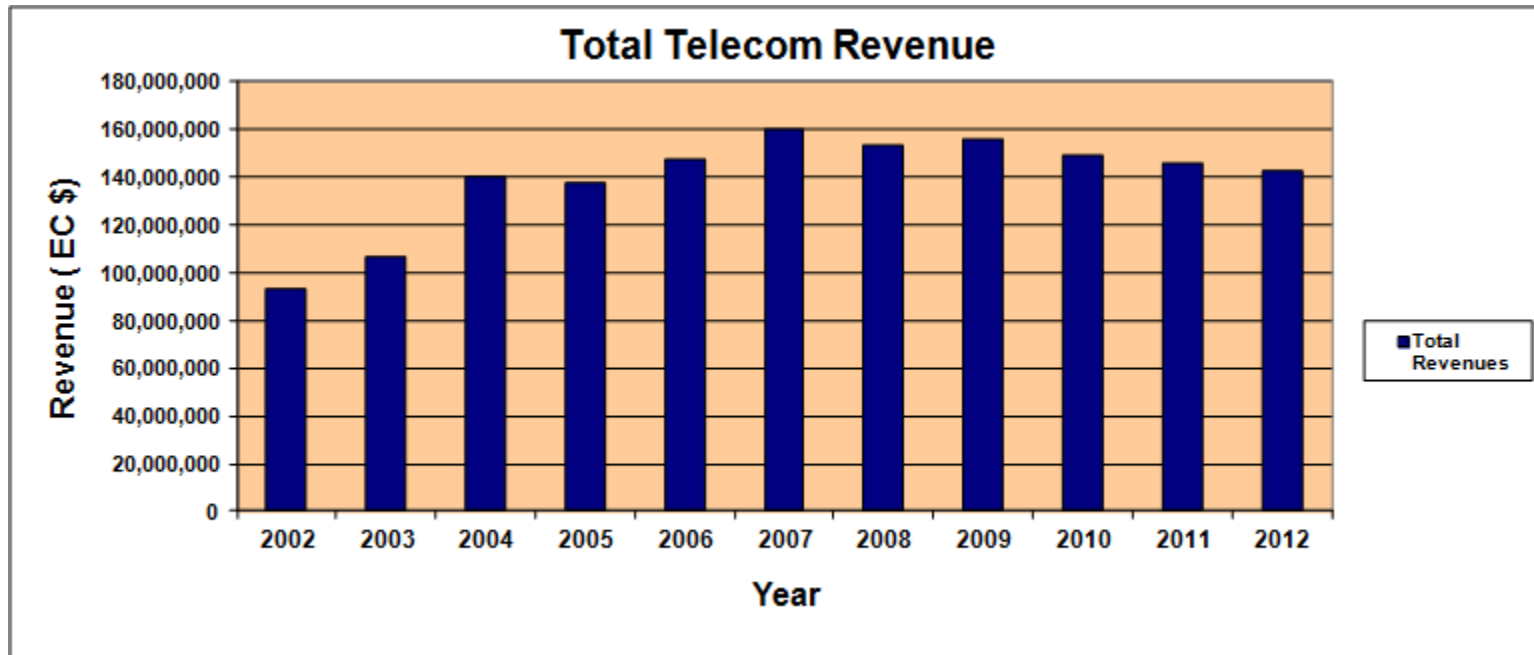


Figure 7

The revenue generated by the telecom operators in 2012 decreased by a small margin of 2%. This was due to a decrease in Cable and Wireless' International and Domestic revenue. However, there was a slight increase in their mobile revenue. There was also a 2% decrease in Digicel's revenue but the revenue for Karib Cable increased marginally.

8.1.3 Revenue of the NTRC and ECTEL for the period 2002 to 2012

Frequency fees are shared between the National Telecommunications Regulatory Commission (NTRC) and the Eastern Caribbean Telecommunication Authority (ECTEL).

In 2012, there was a 2% increase in the application fees. The reason for this is due to a slight increase in the amount of approval applications for type approvals 2012 compared to 2011.

There was a 19 % increase in 2012 for frequency fees which was as a result of the issuing of new frequencies for 3G and 4G networks to telecommunication providers.

Revenue of NTRC and ECTEL 2002 to 2012				
	NTRC Application fees	Percent increase	NTRC & ECTEL Frequency Fees	Percent increase
'02	\$107,036		\$607,600	
'03	\$5,100	-95%	\$1,366,604	125%
'04	\$8,800	73%	\$1,577,400	15%
'05	\$10,300	17%	\$1,539,669	-2%
'06	\$11,275	9%	\$1,681,560	9%
'07	\$22,725	101%	\$1,245,183	-25%
'08	\$13,325	-42%	\$1,906,089	53%
'09	\$13,225	-7%	1,487,390	-21%
'10	\$23,846	80%	1,392,962	-7%
'11	\$16,109	-48%	1,723,158	24%
'12	\$16,390	2%	2,055,433	19%
	248,131		14,859,890	

Table #2

8.1.4 Licence fees received by the Government for the period 1998 to 2012

The market has seen a slight drop in revenue for license fees collected by the NTRC on behalf of the Government in 2012 compared to 2011. This is as a result of fall in revenue for the two main Telecom Providers; Digicel and Cable & Wireless since the licence fees for these providers are 3% of their revenue.

Before the enactment of the Telecom Act 2001, fees paid by Cable & Wireless to the Government were called Royalties. After that date, the companies are required to pay an annual licence fee that is 3% of gross annual revenue.

Government of St. Vincent and the Grenadines				
	Royalties	License Fees	Total	Percent Increase
'98	1,303,189	15,001	1,318,190	
'99	1,286,342	31,119	1,317,461	0%
'00	1,450,800	43,529	1,449,329	13%
'01	639,000	61,143	700,143	-53%
'02	0	3,365,391	3,365,391	381%
'03	0	2,803,927	2,803,927	-17%
'04	0	3,329,145	3,329,145	19%
'05	0	3,421,159	3,421,159	3%
'06	0	3,850,955	3,850,955	5%
'07	0	4,301,521	4,301,521	11%
'08	0	4,081,151	4,081,151	-6%
'09	0	4,065,706	4,065,706	-4%
'10	0	4,034,096	4,034,096	-1%
'11	0	3,886,912	3,886,912	-4%
'12	0	3,756,898	3,756,898	-3%
		37,160,741	41,795,072	

Table #3

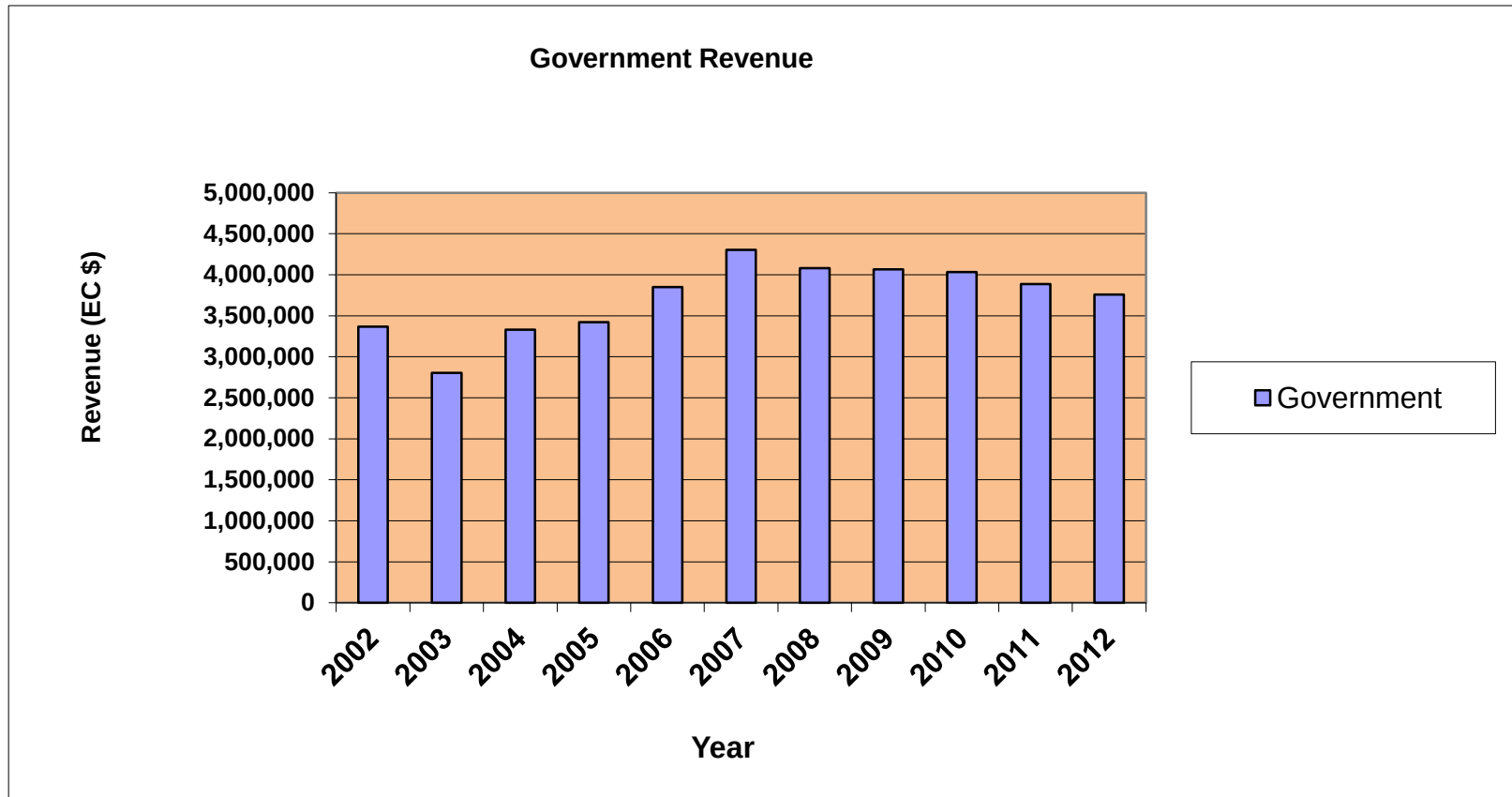


Figure 8

The Government revenue generated from telecom operators in 2012 decreased by a small margin. This was due to a decrease in Cable and Wireless' International and Domestic revenue and a slight increase in their mobile revenue. There was also small decrease in Digicel revenue but the revenue for Karib Cable increased marginally.

