Gender Equity in ICT in St. Lucia
Final Report

SUBMITTED TO
THE ST. LUCIA COALITION OF SERVICES INDUSTRIES

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Lastly, I hold ineffable gratitude and love for my family and friends for their immeasurable support during this research process, especially that of my Mother, Pauline Samuels and beloved partner, Rory Dixon.

Executive Summary

Areas of need

ICTs are the engine for economic growth and development for many Caribbean countries including St Lucia. Statistical data however show unequal participation of women and men in STEM subjects at CXC/CXC and CAPE, in ICT employment, in leadership and high value jobs in ICT companies, and women as ICT business owners/entrepreneurs.

ICTs also have the potential to increase access, education and employment of vulnerable and marginalised including women, persons with disabilities, people in rural areas, unemployed young women and young unattached men.

Limited knowledge of ICT applications to solve society's most pressing problems and provide opportunities for employment/entrepreneurial endeavours, and limited exposure to the demands for ICT services in the local and regional/Caribbean market has resulted in underutilization of ICT potential for education, employment, job creation and economic growth.

Lack of awareness of gender and development concepts and national capacity to mainstream gender in development policies and programmes, has created barriers to enable women and other vulnerable groups to use ICTs for personal and national development.

New Knowledge

The study has resulted in increased understanding of the causes and solutions to the problem of gender inequality in the ICT industry. There is:

Increased knowledge and awareness of institutional and personal factors that represent barriers to gender equality in education and employment in the ICT industry. This can benefit government, private sector and civil society agencies. This knowledge includes understanding of the patriarchal attitudes and cultural norms that contribute to the general assumption that fewer women participate in ICTs because of 'choice'. The study explores these assumptions, and identifies gender related barriers to equal participation of women and men in the ICT industry

Identification of entry points to promote more equitable participation for women and other vulnerable groups to participate in ICT training and expand employment opportunities.

ICT education, training, employment and entrepreneurial needs identified.

Rural areas require training and employment

Identification of strategies to enable qualified women to move up the ICT value chain.

Sex-disaggregated data concerning St. Lucia's ICT Sector obtained through results of national quantitative and qualitative surveys

Specific Benefits

Increased awareness among key stakeholders of the relevance of gender and development and gender mainstreaming to support national development goals including those underpinned by ICTs.

Strategies identified to mainstream gender in national agencies tasked with responsibility to implement the national ICT policy and programmes

Dialogue started with education and training institutions to integrate gender perspectives in existing ICT policies and programmes

Needs assessment - Identification of training and capacity building needs to facilitate gender equality in the ICT industry and build awareness of key stakeholder groups

Supports implementation of Gender Equality Policy of the Caribbean Development Bank (CDB) and national commitments to gender equality and global ICTs for Development goals.

Identified opportunities for training institutions to build national capacity by providing education and training in various ICT skills and emerging topics and gender mainstreaming, as well as undergraduate and postgraduate degrees in ICT related disciplines.

New Partnerships

CDB funded the project to support the St Lucia Coalition of Services

Government Ministries, Departments and Agencies, private sector companies and civil society groups involved in the ICT industry that participated in the study;

Regional Caribbean Development Projects, such as the Caribbean Regional Communications Infrastructure Programme (CARCIP)

Secondary and tertiary institutions providing education, training and certification for ICTs

Outcomes

Increased awareness of barriers to gender equality for women, youths, unattached males and persons with disabilities and identification of strategies to increase opportunities for education, training, and employment in the ICT industry;

Situational analysis to support:

a) gender mainstreaming in the ICT policy, ICT industry, education and training curricula;

b) advocacy to integrate gender in ICT policy,

c) delivery of gender sensitive ICT education and training programmes

d) increased access to affordable care-giving programmes and safe transport, to enable young mothers to take advantage of ICT training and employment opportunities;

e) increased access to affordable credit for women to establish/expand ICT businesses;

f) improved marketing of information on ICT training available, ICT employment and business opportunities;

Final report to support:

a) national initiative to increase access to ICT applications to improve education and employment opportunities for women and men with disabilities.

b) eight (8) recommended ICT training and capacity building initiatives which can aid in increasing knowledge of the ICT sector and redress the extent of gender inequity in St. Lucia's ICT sector.

c) Flagship CARCIP/SLCSI partnership to comprise ICT Skills Development Training and various ICT awareness and capacity building projects that together would address previous gaps in the CARCIP Training Initiative and provide graduates with the skills and knowledge required to take advantage of existing opportunities in the ICT sector and access new entry points for entrepreneurship activities relating to IT enabled services, expanding trade and business, government and consumer applications.

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Background

As detailed in the Request for Proposals for this Gender Equity in ICT Study, diversification of the economy is a major objective of the Government of Saint Lucia (GOSL). At present, the main contributors to the country's gross domestic product are the hospitality, construction, manufacturing and agricultural sectors. Saint Lucia is signatory to the Revised Treaty of Chaguaramas and related protocols establishing the Caribbean Single Market and Economy (CSME). Saint Lucia is also a signatory to the European Union-CARIFORUM Economic Partnership Agreement (EPA). Moreover, Saint Lucia is a signatory to the General Agreement on Trade in Services (GATS). These trade agreements present opportunities that support GOSL's economic and trade diversification efforts, especially in the area of trade in services, which is less dependent on large-scale production to achieve competitiveness. Nevertheless, Saint Lucia's services providers must achieve international competitiveness to penetrate these markets and treat with increasing competition in its home markets.

The GOSL has identified the ICT Sector as one of the priority industries that form the immediate focus of its diversification efforts. The fast changing global and regional economies, characterized by the dynamic creation of business opportunities and increasingly complex production chains, mean that it is now even more important to map out the scope, supply and demands of the sector and to understand the impact of employment and income. In this regard it is acknowledged that gender differences must be considered in the operations in the ICT sector, to redress current inequalities between men and women and to ensure more equal opportunities to participate in the investments in the sector that may emerge.

In the Saint Lucia Country Gender Assessment Report (2011), it was observed "that gender inequality contributes to losses in economic efficiency and effectiveness and these losses affect both women and men in the Region adversely" (p.6). The report also noted that an estimated 27.4 % of poor females are unemployed compared with only 12.7 % of poor males. This implies that special activities to reduce female unemployment will have a greater impact on overall poverty reduction. The Gender Assessment report does not detail an analysis of female participation in the ICT industry. The only mention of either technology or communication is in an employment category designated "transport, storage and communication".

Prior to this Study, there was no reliable comprehensive data on the participation, number and position, of women in the ICT industry. Existing data suggested however that there were only two ICT firms fully owned by women, and the ratio of men to women employed in the industry was approximately four to one. This stark under-representation of women especially in higher income earning positions in the ICT sector represents an untapped opportunity to advance the development and competitiveness of the sector, and indeed to foster St. Lucia's general economic growth.

In a consequent bid to improve the competitiveness and operating environment for the services sector, the Saint Lucia Coalition of Services Industries (SLCSI) received a grant from the Caribbean Aid for Trade and Regional Integration Trust Fund (CARTFund) for a project entitled **Developing Saint Lucia's Services Sector**. The CARTFund is a Trust Fund, financed by the United Kingdom Government's Department for International Development (DFID) and administered by the Caribbean Development Bank (CDB). Its overall aim is to assist CARIFORUM[1] countries in boosting growth and reducing poverty through trade and regional integration.

Included in the project is a component aimed at facilitating greater gender equity and increasing the opportunities for women to access more and better jobs and entrepreneurial opportunities in the ICT industry. This component will therefore address the call in the Beijing Platform for Action, adopted at the Fourth World Conference on Women in 1995, for the empowerment of women through enhancing their skills, knowledge, access to and use of information technologies. It also is a response to the pressing need for research to assess St. Lucia's ICT sector from a gender perspective. This includes identification of: gender wage gaps; gaps between women's ICT-related education and their positions in job market; barriers to women in higher income ICT positions; and ways in which training and business opportunities could be facilitated to enable greater female participation in the sector. In order to execute this component, the SLCSI thus commissioned a **Gender Equity in ICT Study**.

Objectives of the Gender Equity in ICT Study

The objectives of the Gender Equity in ICT Study are as follows:

[1] The Caribbean Forum (CARIFORUM) is a subgroup of the African, Caribbean and Pacific Group of States and serves as a base for economic dialogue with the European Union. It was established in 1992. Its membership comprises the 15 Caribbean Community states, along with the Dominican Republic. (Wikipedia)

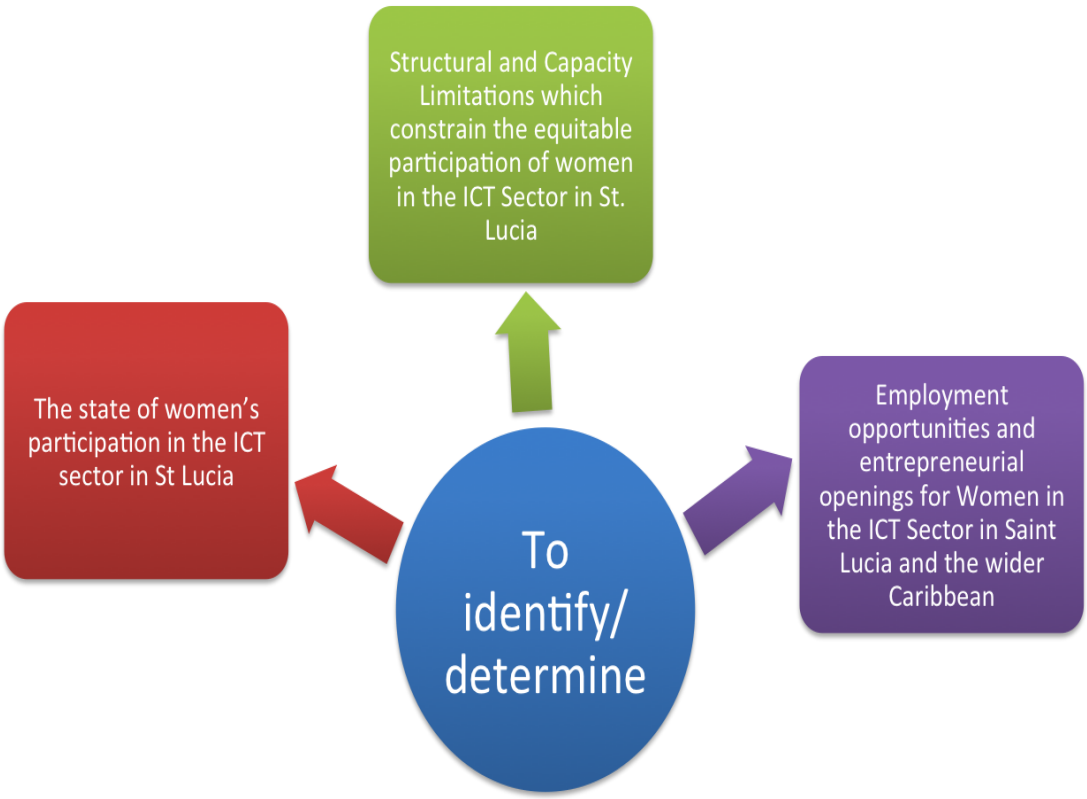

Figure 1.0: Objectives of the Gender Equity in ICT Study

The results have been used to inform the design of a training programme to complement the present CARCIP training initiative as defined below. The courses to be offered in this training initiative have been informed by the results of the Consultancy's data collection, and one of the key questions asked was the main areas of training needed in the ICT Sector.

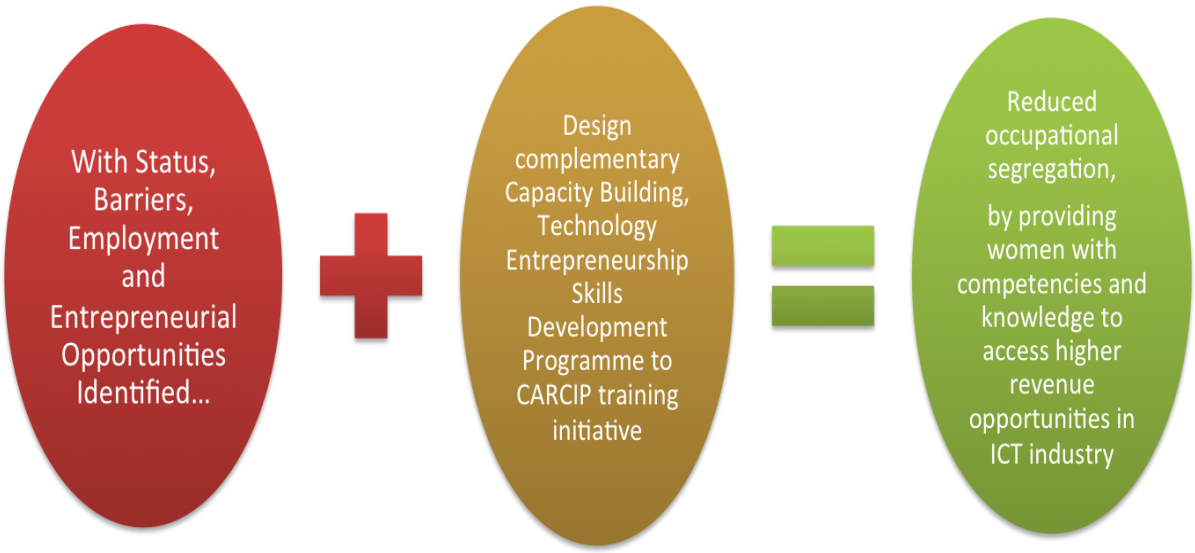

Figure 2.0: Consultancy Process to Enact Reduced Occupational Segregation in the ICT Sector

Research Design and Methodology of the Gender Equity in ICT Study

The research design and methodology employed in this consultancy was a mixed methods approach. This included the collection of both quantitative and qualitative data. The methodology involved the collection of data disaggregated by sex and other social and economic factors, to identify gender differentials and gaps in education and training, employment, jobs, job positions/status, career development in ICTs, remuneration and opportunities for businesses linked to ICTs for national development. It also included social factors related to the creation of an enabling environment for gender equity in ICTs. In order to understand the nature of the ICT sector in Saint Lucia, an extensive literature review was first conducted.