8.1.5 Financial Performance of the NTRC

Revenue

The NTRC budgeted to receive \$1,006,766.89 for the year ending December 31, 2012; however, \$1,091,175.93 was actually received giving a difference of \$84,409.04, more than the budgeted amount. The main reasons for the difference have to do with the following items:

- Interest Revenue- The amount of \$5,500 had been budgeted; however, the NTRC received \$23,164.28 on its savings accounts.
- Application Fee- The amount for Application fees exceeded its budgeted amount by \$6,390.70. The amount Budgeted was \$10,000.00 and the amount of \$16,390.70 was collected.
- Photocopy & Printing – The Commission provides this cost base service to students as part of its free internet access program to students at its office. The amount budgeted to be collected for 2012 was \$5,000.00 and the actual amount received was \$3,630.91 which created a deficit of \$1,369.09.
- Numbering Fees- The amount of \$55,880.00 was budgeted to be collected during the year. However, \$97,855.00 was received for annual fees from Central Office and Short Codes issued during the period. This is a surplus of \$41,975.00. This increase is due to additional short codes that were issued in 2012 and the renewal of codes that were

issued in 2011 where the renewal amount is \$1,060.00 compared to the initial amount of \$575.00 when the code was first issued.

- Other Income – The amount budgeted for Other Income was \$63,247.12 and the actual amount was \$82,954.15 thus creating a surplus of \$19,707.03. This surplus is due to additional amounts that were received; \$13,201.75 was reserved in 2012 for expenses, \$2,000.00 for the Rental of the Conference Room, \$2,846.61 for Training reimbursements and \$1,658.67 for insurance reimbursement, sickness benefit and the disposal of Fixed Assets.

Expenditure

Recurrent

For the year ending December 31, 2012, the NTRC budgeted to spend \$962,826.87 on recurrent expenditure; however, \$1,015,726.50 was actually spent. The main reasons are that additional amounts were spent on Training for Staff members and NTRC embarked on an Advertisement and Public Relation Campaign to sensitise the public about the NTRC, the dispute regulations and the quarterly mobile rates.

Capital

The amount of \$43,131.02 had been budgeted for capital expenditure for the financial year 2012. However, \$9,071.79 was spent. This difference of \$34,059.23 was due to the Commission having budgeted to replace all of its computers for staff in the fourth quarter of 2012. However, this was not realised. After the necessary quotations were received and the supplier was selected, it was decided that the computers would

be purchased in the first quarter of 2013 since the year was almost to an end.

Conclusion

The NTRC's financial performance over the 2012 financial year was satisfactory. Although, we exceeded our budgeted expenditure for the year, this was compensated for by the surplus revenue that was collected. At the end of the 2012 financial year, the Commission recorded a net surplus of \$19,557.87.

8.2 Projected Revenue for 2013:

For the fiscal year 2013, the NTRC had projected to collect \$1,820,075.00 in revenue for frequency fees. This is an increase of 3% or \$61,750.00 compared to the 2012 amount of \$1,758,325.00. This increase is due to new frequencies that were issued.

8.3 Human Resource Development for 2012

The NTRC continued to expose its staff and Commissioners to relevant courses and seminars that would benefit the organization both in the short and long term taking into account the limited resources available. However, a number of these training programmes were sponsored by international agencies.

The particular areas covered during 2012 were as follows:

- Associate Degree in Business Management undertaken at the SVGCC.
- ACCA professional certification via Association of Chartered Certified Accountants (ACCA).
- Interference Analysis Training Workshop in Dominica
- Media Statistics Workshop in Paris
- ITU Country Readiness Assessment and Capacity Building Workshop on National CIRT Establishment in Grenada
- Mini MBA in Telecommunications in Canada
- Administrative Consultative Workshop
- In-house training on updating NTRC's website
- ECTEL/NTRC Administrative Professional Workshop
- BIMAP Event Planning Seminar
- In-house training on using Microsoft Excel

8.4 Regulations

No new Telecommunications regulations were gazetted during 2012.

8.5 Staff

The ICT Officer's position became vacant during 2012. The position is expected to be filled in early 2013. This year saw the NTRC recognizing Ms. Mishka L. Quashie, Office Assistant I, for five years of service to the organization.

8.6 Policy Development

ECTEL conducted a public consultation on the assignment of 700 MHz spectrum during 2012 where the NTRC participated.

A regional stakeholders' forum was held in St. Lucia in April 2012 to discuss the final draft of the new communications bill which is intended to replace the current Telecommunications Acts across the ECTEL member states.

An ECTEL and NTRCs forum was held in St. Lucia in August 2012. Its main objective was to review the draft report of the consultants hired to conduct a strategic review of the NTRCs and ECTEL. This strategic review will have implications on the organisational structure of ECTEL and the NTRCs as well as the regulatory framework and will feed into the final draft of the new communications bill.

8.7 Numbering

The issue still exist in relation to the use of short codes. There are a number of regulatory issues surrounding the use of short codes that need to be addressed, as the demand for these codes have increased within recent years. The matter is especially important as it relates to usage of these codes by the business community.

8.8 Spectrum Management

The software and equipment in the NTRC's monitoring vehicle remains not functional. The decision has been taken that it would be easier to replace the equipment than to have it repaired. However, the vehicle is still being used in conjunction with the handheld mobile analyzer to conduct weekly spectrum monitoring. The mobile analyzer was purchased in 2010 as a temporary solution and has proven satisfactory in resolving our main spectrum issues.

During 2012, the monitoring vehicle was retrofitted such that the Anritsu Omni-directional antenna (also purchased in 2010) could be mounted on the vehicle. This addition has made the task of monitoring much less cumbersome since there is no need to physically hold the antenna outside the windows of the vehicle. Also monitoring would be more effective with regards to receiving radio waves, since the antenna is mounted high on the vehicle ensuring unobstructed access to the radio waves being monitored.

8.9 Internet Access

As of December 2012, the total number of internet subscribers in St Vincent and the Grenadines was thirteen thousand, eight hundred and forty (13,840). This figure is a 41.93% penetration for internet access throughout the country. Cable and Wireless during the year 2012 when compared to 2011's figures had a decrease in the number of subscriptions while Karib Cable had a slight increase. The reason for the drop of just over 500 subscribers from Cable and Wireless' network was due to the

fact they had included suspended accounts in their figures of broadband subscribers over the past few years.

For 2012 however, these suspended accounts were taken out of the broadband subscribers total to give a more accurate number of the active subscribers in the country. This subsequently led to the drop in broadband subscribers for Cable and Wireless in 2012. Karib Cable subscribers moved from 4200 to 4298 representing a 2.3% increase.

In 2012, NTRC continued with its mandate under the Universal Service Fund of providing access when the Schools Project was commissioned. Under this project, all 107 Educational Institutions has been outfitted with interior and exterior high-speed wireless Internet connections with speeds up to 20Mbps and with redundant connections to each location. Such speeds will allow for the easy integration of ICTs within the educational curriculum, especially where video streaming would be utilized. Such speeds and availability will also assist in online/distance learning programmes not just from international sources but also within our state via digital classrooms, etc. This internet access is available to students and teachers 24 hours a day seven days a week.

The Schools Project will revolutionize our educational system by working in tandem with the One Net Book Per child project currently being undertaken by the Government of St Vincent and the Grenadines and other ICT projects of the Ministry of Education such as the digital classroom project that will aim to integrate ICTs into the learning experience of all of our students. Students will be able to access class material including videos of their teacher's lectures from their homes and collaborate with

their classmates on home work assignments all from the comfort of their homes.

8.10 Public Consultation

The NTRC worked closely with ECTEL in the development of a draft policy and technical document for the Proposal for Assignment of Spectrum in the 700 MHz Band. This consultation was carried out in various formats.

8.11 Telephone Rates

Since the final reduction of rates in October 2011 based on the Price Cap Plan that was implemented in 2010, we have not seen any other change to rates in 2012. The existing PCP that expires on March 31, 2013 is expected to be extended for one year. As such, it is expected that rates will remain constant in 2013.

8.12 Public Awareness

The NTRC held three community discussions in Biabou, Bequia and Union Island and five open days in the following areas in 2012:

1. Golden Years Activity Centre at Cane Grove
2. Redemption Sharpes Community Centre
3. Salvation Army Head Quarters
4. Union Island LRC
5. Community Resource Internet Centre Coull's Hill

In addition, a public drive was held at Heritage Square in December 2012 where information about the USF and the

NTRC were given through pamphlets; all being done with the objective of informing consumers of the role of the NTRC, as well as to seek feedback on the issues that are of concern to residents across our nation. These events coincided with television and radio advertisements. This initiative will continue in 2013.

8.13 Universal Service Fund

Following the tendering of four initial projects under the Universal Service Fund (USF), the NTRC was able to successfully enter into two contracts with LIME and two with Karib Cable for the provision of the projects. A summary of the projects are as follows:

8.13.1 Project #1

The SMART Project

The contract for this project was signed in November of 2012 with LIME for a total of One Million, Six Hundred and Ninety Eight Thousand, Nine Hundred and Ninety Four Dollars (\$1,698,994.00) and is for a period of five years. This project will among other things facilitate the necessary infrastructure and platforms at the St. Vincent and the Grenadines Community College to enable it to offer its existing and new courses and programmes online and in real time. Components of the project include:

- Procure 51 computers including 24 Macintosh desktop computers will be purchased and installed at a specially configured lab at the St Vincent and the Grenadines Community College. The college will be the first public institution with Macintosh lab. A critical component in developing content for Apple products.
- Procurement of specific audiovisual equipment that will assist in the delivery of courses/programmes that will help develop more and higher quality local content; a much needed area in our national ICT development agenda.
- Facilitate the development and offering of two new tertiary level programmes online at the college which are a Certificate program in Mobile Application development and an Associate Degree program in Cyber Security.
- A dedicated lease circuit to link the two main campuses of the college.
- Procurement of a number of educational software tools needed by the college to deliver better courses to its students.
- Procurement of the relevant hardware and learning platform to allow the college to offer its services and courses online and in real time. Thereby increasing the potential reach of its programmes to all categories of students. This is especially important noting the geographical limitation to our multi island state.

To complement the above components, the NTRC believes it is of great importance that households in the very low income bracket should not be left out of the opportunities that will become available through the work in this project and other initiatives being done at the national and regional levels. As such, this project will also provide subsidized Internet access to 340 needy households for a two year period at a speed of 1 Mbps. These Three Hundred and Forty (340) homes will pay a fee of \$10EC per month and meet specific criteria for selection. This project is of significant importance to the educational sector and our country on a whole.

8.13.2 Project #2

The Police and Health Center Project

After reaching an agreement with Karib Cable, the contract for this project was signed on November 1st 2012 at a ceremony which was held at the N.I.S conference room. The contract was signed for a total of Seven Hundred and Eleven Thousand and Fifteen Dollars (\$711,015.00). This project will provide wireless Internet access at all 29 Police stations and 42 Health Centers throughout St. Vincent and the Grenadines at a minimum speed of 8 Mbps. Thirty one computers will also be installed at various Clinics and fourteen computers will be installed at the Outpatient Department at the Milton Cato Memorial Hospital. This initiative will assist in the further roll out of the National Health Information System (HIS). The HIS was implemented to integrate information gathering and sharing amongst all clinics and hospitals in the country. To facilitate this web based system, all of the locations had to be outfitted with Internet access.

This project will also see the Police Training School outfitted with a lab of 10 computers to assist the recruits and other officers in their research work. The police stations will also benefit as electronic information can now be transmitted immediately between police stations.

8.13.3 Project #3

The Community Centre Project

The contract for this project was signed between the Commission and Karib Cable on November 1st, 2012 for a total cost of One Hundred and Nineteen Thousand, Five Hundred and Three Dollars and Twenty Seven Cents (\$119,503.27) and will be for a period of two years. This project will provide free wireless Internet access at 14 Community Centers in various communities throughout St. Vincent and the Grenadines at a minimum speed of 8 Mbps. Under this project, the newly established Salvation Army Children's Home will also be outfitted with six computers and Internet access to assist in the development of ICT skills of the children who will be at the home. All residents from the various communities where these project sites are located have access to the wireless Internet 24/7. This project was a follow up project to our first project.

8.13.4 Project #4

Maritime Project

This project is being done jointly with the NTRC and ECTEL. The Commission via ECTEL was able to secure part funding for the project via a Grant made available by the World Bank in the amount of Two Hundred Thousand United States of American Dollars (USD \$200,000.00). The contract for this project, as it relates to the capital cost, was signed on December 20th 2011, after an agreement was arrived at with LIME being the only entity to submit a bid. This contract was signed for a total of One Million, One Hundred and Twenty Five Thousand, Seven Hundred and Eighty One Dollars (\$1,125,781.00). The Funds from the World Bank was used to purchase the equipment under this project.

Additionally, a separate contract for the maintenance of the equipment for this project, for a period of five years, was signed with LIME. This contract for the second phase of the project, which involves the provision of maintenance of the system for a period of 5 years, was entered into between the NTRC and Cable & Wireless on November 20, 2012 during the contract signing ceremony held at the NIS Conference Room for a total of Forty Four Thousand Nine Hundred and Thirty Two Dollars (\$44,932.00). This project will allow use of VHF channel 16 and DSC channel 70, new standard channels for maritime emergency communications.

8.14 Digital Cable TV

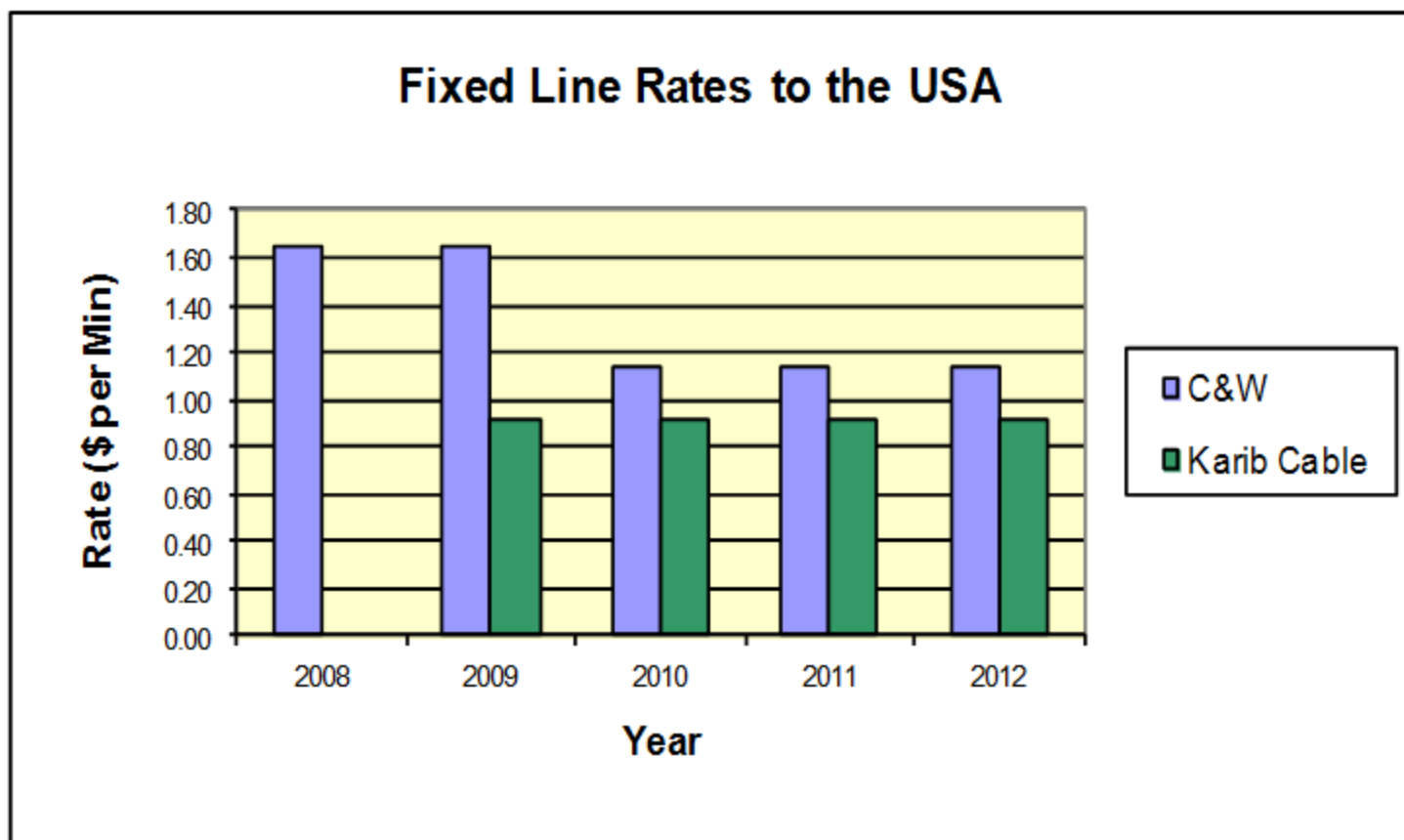
The NTRC continues to have limited oversight on the regulation of the operations of Karib Cable/Kelcom International. The

license required to be issued under the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines of 2009 to the company is still pending.

8.15 Statistics

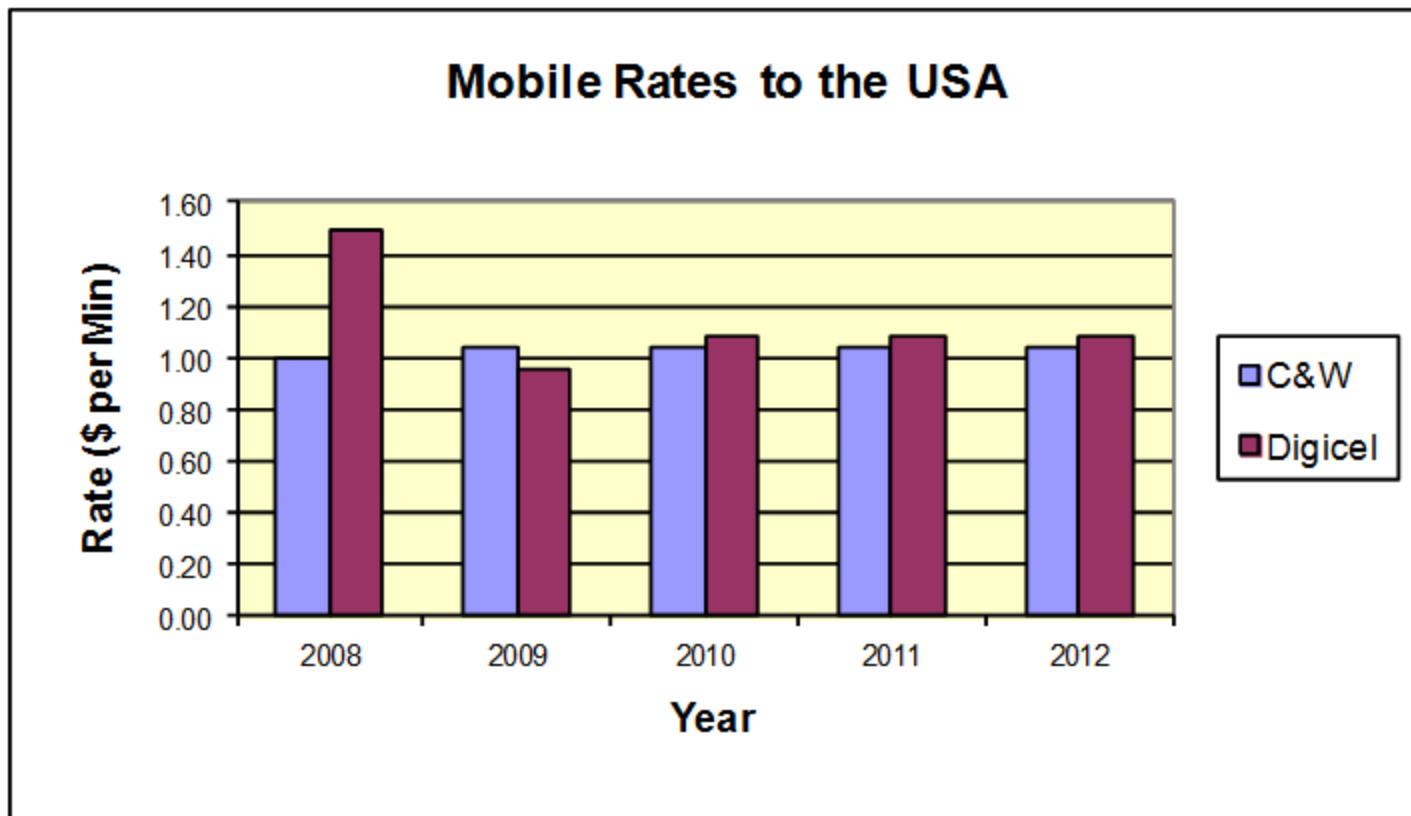
The NTRC continued in 2012 with the provisioning of statistical data from the Telecommunications sector to a number of local, regional and international entities. The following graphs depict some of the more relevant information on the sector while Table #4 gives a detailed overview of customer data supplied by the telecommunications providers.