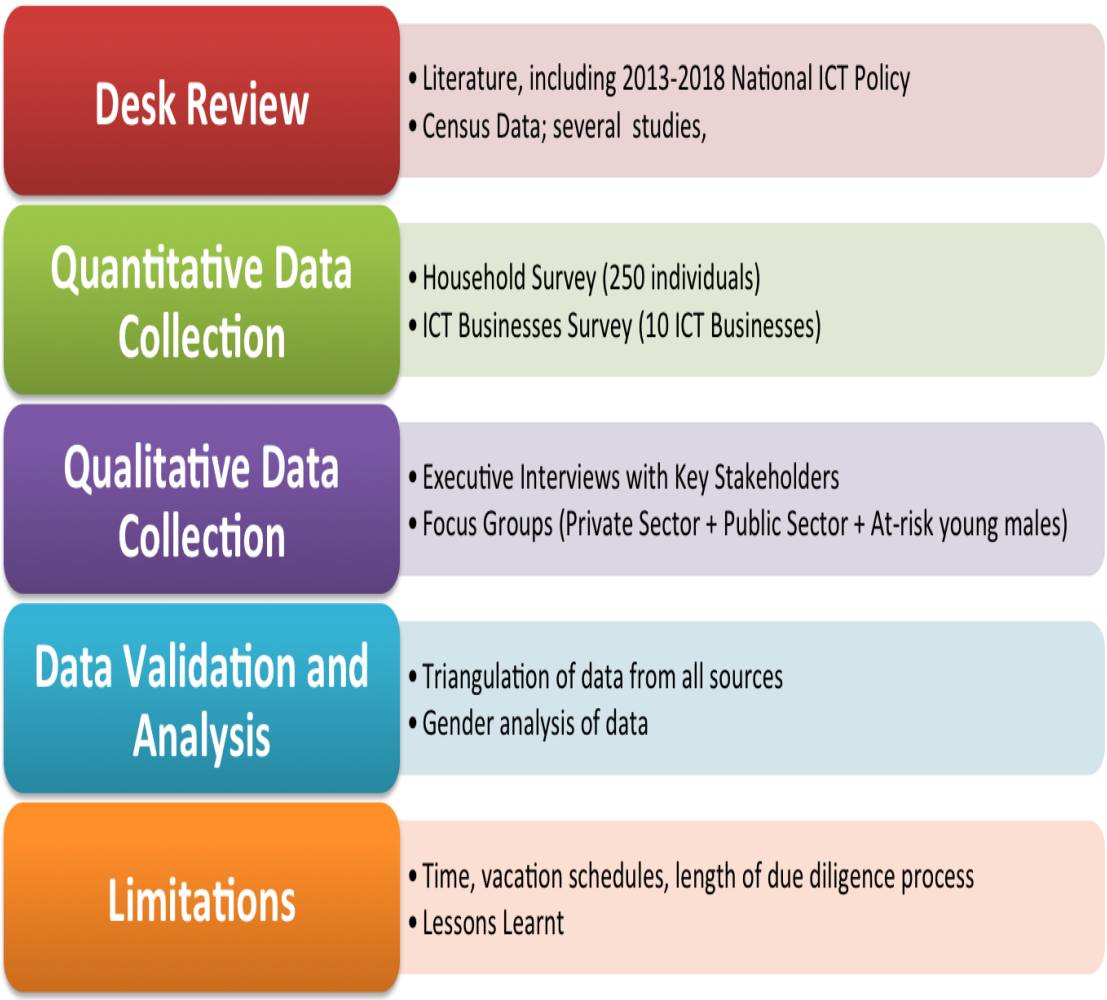

Figure 3.0: Gender Equity in ICT Research Design and Methodology

The scope of the literature review entailed an analysis of the St. Lucia ICT sector, including its strengths, weaknesses, opportunities and threats (SWOT analysis). The literature review also informed the design of the Consultancy's data collection instruments and the methodology used to respond to the main research questions from the Consultancy's TORs.

The scope of the Consultants' literature review was extensive and included extensive on-line research of relevant websites globally, regionally and nationally. This provided access to other relevant documents and reports that were used to support this study. Special mention must be made of the overwhelming support provided by the St. Lucia Coalition of Services Industries, the Caribbean Development Bank and a range of other stakeholder institutions and individuals in St. Lucia. They were all very willing and facilitated the gathering of background information under very constrained timeframes.

The Consultants conducted a wide Literature Review inclusive of extensive on-line research of relevant websites globally, regionally and nationally, which provided access to other relevant documents and reports that were used to support this Study. Mention must be made of the overwhelming support provided by the St. Lucia

Coalition of Services Industries, the Caribbean Development Bank and an array of other Stakeholder institutions and individuals in St. Lucia, who were very willing and facilitating to assist in the gathering of background information under very constrained timeframes.

Scope of the Literature Review

The Consultants' expanded literature review included:

a) Literature on Gender and ICTs globally to identify some of the main enabling factors and barriers for women who are significantly under-represented in the ICT sector worldwide;
b) The governance and policy framework for gender equality in the social and economic development of St. Lucia;
c) The governance and policy framework for the ICT sector in St. Lucia. This included the ICT legislative and institutional framework; ICT in St. Lucia's Education Policy and Strategic Plan; the 2013-2018 National ICT Policy and Strategy and the Draft TVET Policy;
d) Statistical data on St. Lucia: Census 2010; Labour Market indicators and other reports to develop an overview of gender relations in St. Lucia;
e) Previous studies on the ICT sector in St. Lucia including documents from key ICT institutions;
f) Global ICT Studies with current ICT indicators, statistics, trends and emerging skill needs and opportunities;
g) Literature relating to the Caribbean Regional Communications Infrastructure Programme (CARCIP) to best design a complementary ICT training programme;
h) Literature assessing female entrepreneurship in St. Lucia, to learn of the issues facing female entrepreneurs in general;
i) The Eastern Caribbean Telecommunications Authority's (ECTEL) 2014 Broadband Survey;
j) ECTEL's 2013-2014 Telecommunications Sector Review;
k) Studies detailing the St. Lucia ICT market size and others which expounded on the size of the regional ICT market;
l) Documents relating to the Caribbean Regional Communications Infrastructure Programme and;
m) Reports on the situation of gender equality in St Lucia including St Lucia's report to the UN Committee on the elimination of all forms of Discrimination against Women (CEDAW);
n) St Lucia's 2010 Census report and other labour force statistics provided by the Statistics Department of St Lucia;
o) Literature of Gender and ICTs, Youth and ICTs, and Persons with Disabilities and ICTs and other at-risk and vulnerable groups.

p) Many other reports related to ICTs, Gender, Training and Capacity Building, effecting gender equity and facilitating an enabling environment for the Community of persons with disabilities and other at-risk groups.