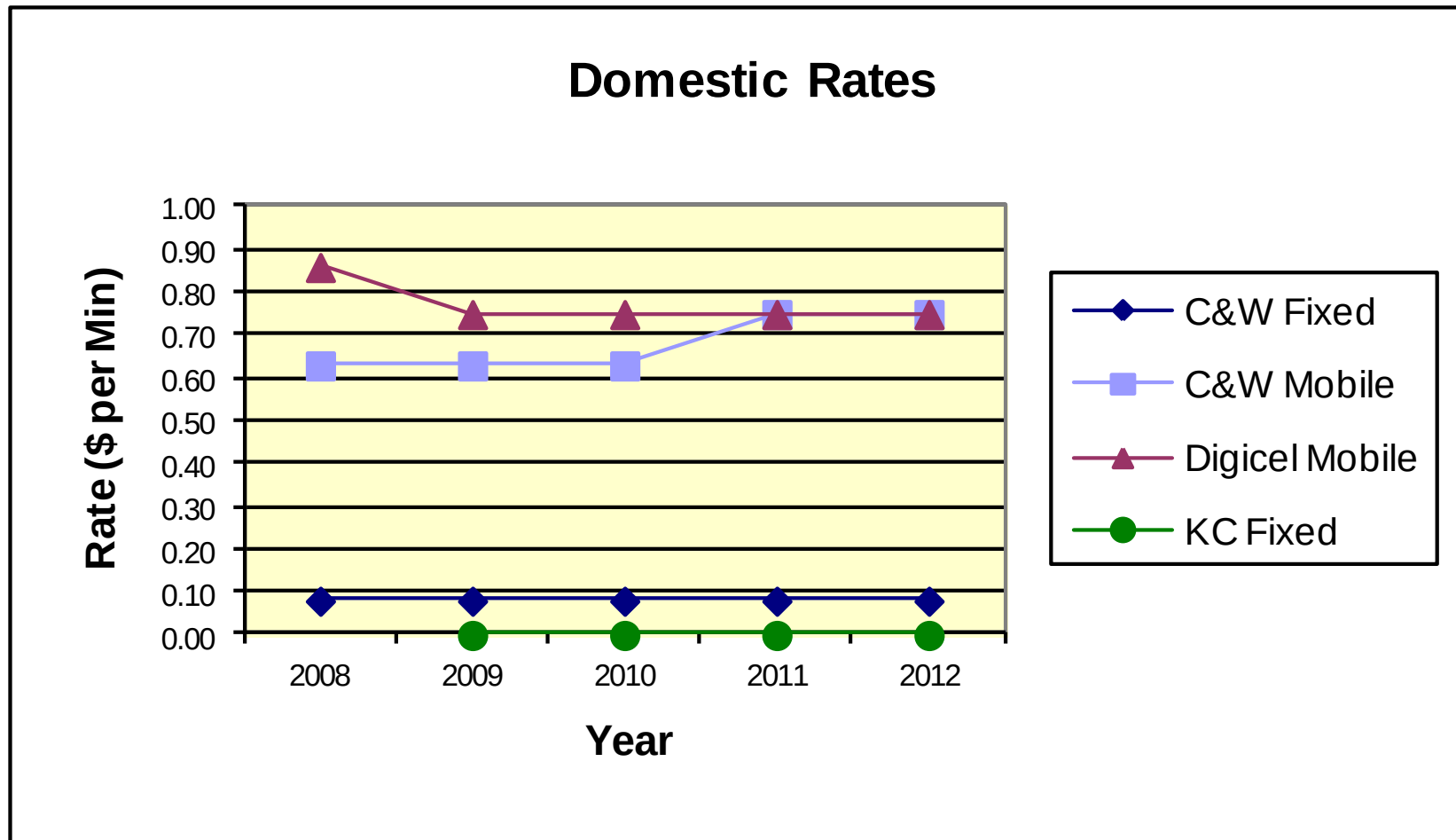
Graph #1

The rates depicted in Graph #1 are not regulated. There was no competition in the fixed line market until Karib Cable entered the market in 2009. It is noted that these rates remained unchanged from 2010 to 2012.



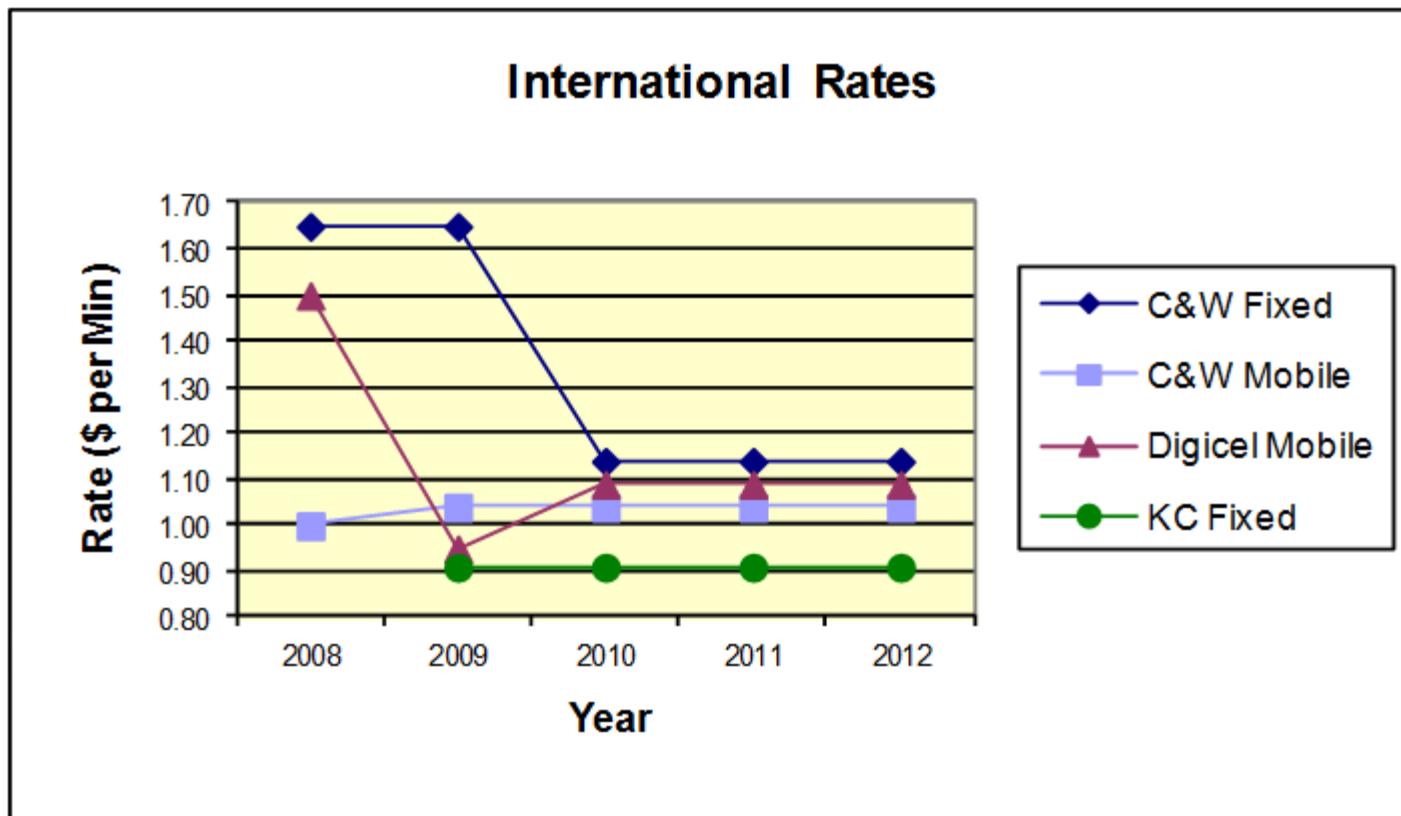
Graph #2

The rates depicted in Graph #2 are also not regulated. In 2009 the rates reached the lowest ever recorded to under \$1.00 EC per minute during peak time. We have seen that these rates remained unchanged from 2001 to 2012.



Graph #3

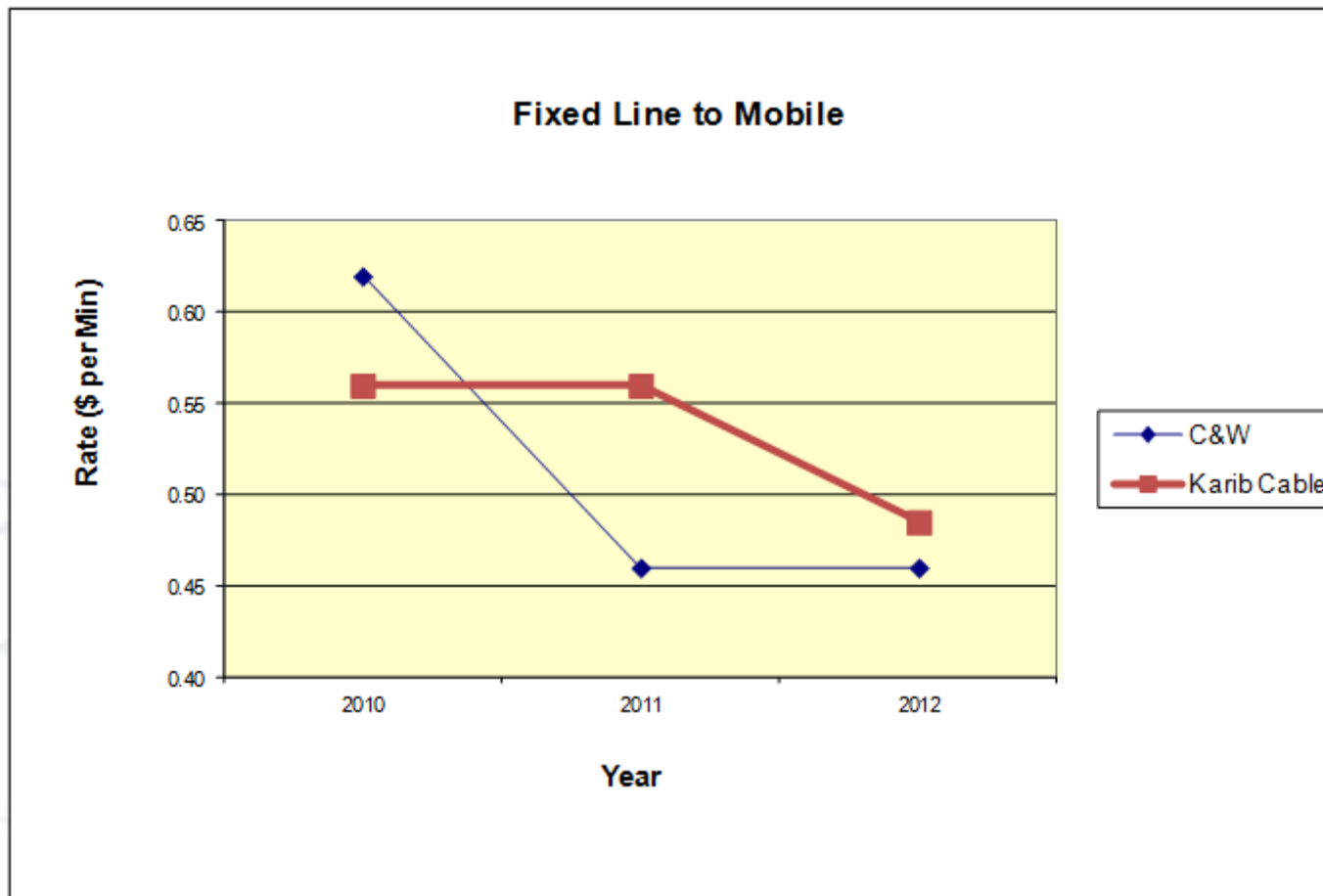
The domestic rates in Graph #3 are the daytime rates for calls made to customers on the same network.



Graph #4

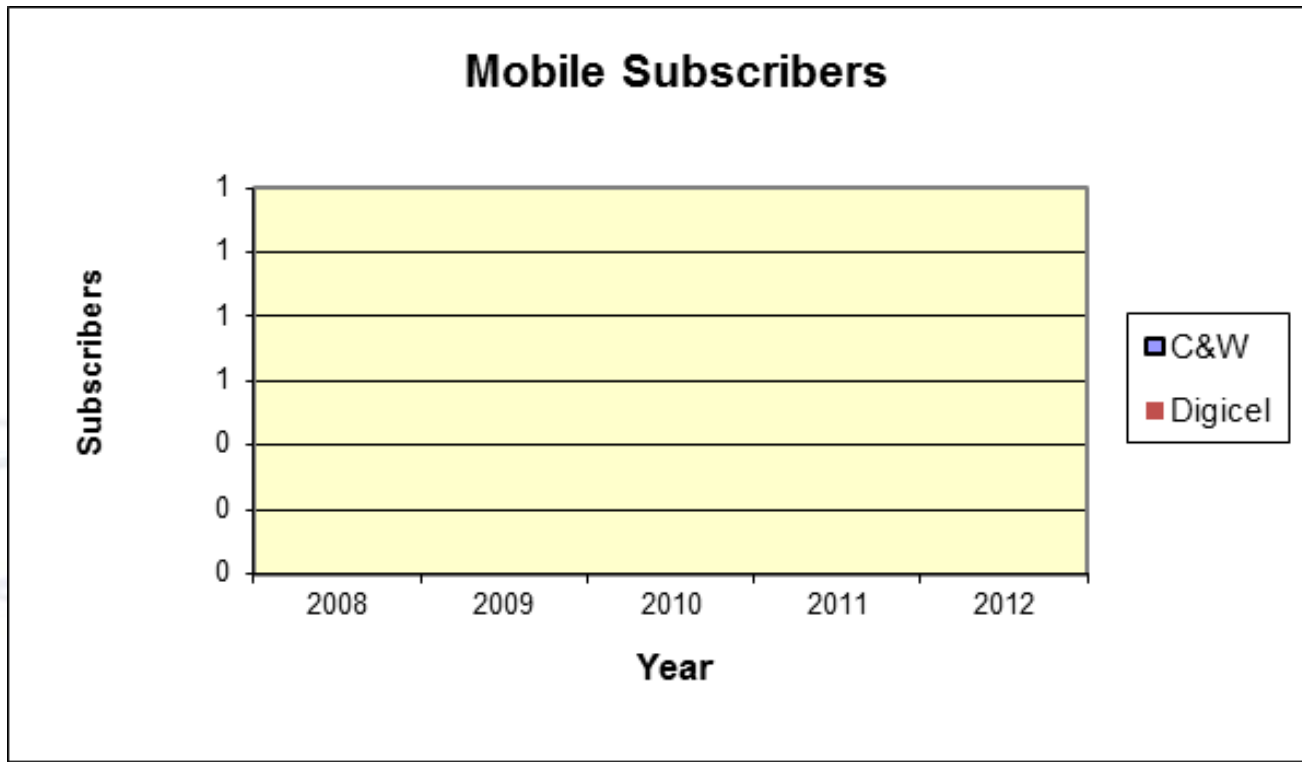
The international rates in Graph #4 are the daytime rates for calls to the USA for all providers.

Graphs #3 & #4 show that while fixed line and mobile rates are basically on par for international calls, there is a large discrepancy between fixed line and mobile rates for domestic calls.



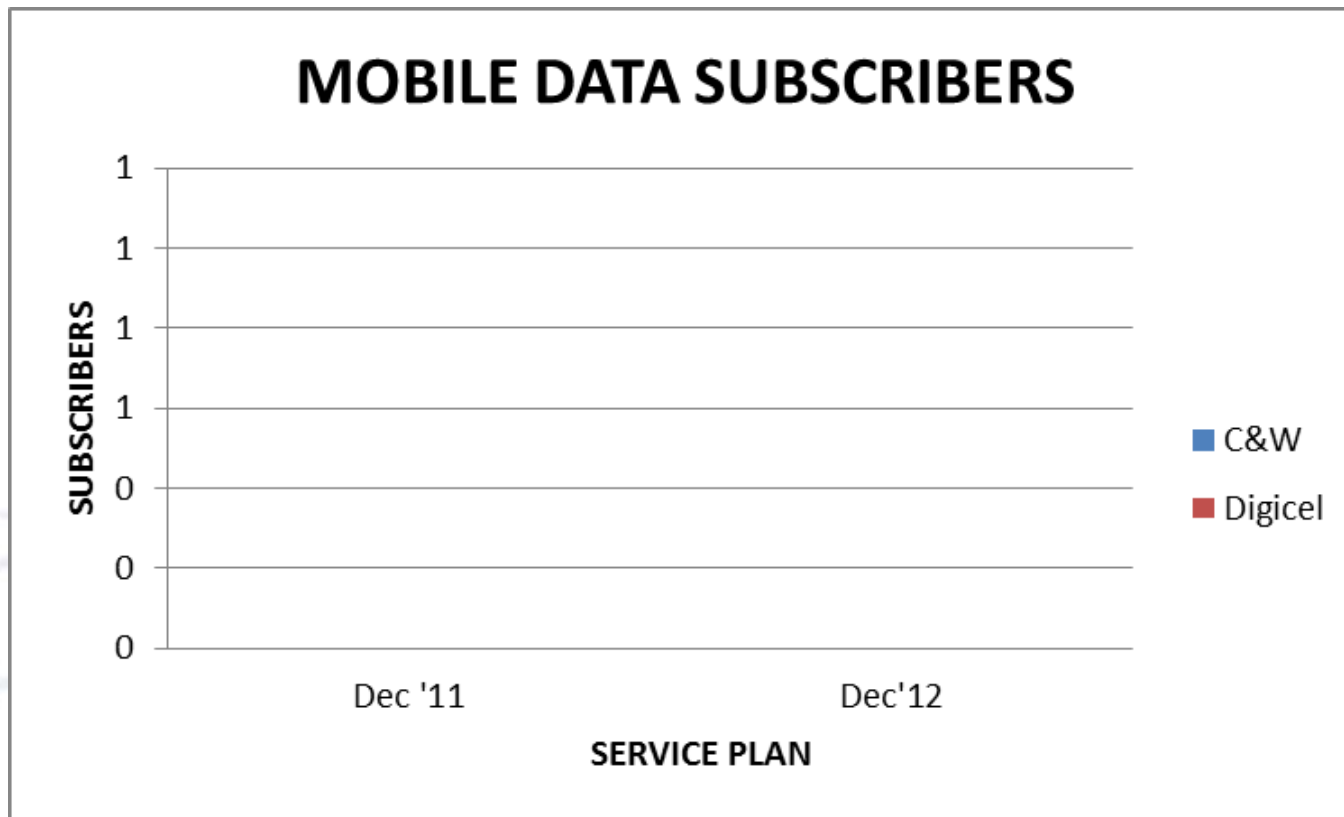
Graph #5

Graph #5 shows Cable & Wireless' and Karib Cable's fixed line to mobile rates for 2010 to 2012. We see a reduction to Cable & Wireless' rate from 2010 to 2011. However, this rate has not changed over 2012. Karib Cable's rate remained constant over 2010 to 2011; but a reduction took place in 2012.