Findings of the Literature Review
The analysis confirmed that:

a) *St. Lucia is resource rich in knowledge of the ICT sector:*
Considerable research has been done that provides a background for the Study. This includes Studies on: the Services Sector, a National ICT Policy; 'feasibility studies' on the ICT Sector including an Audit of ICT Skills; the status of Broadband and the Telecommunications Sector in the OECS.

b) *Gender is not mainstreamed consistently in research*:
The Literature Review showed that while valuable and relevant, most studies mentioned above did not consider gender as a social construct and a tool of analysis that *helps to understand human behaviour*. Gender was not consistently mainstreamed in the research design of those studies to facilitate gender analysis of data collected. This would have provided a detailed profile of women and men in the ICT Services sector and would have helped to identify gender differentials and gaps to guide decision making related to policies, programmes and strategies for the industry. It also would have helped to guide interventions to improve the achieved results of current ICT initiatives.

Gender analysis can help to understand enabling and inhibiting factors that both sexes face, related to their roles and responsibilities in the household that impact their everyday life; occupational choices; attitudes and behaviour as well as access to and use of resources including use of training, education, employment and business opportunities in the ICT sector. Gender analysis would also help to understand the underlying factors that can impact on productivity and business competitiveness in the ICT sector in St. Lucia, the Caribbean and globally. This Consultancy has therefore helped to address this need.

c) *Cultural and other social factors related to the roles and responsibilities of males and females are generally not considered in policy and decision-making and programme construction:*
This is despite the reality that they will collectively influence how women and men balance their work and family responsibilities.

Primary Data Collection

Primary data collection for the Gender Equity in ICT Study involved:

1. Several Elite interviews conducted by Samuels & Dunn during the period August 3-8, 2015
2. Several Elite interviews conducted by Samuels & Dunn during the period September 16-18, 2015 and others conducted via Skype during the consultancy;
3. A quantitative national household survey using a random sample of two hundred and fifty St. Lucians, which represents a statistically significant number given St. Lucia's population.
4. A quantitative business survey of ten ICT companies.
5. Qualitative data collection via three focus groups (FGs) comprising ICT personnel working in the private sector, public sector and also at-risk young males;
6. Qualitative executive interviews with thirty five (35) key stakeholders from various sectors.
7. Qualitative data collected from participants attending St. Lucia's first ever ICT Fair held from August 10-14, 2015 and hosted by Ministry of Public Service, Information and Broadcasting through the Caribbean Communication Infrastructure Program (CARCIP). The ICT Fair comprised activities geared towards showcasing "current ICT Trends and efforts by the government to develop an ICT- enabled economy and information society."

The data collected was first validated then analysed statistically. All data collected from these sources underwent quality control checks by reviewing the responses, verifying GPS locations, cross checking response selection, interview length, clarity in execution, and noting responses to verify the accuracy of the data. Forty percent (40%) of the data was validated through telephone call backs.

Limitations and Risks for the Gender Equity in ICT Study:

The limitations of the Study were influenced by the following:

1. Time constraints and the timing of the study. The time for conducting the study was very limited given the scope of the TORs. . Timing was also a factor as the project began in August 2015 which is a holiday period and thus limited access to stakeholders. The Consultants however managed to start the project, contacted key stakeholders and began data collection in August 2015.
2. Limited availability of local data collectors and interviewees. This was also partially due to starting in August, and the time needed to select and brief the local research team. This resulted in changes having to be made to the assigned interviewers and interviewees.
3. As August is a traditional vacation month, the vacation schedules of key stakeholders resulted in delays in the data collection process which thus had to be extended to late September/early October in some instances.
4. Refining the survey instruments took longer than anticipated. Accela Marketing, a well-established local company was recruited to coordinate and secure the

	carrying out of the quantitative and qualitative data collection, inclusive of the validation and assessment of and reporting on the data collected.
5.	Accela Marketing had to return to the field on numerous occasions to check data to address gaps and ensure the validity of data collected, consistent with their strong commitment to obtain high quality data.
6.	Despite these limitations, the findings from the primary and secondary data sources are considered valuable and can inform policies and programmes to enhance gender equity in the ICT sector.

Consultants' Field Visits to St. Lucia

The Inception Report and Situational Analysis Report, which both formed key deliverables under this Gender Equity in ICTs Study, provide details of the two field visits conducted by both Samuels and Dunn during this Consultancy. The visits took place from August 3-7, 2015 and September 16-18, 2015 respectively and were both tremendously helpful in collecting information required to fulfill the Terms of Reference of this Study. Each report may be referenced for further information on the two field visits. Samuels and Dunn acknowledge and thank the Director of the SLCSI and her Projects and Administrative Officer, who provided extraordinary support and facilitated meetings with key stakeholders during the two field visits.

Analysis of the findings from the aforementioned meetings with stakeholders and the documents reviewed have been used to inform recommendations for future action to facilitate greater gender equity in St. Lucia's ICT Sector. These are outlined later in this report.