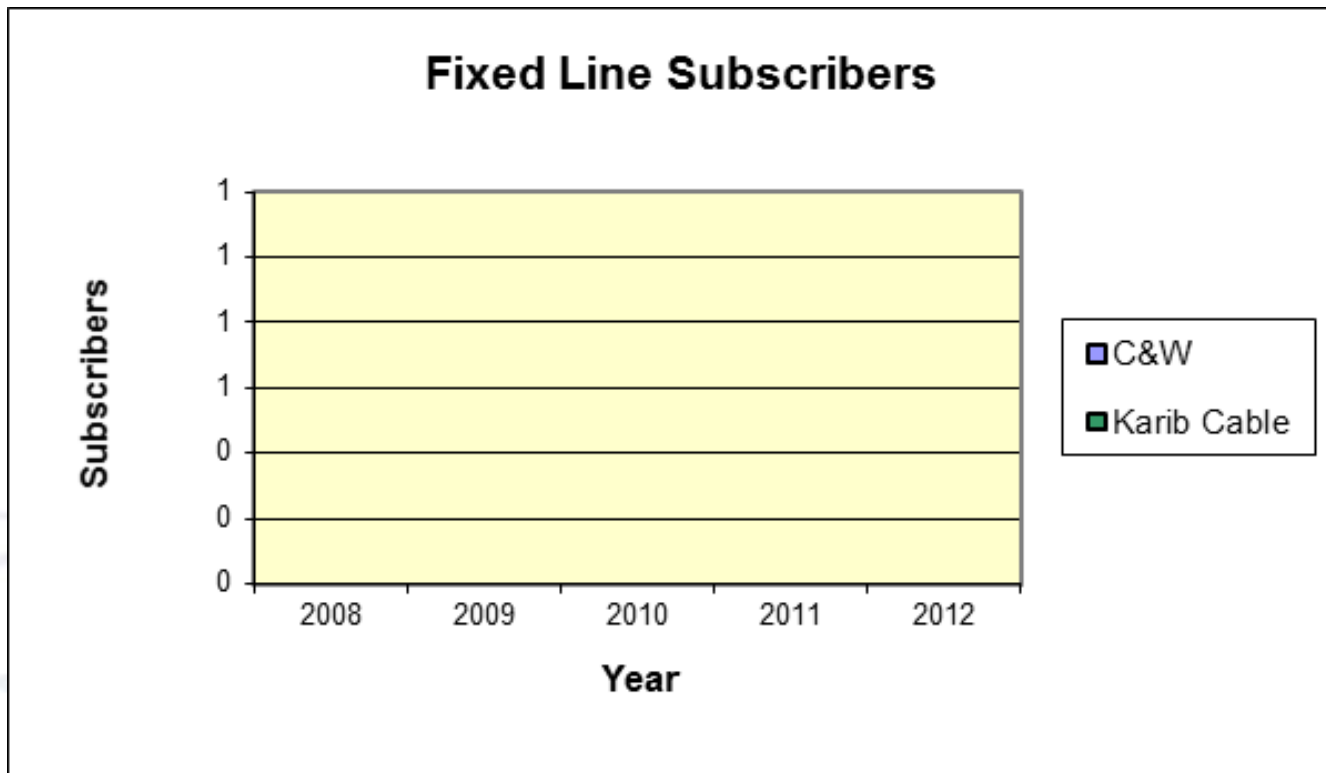
Graph #6

It is noted that Cable & Wireless' mobile subscribers have slightly decreased from 2012 while Digicel's customers increased. Digicel's percentage in market share continues to grow over Cable & Wireless'.



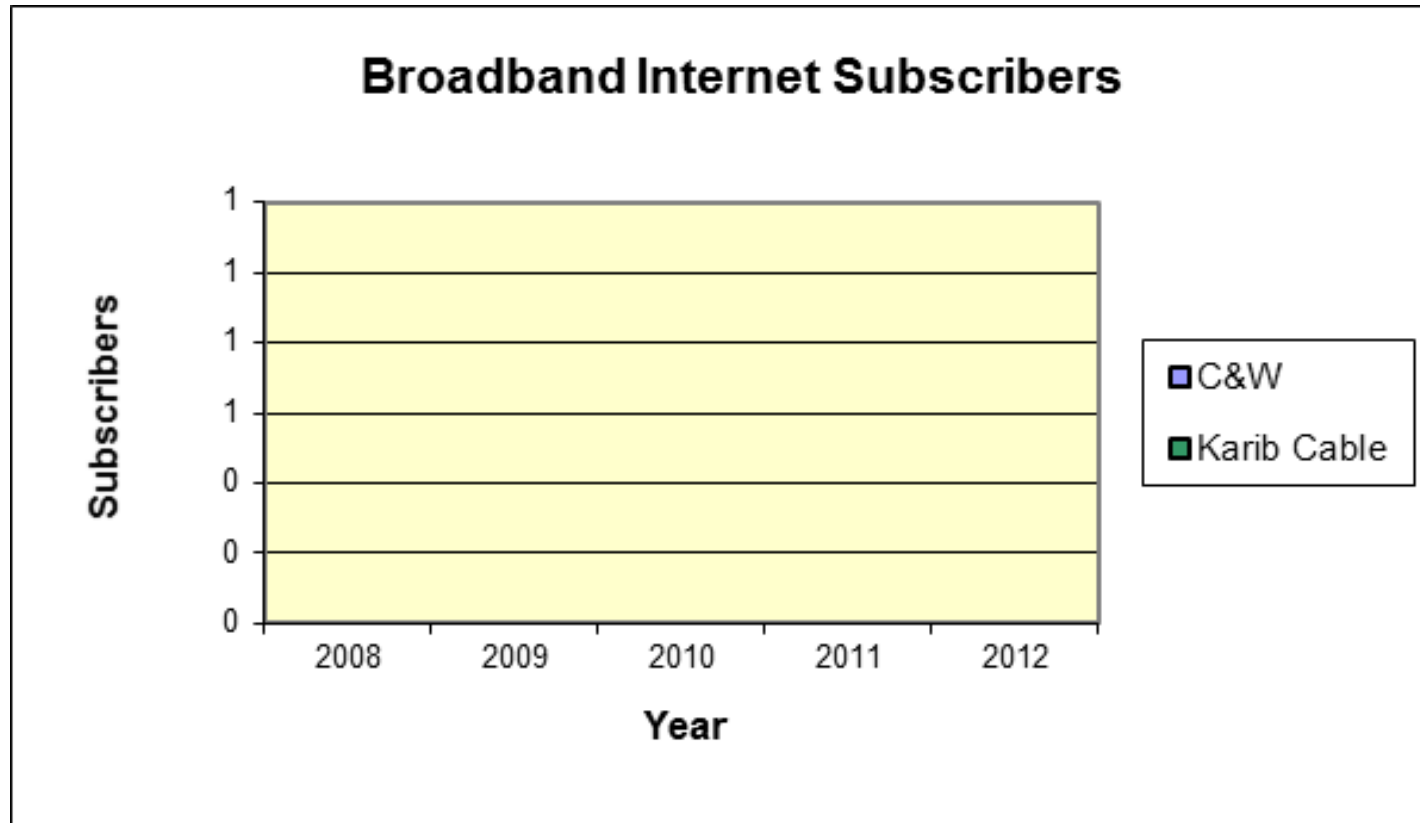
Graph #7

The above graph shows a comparison of the total mobile data subscribers for Cable & Wireless' and Digicel for 2011 and 2012.



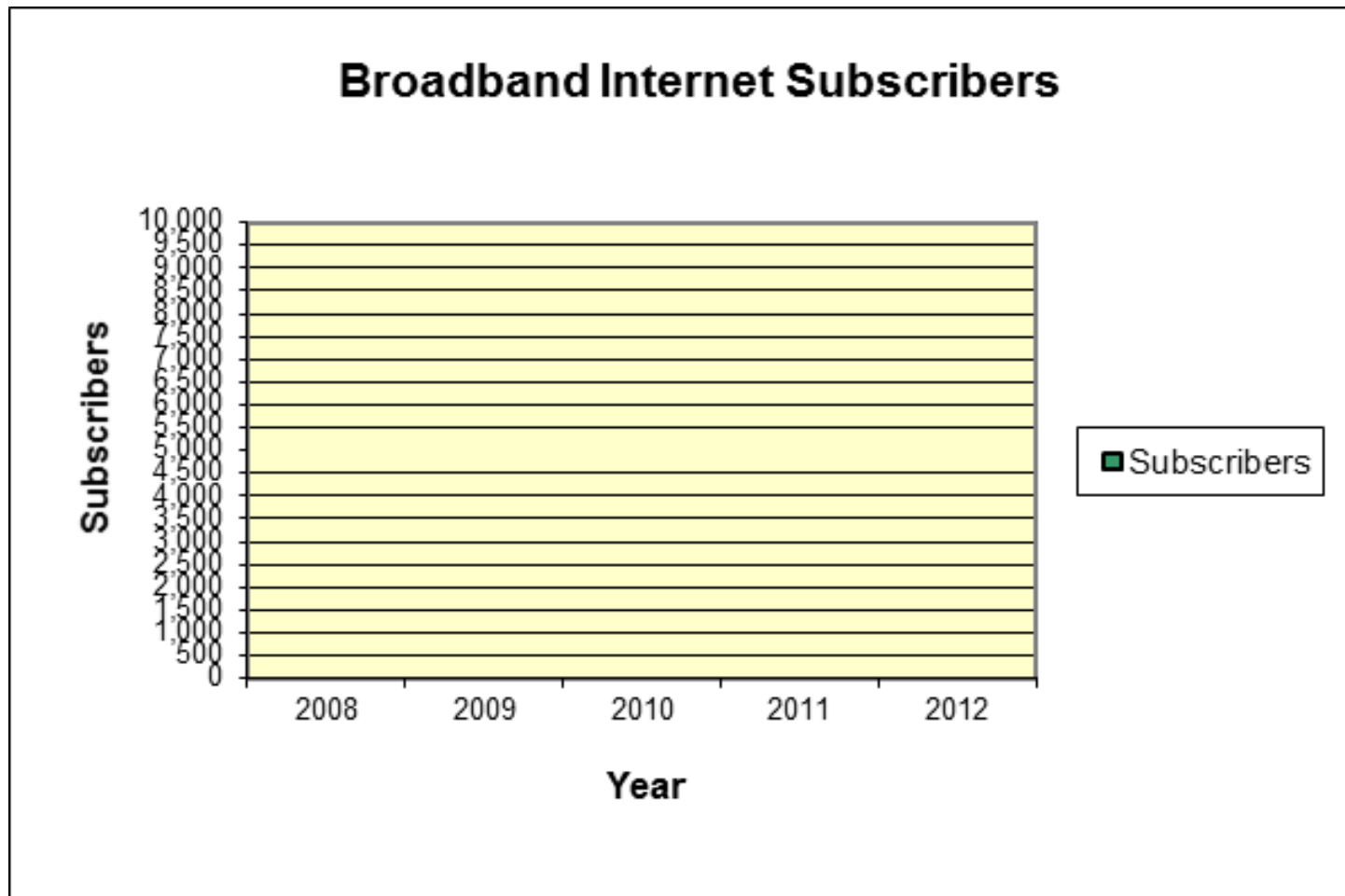
Graph #8

Graph #7 shows a decrease in fixed line subscribers in 2012 for both Cable & Wireless and Karib Cable. The decrease has to do with the fact that some persons have terminated their fixed line accounts.