Main Findings from Primary and Secondary Data Collection

1. The Government of St. Lucia (GOSL) has taken strategic action to create an enabling environment for ICTs by developing a comprehensive ICT Policy, participating in CARCIP and several programmes to support implementation of its ICT Policy and promoting creativity and innovation in ICTs through ICT Fairs and hackathons, such as that staged by CARCIP in August 2015;

2. The Gender Equity in ICT study confirmed that there is gender inequality in women's participation in the ICT sector, especially in higher income positions;

3. Other studies have reported differences in men's and women's perception of the relevance of ICTs to their daily operations. For example, a study by Mortley in 2015 reported that 40.4% of females consulted compared to 26.1% of males in St. Lucia, said that ICT was not at all relevant to their daily operations;

4. The data collected for this Gender Equity in ICT Study also confirmed findings from St. Lucia's 2013-2018 National ICT Plan, that there is an ICT Skills Gap which limits global competitiveness;

5. Research confirmed many existing and unexplored opportunities for trained and qualified ICT service providers, innovators and entrepreneurs to provide ICT enabled services in St. Lucia, in the Caribbean and internationally, but knowledge of these opportunities was limited;

6. Lack of understanding of gender roles and responsibilities as well as specific needs of vulnerable groups (e.g. persons with disabilities and youth), pose barriers to equality and equity in the ICT industry. This limits men's and women's ability to participate in and benefit from ICT applications for education, training employment and services;

7. Lack of a national policy for gender equality has negatively impacted gender mainstreaming in national policies and programmes including in the ICT sector;

8. Lack of gender mainstreaming in ICT policies, programmes and plans, limits national capacity to create a more enabling environment for gender equity and equality in ICTs and other sectors to support national development goals;

9. Best practices were however identified to use ICTs to create innovative gender-sensitive solutions to existing development problems in St. Lucia. Among these were:

    a. Solutions to unreliable and unsafe transportation, especially in rural areas and during early mornings and late evenings. This problem which is quite pervasive throughout the country, represents a significant risk especially for women and a mobile app which would advise as to when the next safe transportation option is expected at any specific bus stop would be an extremely value added service to facilitate participation in training and employment.
    b. Uber represents a best practice example of meeting demand for transport services and could include for example, providing access to female taxi drivers, who could operate on a credit/debit card basis, for female clients;

10. The findings of the 2015 study showed steady movement along the ICT Value Chain in St. Lucia. ICT practitioners can however take further advantage of international market opportunities and unexplored ICT business services to increase employment and create high value ICT operations;

    - Stakeholders within a focus group with St. Lucia ICT private sector consultants reported that there is opportunity for growth within the sector especially for developers and through projects funded by multilateral

organisations. There is however *limited knowledge of ICT opportunities* especially those which may be procured by individual consultants due to perceptions of limitations of scale of ICT businesses in St Lucia and most Caribbean countries.

11. GOSL Ministries, Departments and Agencies should continue to increase e-government solutions and innovations;

12. The findings revealed that St Lucia is resource rich in information, policy and infrastructure to promote gender equity in ICTs, but limited capacity in gender awareness, analysis and skills. There is general lack of understanding of the possible reasons for the gender gap which manifests as significantly fewer women in the ICT industry. For example:

    a. One FG reported that the present gender inequity in St. Lucia's ICT Sector is simply due to the fact that more males than females apply for ICT positions. There is a common perception that there is a level playing field within St. Lucia's ICT Sector, where despite the absence of barriers, few females are attracted to ICT positions.

    b. Another FG respondent indicated *"I don't think there is discrimination in any form that limits women's involvement in the ICT industry. I think it is a personal interest and desire to enter into that industry."*

    c. Data from another focus group showed that a participant indicated that the *ICT sector provides equal-opportunity employment across genders.*

13. Improved coordination of training & education opportunities, support services and integration of gender perspectives can enhance more equitable capacity building in ICT skills. This can support the achievement of national commitments to gender equality, support national strategic development goals and strengthen the strategic role of the Services sector and ICTs to St Lucia's economic development.

Results of Qualitative and Quantitative Primary Data Collection

14. Analysis of qualitative and quantitative primary data collected by Accela Marketing Limited between August and September 2015, resulted in the production of five (5) reports. These included:

15. A report on data collected through interviews conducted at St. Lucia's first ever ICT Fair and Hackathon, staged from August 10 - 14, 2015. This was hosted by the Ministry of Public Service, Information and Broadcasting through the Caribbean Communication Infrastructure Program (CARCIP).

16. A report on data collected through interviewing conducted via an on-line survey with representatives of ten (10) St. Lucia ICT Private Sector Businesses

17. A report on data collected through 35 in-depth, executive qualitative interviews with three groups: ICT professionals; recent ICT graduates and members of the community of persons with disabilities.

18. A report on qualitative data collected through three (3) focus group discussions with:
    a. Male and female ICT professionals from the private sector;
    b. Male and female ICT professionals from the Government who work in Ministries prioritizing e-government;
    c. At-risk/unattached young males aged 15-24 years;

19. A report on data collected through the quantitative national ICT household survey, using a random representative sample of St Lucians across the country's 10 districts. This survey included questions designed to assess current use of ICTs as well as attitudes, and perceptions towards ICTs and gender equity in ICTs. A questionnaire was designed, piloted, revised and used as the primary tool for data collection. Interviewers were recruited and trained then deployed to conduct surveys within households selected for inclusion in the sample, across the country.

Analysis of the quantitative data included cross tabulation of the data disaggregated by sex and other variables considered important to assess gender equity in ICTs. Each report presents the research methodology used, and the main findings. They also share examples from the qualitative studies to understand perceptions of gender equality and equity and is so doing afford an informed understanding of St. Lucia's ICT Sector.

Data from the qualitative and quantitative studies as well as data collected by the two Consultants were analysed to provide an overall assessment of the current situation of women's access to and participation in St. Lucia's ICT Sector; gain perspectives on the enabling and inhibiting factors affecting equitable participation of women in the ICT sector. The analysis also identified structural, institutional and capacity limitations which constrain women's equitable participation. It also identified new opportunities and unexplored potential for employment and entrepreneurial opportunities offered by the ICT sector in Saint Lucia and the wider Caribbean. The results of the data collection process were also pivotal in informing the design of a complementary capacity building, technology and entrepreneurship skills development programme to the Caribbean Regional Communication Infrastructure Programme (CARCIP) training initiative. Areas to expand ICT education, training and business opportunities within and outside the region were also identified. New opportunities for partnerships with organisations providing support services to facilitate equity in participation of women such as child care were also considered. So too were recommendations for training in

gender sensitization and gender mainstreaming. Suggestions were also made on strategies to integrate gender in the country's ICT policy.

Lessons Learnt from Primary Data Collection

1. **Issues from the Report of the 2015 quantitative survey of St Lucian ICT Businesses**

The 2015 survey of ICT businesses was conducted with a mixed group of both sexes but was male dominated. Future studies should ensure that interviews and focus group discussions are conducted with single sex groups and also with mixed groups to determine if the views expressed are the same or different. This could account for the perception that there is a level playing field in the ICT sector and there are no barriers to women entering or moving up the value chain within the ICT sector.

In this male-dominated group of 10 ICT businesses, the majority view was that there were no barriers faced by women in ICTs. Reasons offered for the gender imbalance were: it was more a matter of affordability; fewer women were applying for ICT jobs; women's lack of interest; women's individual choices; the school curriculum in traditional girls' schools; women starting later than men in the ICT sector; it being a man's world and more men are interested in ICTs. Only two of the ten ICT business representatives felt that there were barriers. The main causes cited were: gender discrimination and the orientation of girls towards traditional female subjects in schools. It was also recognised that the unavailability of courses, money to pursue education and training as well as limited knowledge and time to pursue courses also acted as barriers.

A major observation from the Business Interviews was the significant lack of awareness of ICT opportunities.

2. **Issues from the Report of the 2015 qualitative Focus Group interviews**

The ICT Private Sector Professionals focus group was comprised of three men and three women who were professionals in the ICT sector. While they disagreed that ICTs were more suited to men, they also expressed views that were similar to the male dominated business group. This mixed group of professionals felt that there are no structural or socio-economic barriers to women entering the ICT sector.

The GOSL ICT Professionals focus group was comprised of 2 females and 4 males. They also felt there was no discrimination against women. To enable more women in the industry the view was that there was a need for St. Lucia to showcase women who have been promoted in ICTs, offer specialised training exclusively for females in ICTs and offer ICT camps for school girls.

Again, future studies could conduct focus groups with single sex groups as well as mixed groups and compare the results.

3. **Knowledge Gap re: ICT Opportunities**

There was a major gap between the range of ICT employment options noted by the persons interviewed and the wide range of opportunities available in the ICT industry globally. Their scope was also imbalanced with too much of a mostly singular focus on **hardware, software and ICT services**. Additionally, they felt the gender imbalance was due to women's lack of interest; women being unaware; and women lacking business planning knowledge.

This demonstrates the need for a major information sharing programme to empower nationals to take advantage of the vast range of ICT opportunities that can help to grow the economy.

St. Lucia's ICT and Gender Policy Framework

Figure 4.0 shares results from the research that can help to guide St. Lucia's ICT and Gender Policy Framework.

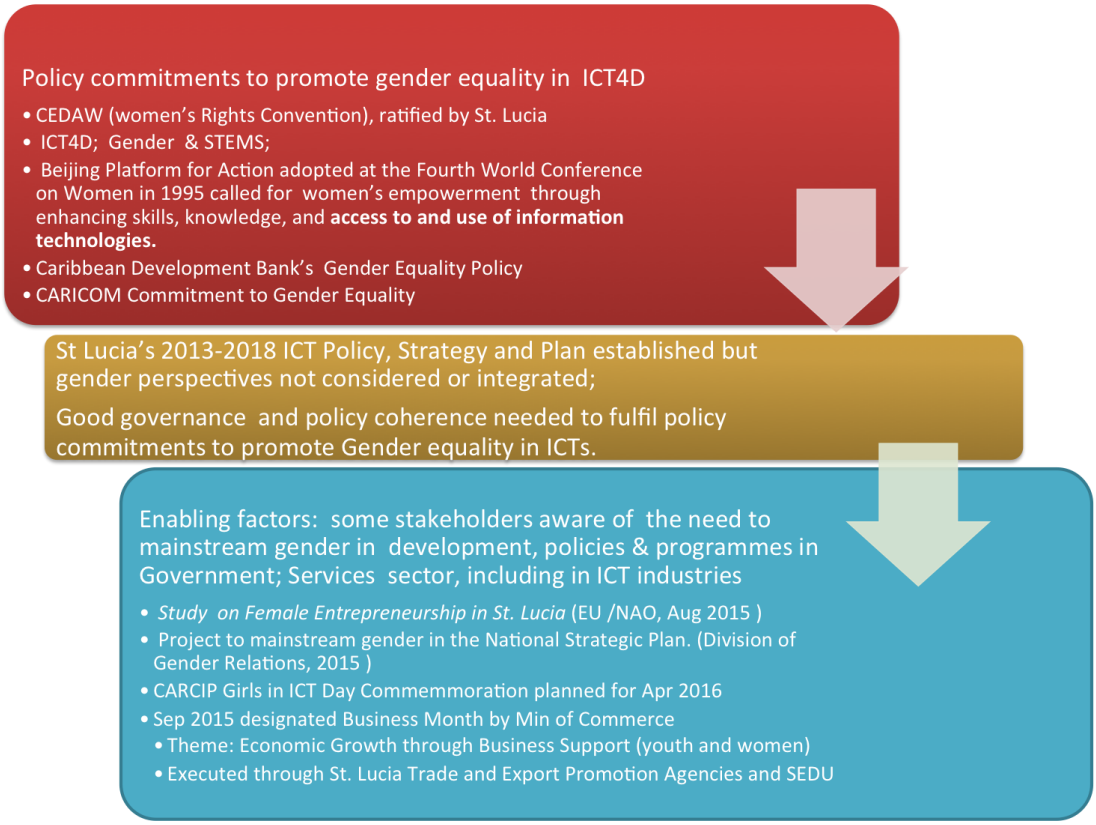

Figure 4:0 Findings on St. Lucia's Gender and ICTs Policy Framework

Gender Review of ICT Policy

The Consultants' preliminary review of the ICT Policy's Vision and Mission Statement shows that it is gender blind. This means that there is an underlying assumption that in the sector there is a level playing field for both men and women. However other statistical data and reports reviewed show that this is not the reality and there are gender and other gaps that would not ensure access and use for all. Recommendations will be made on how gender can be integrated to achieve the desired outcome of gender equity in ICTs.

Recommendations to Integrate Gender in St. Lucia's ICT Policy

It is recommended that the Government of St. Lucia should undertake a comprehensive gender review of the St. Lucia National ICT Policy 2013-2018. The below recommendations are intended to help to guide that review.

Principles and Core Values: These should reflect specific commitments to gender equality and the empowerment of women in the ICT sector

Vision and Mission: As previously noted in this Study's Inception report, the ICT Policy's Vision and Mission Statements are both gender blind. This means that there is the assumption that there is a level playing field in the sector which is not the case. The language used should promote inclusion and should reflect the diversity of the stakeholders. This may include acknowledging differences of gender, age, disability, rural/urban locations etc., and other factors that could influence access to and use of ICTs.

The Vision Statement should reflect a desired goal of equal participation of men and women from diverse backgrounds participating in and benefiting from the ICT industry.

Desired Outcomes: The language should be changed. Instead of targeting 'citizens' as beneficiaries, the stated outcomes could be more specific to reflect diverse groups in the population and identify women, youth, and persons with disabilities.

Areas of Focus: For each of the eight (8) area of focus identified in the National ICT Policy,, there should be a commitment to collect and analyse data disaggregated by sex and other social factors. This will provide evidence of the 'as is ' situation in each area, along with identification of gender gaps if applicable, to guide future action to achieve a 'future desired state' of gender equality and equity (fairness).

Policy Statements and Policy Objectives: Gender should be reflected in both the policy statements and policy objectives with gender indicators that give clear guidelines on the desired goals for gender equality. This would be reflected in areas

such as : *ICT Infrastructure, Education*, *Government* , *Health, Community Development and Social Services; Business, Agriculture, and Tourism.*

Policy Implementation, Monitoring & Review: The governance structure should include mechanisms for monitoring and evaluating gender indicators agreed for each area of the policy. Gender should be included in the Programme Management Process. Reporting on the policy should also include mechanisms for a gender review.