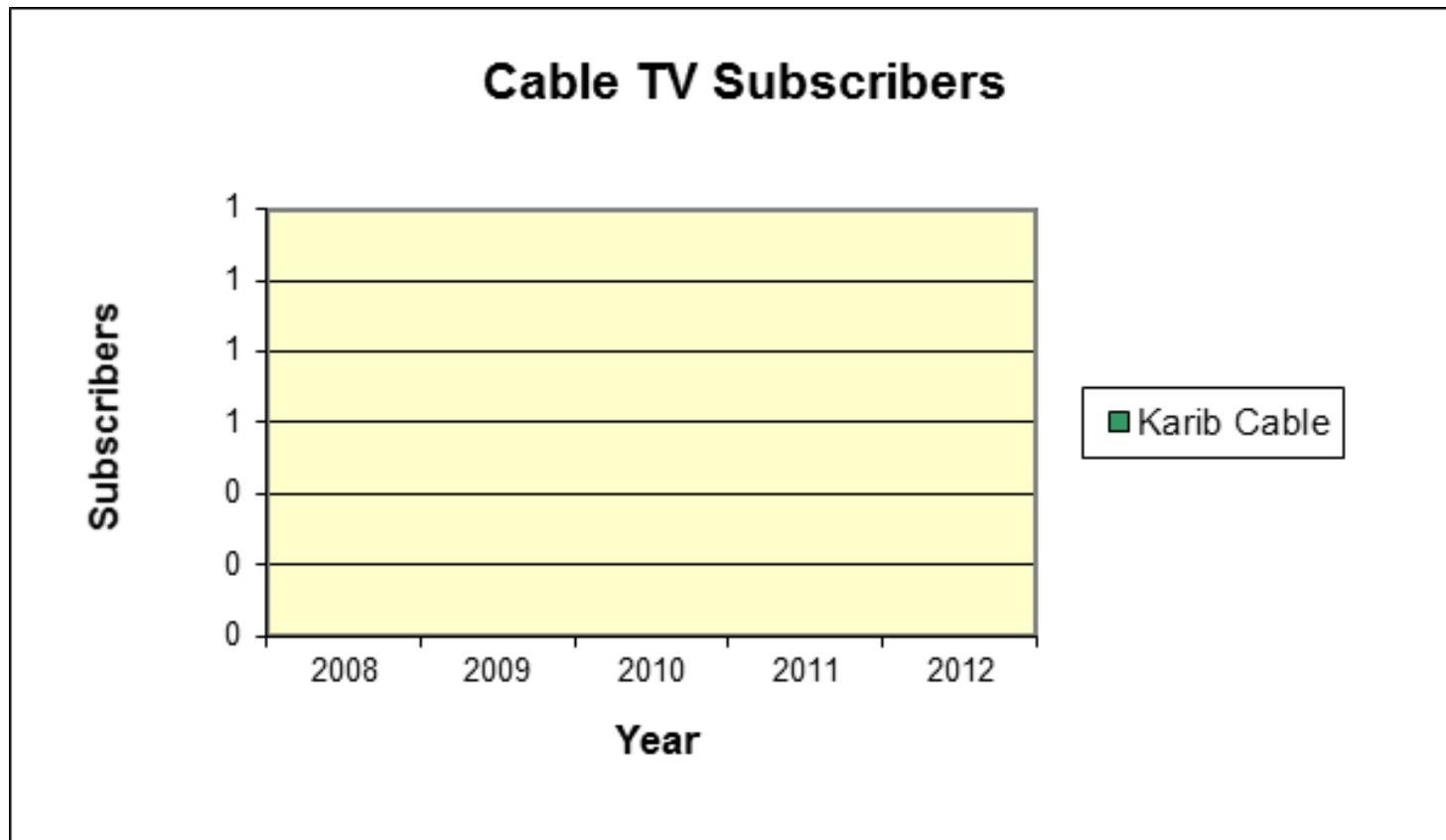
Graph #9

Graph #9 shows the number of broadband internet customers by provider. Cable and Wireless has experienced a decline in Broadband subscribers in 2012. This is because over the years customers who have suspended their accounts, some of whom are living overseas, were included in the number of broadband customers over the years. In 2012, they decided to remove these subscribers so that a more accurate number of the active subscribers are provided. Karib Cable, on the other hand, has maintained its number of subscribers.



Graph #10

Graph #10 shows the number of broadband internet subscribers in 2008-2012. There has been a slight decline in 2012.



Graph #11

Graph #11 shows that Karib Cable experienced a further decrease in Cable TV subscribers during 2012.

		2007	2008	2009	2010	2011	2012
Cable & Wireless (WI) Ltd							
Fixed Line Subscribers							
	Residential	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
	Business	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
	Total	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Internet Subscribers							
	Dialup	xxx	xxx	xxx	xxx	xxx	xxx
	ISDN	x	x	x	x	x	x
	ADSL (Residential)	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
	ADSL (Business)					xxxxx	xxxxx
	Total	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
Mobile Subscribers							
	Post paid	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
	Prepaid	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
	Total	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Digicel							
Mobile Subscribers							
	Post paid	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
	Prepaid	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
	Total	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Karib Cable							
Cable TV Subscribers:							
	Residential						xxxxx
	Business						xxxx
	Free Service						
	Total	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
Internet Subscribers (Residential)		xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Internet Subscribers (Business)						xx	xx
Internet Subscribers (Free Service)							xx
	Total	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Fixed Line Subscribers (Residential)					xxx	xxx	xxx
Fixed Line Subscribers (Business)					x	x	x
Fixed Line Subscribers (Free Service)							xx
	Total			xxx	xxx	xxx	xxx

TABLE #4

Table #4 contains the Customer data submitted from the three main Telecom Providers. The ISDN Internet service for Cable & Wireless (SVG) Ltd is no longer in use. For Karib Cable's data for 2012, the three services have been broken down into residential, business and free service.

	09		10		11		12	
Fixed Public	0	N/A	1	N/A	1	N/A	0	N/A
Internet Networks	0	N/A	0	N/A	0	N/A	0	N/A
Subscriber Television	0	N/A	2	N/A	1	N/A	0	N/A
Int'l Simple Voice Resale	0	N/A	1	N/A	0	N/A	0	N/A
Mobile Cellular	0	N/A	0	N/A	0	N/A	0	N/A
Public Radio paging	0	N/A	0	N/A	0	N/A	0	N/A
Submarine cable	0	N/A	0	N/A	0	N/A	0	N/A
Class type licenses								
Private network/services	0	N/A	1	N/A	1	N/A	1	N/A
Internet services	0	N/A	0	N/A	0	N/A	0	N/A
Radio Broadcast	0	N/A	8	N/A	1	N/A	0	N/A
Community radio	1	N/A	0	N/A	0	N/A	0	2
Television Broadcast	0	N/A	0	N/A	0	N/A	1	N/A
Maritime mobile	1	23	0	19	3	42	4	67
Land mobile	1	275	3	212	5	267	3	172
Aeronautical radio	1	0	0	0	0	0	0	0
Aircraft station	3	18	1	16	2	17	2	17
Amateur Radio station	29	23	36	36	38	60	27	80
Citizen Band radio	0	0	0	5	0	1	0	1
Family Radio Band	4	0	2	1	1	0	1	5
Ship Station	61	112	28	131	44	170	27	122
Miscellaneous								
CPE Dealers reg. fee	18	12	18	17	17	44	15	18
Exam Fees for Rad. Oper.	0	N/A	0	N/A	2	N/A	0	N/A
Type Approval fee	0	N/A		N/A	3	N/A	16	N/A
Ship station Operators	24	16	25	32	17	55	25	9
Aircraft Station Operators	0	0	0	0	0	0	0	0

Table #5

8.16 Licensing

The NTRC continued to facilitate the application process for new licenses under the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines of 2009. Individual type applications were forwarded to ECTEL to be evaluated while Class type applications were evaluated by the NTRC. The NTRC also evaluated and made recommendations to the Minister on a number of frequency applications.

Table #5 outlines the number of licences issued from 2009 to 2012. These issued licences are broken down as being new licences, issued in the specific year, and renewals of existing licences, first issued in previous years.



8.17 Policy Recommendations:

1. **Cyber Security/Strategy** - This threat needs a regional approach noting the resources needed and the complexity of the problem. Such an initiative can be facilitated with possible assistance from the USA, noting the potential threat to their country and the role the Caribbean can play in minimizing such a threat if the member states of the region are properly prepared. More details on this very important issue were outlined in our 2009 Annual Report. While our NTRC is doing some work via the Associate Programme in Cyber security at our Community College, more has to be done at the national, regional and Caricom level.

As we develop a broadband plan which will guide the work of the USFs in the sub region, it is imperative that we also develop a cyber strategy both at the regional and domestic levels. We cannot wait until we have a catastrophic event occurring in our business community or Government sector to do this. Banks always create vaults to protect their assets. The bigger the banks, the bigger the vaults! It would be unwise of us to build a large national bank without a vault. In the same way, we cannot build larger and faster networks that connect our people, businesses and critical infrastructure and systems without the relevant structures, systems and regulatory framework to protect these networks and services. The ITU have done some work in this area over the last year in assisting our countries to set up national CIRTs. It is now up to us to move this process forward ASAP. These are areas that can be funded by the USF with an increased mandate and scope.

2. **Regulatory Focus on Convergence**- Our Country has to move from our current approach of just regulating networks and some services offered over these networks. We have to move to regulating what goes on these networks and not just the “content”, etc but more so the applications that are allowed to or not allowed to operate on these networks. More details on this issue are in our 2009 Annual Report.

3. **USF mandate**: We have to ask ourselves, what should we be creating access to? Access to the global internet with the content of developed countries or to the global internet with content also from our region and our nation states. We cannot create access to something that does not exist and which our fund as currently structured can only provide limited funding. We have to expand our USF scope to allow for more and sole funding of content related projects. As an example, our countries are paying foreign exchange for broadcast rights to access football content from the developed countries. Such rights cost allows these clubs to build substantial business entities that employ many and make many millionaires from playing sports. We have a huge problem with unemployment in the region.

We are currently putting most of our attention to academic programs and some service oriented fields such as the hospitality sector to create employment. While such a focus is required, we also need to pay some attention to the sports and cultural aspects as well that can also create employment opportunities. ICT /telecom

can assist in this. Not everyone is academically inclined or wants to work a normal day job. We can create as an example semi professional football leagues that pay a minimum stipend to players/teams via a national fund. Such games can then be broadcast to our homes/mobile devices via IP streaming technology thereby creating content for our citizens while creating jobs. Similar situation can be done with movie making and other local programs.

We can create a new sector of the economy that will compete with the drug trade for our younger generation. Most persons involved in the drug trade make very little money but they see an opportunity to make it big without the need for much education, etc. We can do the same with sports and movies, etc. Have small stipends for most persons with a big pay day for the winners, after a period of time such programmes will be self sustaining. One does not need many O' levels or ICT qualifications to be a great footballer or actor/actress but you need certain talent which many of our youths' posses. The USF can be utilized under a new mandate to facilitate the development and distribution of such content related programmes.