Anita Gurumurthy (2004)[2] in her report on *Gender and ICTs* published by BRIDGE (2004: page 41) also cites recommendations by the ITU Task Force on *Gender Issues and Gender-aware Guidelines for Policy-making and Regulatory Agencies* outlined by Jolly (2001). Jolly (2001), cited in Gurumurthy (2004) includes the following:

- *Facilitate and promote the establishment of a Gender Unit within the Regulatory Agency, the Ministry and/or as an inter-agency effort.*
- *Review, revise or develop new regulations, circulars, issuances and procedures to remove any gender bias. · Promote gender analysis as part of the policy process.*
- *Develop and establish systems to gather gender statistics.*
- *Promote dialogue with other national entities like other ministries, regulatory bodies, etc.*

Human Resources:

- *Ensure equal hiring opportunities for all women and men, regardless of race, ethnicity, class and age.*
- *Ensure that a certain percentage, targeting 50 per cent, of all supervisory and management positions are occupied by women.*
- *Develop campaigns to attract women professionals (particularly for technical and decision-making positions).*
- *Develop and ensure the existence of appropriate support systems for professional women and men.*
- *Ensure that there are no wage disparities between the genders and establish a policy to eliminate any such gaps.*

Training:

- *Ensure equal access to training opportunities.*
- *Promote gender-awareness training opportunities for women and men.*
- *Support technical and management programmes that train women professionals and create internship programmes with educational institutions.*

Licensing Activities

- *A certain percentage of licences should be awarded to woman-owned companies and/or companies with women in top management positions.*

[2] Gurumurthy, A (2004)[2] *Gender and ICTs.* BRIDGE: UK

- *Develop and market licensing procedures where potential women owners can have access to the information.*
- *Promote the development of business assistance programmes and partnerships with expertise in assisting women entrepreneurs.*
- *Develop licence award criteria based on social responsibility of the business as well as universal access objectives of the proposed venture.*
- *Ensure that licences awarded contain certain conditions to promote gender analysis and mainstreaming for the particular company.*

These are issues that St Lucia's Regulatory Agency for ICTs may wish to positively consider as an element of mainstreaming gender in the National ICT policy and regulatory framework.

These recommendations imply training in gender sensitisation and gender mainstreaming for those institutions and stakeholders in the ICT sector.

ICT Opportunities and Solutions for St Lucia's Community of Persons with Disabilities (CPWDs)

CARICOM's (2014) report on St Lucia's Population and Housing Census 2010 [3]shows that the population of persons with disabilities was 1,704: 804 males 47.2%; and 900 52.8% females). Household headship in St Lucia was: 26,992 male led households (MHH) and 19,461 FHH (2010 Census p. 162). The expectation is that this distribution will be reflected among the households of persons with disabilities.

Profile of Types of Disabilities

1. Sight disabilities: 181 males and 251 females
2. Hearing: 54 males and 60 females
3. Speech: 80 males and 77 females
4. Upper limb: 85 males and 102 females
5. Neck and spine: 37 males and 54 females
6. "Slow" learners: 76 males and 74 females
7. Behavioural: 112 males and 91 females
8. Other: 172 males and 179 females

Economic Activity Profile (Census report page 155)

1. Total 3,591: 1,729 males (3.24%) and 1,862 females (3,28%)
2. Total Employed: 33,706 males and 26,269 females (11.7%)
3. Total Unemployed: 5,886 males and 3,476 females (14.9%)

Global Governance and Human Rights Framework for CPWDs in St. Lucia

The UN Convention on the Rights of Persons with Disabilities was adopted on December 13, 2006 and came into effect in 2008. St. Lucia ratified on September 22, 2011. Among the provisions of the *Equality Of Opportunity And Treatment In Employment And Occupation Act Chapter 16.14* (2000 and 2001) is protection against discrimination on the basis of gender and disability. [4]

The International Telecommunications Union (ITU) Mandate on ICT Accessibility for Persons with Disabilities and Persons with Specific Needs[5] provides a global framework to support increased access of persons with disabilities in St. Lucia to ICTs for education and training. UNESCO is also very committed to supporting the

[3] See http://www.caricomstats.org/Files/Publications/NCR%20Reports/Lucia.pdf

[4]http://blue.lim.ilo.org/cariblex/stl_act2.shtml#Definition_and_prohibited_grounds_of_discrimination

[5]http://blue.lim.ilo.org/cariblex/stl_act2.shtml#Definition_and_prohibited_grounds_of_discrimination and Disabilities

http://www.itu.int/en/action/accessibility/Pages/ITUmandate.aspx

empowerment of persons with disabilities using ICTs .[6] To this end UNESCO organised an international conference entitled 'From Exclusion to Empowerment: The Role of Information and Communication Technologies (ICTs) for Persons with Disabilities'' which was held in New Delhi in November 2014[7] sharing information on using ICTs to empower people in the sector.

Gender And ICTs For The Disabilities Sector [8]

Literature on persons with disabilities show that they are vulnerable to stigma and discrimination and lack of access to education, training and employment. The literature of gender and disabilities also highlights the fact that men and women with disabilities also need to fulfill traditional gender roles as caregivers and breadwinners however they are at higher risk of poverty as the society does not fully enable their participation.

The Reality of Disabled Women in St. Lucia as it Concerns Entry into the ICT Sector

The primary data confirmed that disabled women in St. Lucia face multiple forms of discrimination that presented barriers to accessing ICTs and jobs generally. The main barriers cited were financial, lack of self-confidence, lack of access to safe and accessible transportation which limited access to education and training in the late evenings. They cited the need for business skills and mentorship.

ICT Tools for Empowerment of the CPWDs

Given the high cost of technology available to support persons with disabilities to access education, training and employment, there is need for the GOSL to make special provisions for disabled men and women as they have the potential to become empowered and independent through ICT equipment services and business opportunities.

A review of secondary sources as well as data from interviews with persons with disabilities in St. Lucia and in Jamaica resulted in the identification of several ICT tools that can improve the lives, livelihood and socio-economic status of persons with disabilities. Specific ICT tools are available for different types of disabilities and persons with multiple disabilities.

Among the ICT tools identified were:

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[6]http://www.unesco.org/new/en/media-services/single-view/news/from_exclusion_to_empowerment_role_of_icts_for_persons_with_disabilities/back/9597/#.VhfY-N9VhBc

[7] http://sd.iisd.org/events/unesco-conference-on-icts-and-persons-with-disabilities/

[8] Data from interviews with Mr. Patrick Lafayette (Broadcaster who is blind) and Senator Floyd Morris President of the Senate in Jamaica and Director of the Centre for Disability Studies The UWI.