4. **Mobile Broadband:** One should be cautious with the potential of mobile broadband which is being pushed by some as a real solution of bringing broadband to the masses. From what is being seen in a number of developed countries, there are limitations to this technology. If it was different, we would not see a move to limit the quantity of data downloaded to mobile devices by consumers. There is a growing move to do

away with unlimited mobile plans which LIME has already moved to implement. Currently, fixed line internet does not have data caps. If these mobile broadband solutions which purports speeds greater than DSL are so robust, why are we seeing caps on the data? We believe it has to do with capacity. The mobile networks are not designed to back haul such a large amount of data by so many concurrent users. It is also the reason more and more mobile service providers are using Wi-Fi hot spots to offload data from their mobile networks. We believe this is the way we have to go. We can look at installing more Wi-Fi hotspots across our country and use them as a source of revenue for the USFs by handling traffic from the mobile operators. Such a network will also have positive spin offs for fixed broadband into our homes. The mobile devices will automatically switch between the Wi-Fi spots and the mobile networks base on which are in proximity. This is a project that could be done in all five ECTEL states as a regional project with local components.

We also have to look beyond just mobile phones but other devices and services. Such a network can also be used to link devices in police cars, service vehicles, etc. Such a network will require few new towers etc but will use existing buildings and existing fixed line network assets.

5. **National Broadband Strategy-** There is a critical need to develop a national strategy to facilitate the increasing of broadband penetration level to a minimum of 90% of households by 2015. As a country, we cannot allow the

current rate of increase for this essential service at the household level to remain on its current trend. To do so will keep a large proportion of our population from productively participating in our country's economic, social and cultural development thereby reducing level of our competitive advantage as a nation.



9. Broad Response Strategies

As the Telecom/ICT Sector continues to function within a liberalized environment, the NTRC in collaboration with ECTEL and the Government has to respond to the requirements of a competitive sector so as to protect the interests of both the providers and the consumers and facilitate a relevant regulatory framework that will cater for the increased rate of change in the sector.

The NTRC has to operate within the harmonized framework of the ECTEL Treaty and the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines of 2009. Most of its objectives cannot be accomplished on its own due to the mandate given to ECTEL on certain issues. However, the

Universal Service Fund allow for some flexibility at the nation level which our NTRC has sort to utilize the available resources for the maximum benefits via practical and needed projects that meet the needs of our citizens.

Recognizing the limitations outlined above, the NTRC would seek to continue to work closely with ECTEL, the Ministry/Minister responsible for Telecommunications and relevant stakeholders as to ensure that the revised regulatory framework for the telecom sector and other ICT Initiatives are capable of addressing the issues that currently exist and those that are envisioned.

10. Result Indicators 2012

- 1. Seek to complete the Licencing of SVG Broadcasting Corporation Television Service under the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines of 2009.** The application was submitted and processed in 2012. Currently awaiting the issuing of the new licence by the Minister of Telecommunications.
- 2. Explore the feasibility of utilizing soft phones at the NTRC.** Research was done on this issue in 2012 and various options have been identified.
- 3. Explore the use of the payroll module in the Peachtree accounting software being used by the NTRC.** This is not complete. No work was done on this in 2012 because the emphasis was placed on the designing of the new financial reports in Peachtree which took a much longer time than expected. This objective is expected to be completed by March 2013.
- 4. Develop a business strategy for the NTRC specifically as it relates to use of technology in the NTRC business processes.** The development of the

strategy was completed in 2012. The approved strategy will be implemented in 2013.

5. **Explore the creation of a knowledge network between the NTRCs and ECTEL.** Substantial work was done on this task in 2012 and a recommendation on a model network has been circulated to other NTRCs and ECTEL for their comments. The implementation of the network is scheduled for the second quarter 2013.
6. **Create a user manual for NTRC database.** This task was started in 2012 but was not completed due to time constraints. It is scheduled for completion in the third quarter of 2013.
7. **Operationalise NTRC ICT Disaster Plan.** This objective was not completed. It was decided to postpone this objective to 2013 due to the changes that had to be implemented on the NTRC network that will involve both hardware and software changes.
8. **Create 2012 USF Operating Plan.** This was completed.
9. **Implement a minimum of three new projects under the USF.** This objective was achieved in 2012. Three contracts for projects were entered into for 2012 with 2 telecommunication providers, The Police and Health Center Project and the Community Center project were entered into with Karib Cable and the SMART project was entered into with LIME.

10. Conduct training for the Accounts/administrative staff in Peachtree 2012.

This was not completed due to delays with setting up the new financial report formats in Peachtree.

- 11. Establish a pension plan for the NTRC.** – This was completed. A pension plan for NTRC staff has been established with Sagicor.

- 12. Review and update the Performance appraisal system of the NTRC.** – This was completed. The system was redesigned to be more scientific instead of relying on the supervisor's discretion.

- 13. Seek to facilitate the development of a policy to assist service providers to migrate their mobile networks to fourth generation technology (4G).** The NTRC has examined a number of incentives that may facilitate the migration to 4G. The relevant research data was compiled and work on a draft policy should be completed by mid 2013.

- 14. Seek to facilitate the development of a National Broadband strategy for St. Vincent and the Grenadines.** Some progress was made on this objective in 2012 as the Council of ministers of ECTEL mandated the ECTEL directorate to develop such a strategy by March 2013.

15. Review the Universal Service Fund (USF) legislative framework to identify if it is appropriate to meet the NTRC objectives in the short to medium term. Work on this objective was carried out in 2012 and certain recommendations have been documented for changes to the USF mandate and scope. The NTRC plan to facilitate some changes to the USF regulations in 2013 base on its recommendations.



11. Major Objectives for 2013

1. Conduct a national ICT survey following the initial survey conducted in 2009. This should identify the gains made in the sector over the period and the gaps that still exist.
2. Hold ten public awareness events across our country to highlight the functions of the NTRC and the services available from its USF projects.
3. Draft recommendations to improve current USF regulations noting the challenges encountered to date and the needs that will arise in managing the fund in the short and medium term.
4. Implement the Community Center project that will bring Internet services to 14 Community Centers across the state.
5. Implement the Police and Health Center project that will bring wireless Internet and computers to all 44 health centers and all 29 police stations state-wide.
6. Implement the SMART project that will among other things establish two new programmes in Mobile Application development and Cyber security at the SVG Community College.
7. Launch an annual Innovation competition at the High School level.
8. Enter two NTRC/USF projects into the annual Canto Connect the Caribbean contest.
9. Install new computer network including servers and software at the NTRC.
10. Incorporate electronic payment option on NTRC website.
11. Facilitate the development of an NTRC/ ECTEL knowledge network.
12. Research radiation and QoS standards for possible implementation.
13. Research new regulatory areas that may need to be addressed by the NTRC.
14. Distribute GMDSS VHF radios to selected fishermen across the state.

12. Annex A

12.1 Technical Definitions/Terminology

CANTO: - “Caribbean Association of National Telecommunication Organizations”

CANTO provides a platform for all Caribbean telecommunications operators to speak with one voice to policy makers, regulators and other stakeholders in the sector in influencing the creation of a favourable business environment for all stakeholders.

CIDA:- Agency” “Canadian International Development

CIDA supports sustainable development in developing countries in order to reduce poverty and to contribute to a more secure, equitable and prosperous world.

CITEL:- Commission” “Inter-American Telecommunication

CITEL is an entity of the Organization of American States, it is the main forum in the hemisphere in which the governments and the private sector meet to coordinate regional efforts to develop the Global Information Society. CITEL endeavours to make telecommunications a catalyst for the dynamic development of the Americas by working with governments and the private sector.

CTO:- Organization” “Commonwealth Telecommunications

The (CTO) is a partnership between Commonwealth governments and telecommunications businesses to promote ICT in the interests of consumers, businesses and social and economic development. It's Program for Development and Training (PDT) is a unique program of training and expert assistance in every aspect of telecommunications for Commonwealth developing countries.

CTU: - “Caribbean Telecommunications Union”

CTU is the major Telecommunications policy organ in the Region, directed by Inter-Governmental specialized action under a special Agreement establishing the Union.

Frequency: -

“The rate of a repetitive event. The standard unit for frequency is the hertz (Hz), defined as the number of events or cycles per second. The frequency of electrical signals is often measured in multiples of hertz, including kilohertz (kHz), megahertz (MHz), or gigahertz (GHz).”

**GMDSS: -
System”**

“Global Maritime Distress and Safety

The GMDSS provides for automatic distress alerting and locating in cases where a radio operator doesn't have time to send an SOS or MAYDAY call.

**ITU: -
Union”**

“International Telecommunication

ITU works closely with all standards organizations to form an international uniform standards system for communication.

Land Mobile:-

“A mobile service between base stations and land mobile stations, or between land mobile stations.”

Maritime Mobile:-

“A mobile service between coast station and ship stations, or between ship stations, or between associated on-board communication stations; survival craft stations, and emergency position-Indicating radio beacon stations may also participate in this service.”

MMSI: -

“Maritime Mobile Service Identity”

MMSI are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations, and group calls. These identities are formed in such a way that the identity or part thereof can be used by telephone and telex customers connected to the general telecommunications network principally to call ships automatically.

Radio frequency spectrum: -

“that part of the electromagnetic Spectrum used for communications; includes frequencies used for AM-FM radio and cellular phones and television etc”

Ship Station: -

“A Mobile station in the maritime mobile service Located on board a vessel which is not permanently moored, other than a survival craft station.”

Spectrum: - *“(Electromagnetic Spectrum) is an ordered array of the components of an emission or wave. Sound, Radio Frequency Spectrum, Infra Red, Visible Light, Ultraviolet Rays, X-Ray etc are all part of the Electromagnetic Spectrum in that order.”*

USAID:-
Development”

d. *Other service by which people access efficient, affordable and modern telecommunications.*

“The US Agency for International

Stations: - *“One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radio communication service, or the radio astronomy service.*

Telecommunications:- *“Any transmission, emission or reception of signs, signals, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems.*

Universal Service: - *“universal service” includes the provision of –*

- a. *Public voice telephony;*
- b. *Internet access;*
- c. *Telecommunications services to schools, hospitals and similar institutions and the disabled and physically challenged; or*



13. Annex B

13.1 Audited Financial Statements 2012