1. **Optical Character Recognition (OCR**) - a software application that enables blind persons to read printed text.
2. **Screen computer access - magnified**
3. **Job Access with Speech (JAWS) Recognition**
4. **Scan and Reading Applications (SARA**). This is a software that enables low vision persons to read.
5. **DRAGON** - A computer software that coverts voice to text characters
6. **Blind Square Application.** Phones use Global Positioning Systems (GPS) applications that enable blind persons to 'see'. what is around them
7. **Be My Eyes** Application and TAPSEE are also resources for the blind.
8. **Android Phones.** These phones can significantly increase access of the CPWDs to education and employment and a better quality of life. While cost is a factor, government import policies can help to reduce costs and increase access.

ICTs for Deaf Persons

ICT applications are also available for persons who are hearing impaired or deaf.

Education and Employment Opportunities for Blind Persons Using ICTs

Increased access to ICTs in the Schools can enable blind students for example to complete their primary, secondary and tertiary education programmes.

The University of the West Indies (UWI) Disability Case Studies:
The UWI Centre for Disability studies at Mona is another resource available to the SLCSI through the UWI. The Director is Senator Floyd Morris, President of the Jamaican Senate in Parliament who is blind and presently completing his Ph.D in UWI's Department of Government.

ICTs employed at the UWI Mona Campus enable blind students to complete their degrees. Men and women who are blind can register on line for their degree, for courses, as well as for accessing reading materials.

Gender, ICTs, Disabilities and Disaster Risk Management

Men and women with disabilities have intersecting challenges that are related to their gender roles but with the additional vulnerabilities associated with limited access to education, training and employment.

St. Lucia as a Small Island Developing State (SIDS) is at risk from more extreme weather events, hurricanes and floods. ICTs can support early warning systems for persons with a disability to improve their resilience and mitigate risks. SIDS and climate change adaptation resources can be tapped to increase opportunities for training as well as employment for persons with disabilities. Partnership with members of the community can ensure that their knowledge expertise can be used to support the work of the National Disaster Management Agency.

Current and Potential Market Size in the National and Regional ICT Market

St. Lucia National ICT Market Size

Consistent with the TORs, the Desk Review included an analysis of several relevant documents to assess the size of the ICT industry. The results showed significant differences. For example, the list of ICT businesses registered in the 2015 St. Lucia telephone directory showed *45 St. Lucian ICT Companies.* This was considered significant for a country with a total population of 182,273 persons in 2013. The 2009 ICT Skills Audit prepared by Consultant Cuthbert John for the SLCSI *identified 58 ICT companies*. Data from St Lucia's 2010 Census provided by the Central Statistics Office identified *over 1,000 persons* who reported that they work in the ICT sector. Other studies reviewed showed that that the majority of ICT companies are Micro Small and Medium Enterprises (MSMEs). Analysis of this data helped to determine the sample size for the 2015 studies. These included the quantitative national household survey as well as the survey of ten ICT businesses within St. Lucia's ICT industry.

The literature reviewed also provided insight into the characteristics and profile of St Lucia's ICT industry and market. The 2015 Baseline Study on Employment Generation through Private Sector Development completed by Vasantha Chase, Nigel Mitchel and Vimla St. Hill, reported that the ICT sector in Saint Lucia can be disaggregated into three main categories as follows:

i. **Computer services: These included:** Retail of hardware, development of software, consultancy services, data processing services, maintenance and repair of equipment, web page design and hosting, computer facilities management;
ii. **Information services: These included:** database provision services to businesses (*including, database conception, storage and dissemination, web search portals, training*);
iii. **Firms exporting IT or ICT-related services.** There are apparently less than 20 firms **export IT/ICT services** despite the Government of Saint Lucia's outreach to investors in an effort to develop the ICT sector. However the following list, compiled by the National ICT Office from anecdotal reports, indicates **58 firms** that export IT or ICT-related services or at least supply services to foreign clients:

1. Computer Dealers (9);
2. General IT support (5);
3. Graphics Designs (6);
4. Web development (3);
5. Software support (5);
6. Telecommunications (6);
7. Other (10);
8. General IT Support: Software Development (1);
9. Software Support and Web Development (1);

10. IT Training (4);
11. Pre-qualified ICT Training Providers (8)

Please note that the above *Pre-qualified ICT Training Providers* category included 'entities accredited by the Ministry of Education-TVET to deliver ICT related training'. (p.23).

The ICT industry in St. Lucia includes a variety of ICT based opportunities which the data collection exercise sought to validate. Results from the primary data collection as stated in the report of the ICT Professionals Focus Group, show that most participants felt that although there were employment opportunities in St. Lucia people working in the sector had limited knowledge of the much larger potential of opportunities beyond that of an IT Manager position. This translates to a belief that there is a dearth of opportunities to move from the IT Manager standing to the IT Director standing. As a consequence, the findings suggest that ICT Professionals are not confident they can participate in St. Lucia's ICT Sector across the entire ICT value chain. **Among women Professionals in the ICT industry who were consulted, some agreed and some disagreed that there were barriers to equal opportunities to participate in and to benefit from existing and other opportunities for growth, through career advancement in companies or as business entrepreneurs.**

The St. Lucia ICT Market for the CPWDs

As it concerns the CPWDs, St. Lucia's National ICT Market offers the following income earning opportunities:

Call Centres - blind people can work in call centres and as telephone operators. They reportedly do very well as they are less distracted than sighted people.

Teleworking: ICTs allow for *Tele-working.* Persons working remotely linked into a centralised system. Blind persons could also work remotely from their home as part of a call centre business. Dunn and Dunn (1998) [9] noted the possibilities for teleworking in the Caribbean. This is particularly beneficial for women (including women with a disability) who have a disproportionate responsibility for family caregiving and who generally have higher rates of unemployment compared to men, including men with disabilities.

Blind St. Lucians using ICTs to market Spa Services: Blind men and women can be trained in therapeutic massage and can work in existing spas or can establish their own businesses and use ICTs to market their services, including the provision of an interface to enable clients to book their services for example. Jamaica's HEART

[9] Leith Dunn and Hopeton Dunn.(1998). Employment Working Conditions and Labour relations in Offshore Data Service Enterprises in Selected CARICOM Countries : A Case Study ILO Caribbean Office

Trust/National Training Agency has trained blind men and women in massage therapy who now work at the HEART/NTA Spa Salon 10 in Kingston. ***The SLCSI could include this option in their work with the Spa and Wellness sector in St Lucia.***

Other ICT Options for Training and Employment for the CPWDs

Interviews with ICT specialists in Jamaica[10] also helped to identify the following options that could also be considered:

1. Predictive analysis
2. Data science
3. Cyber security and Cyber Forensics
4. Systems Administration
    a. Systems Analysis
5. Robotics
6. Artificial Intelligence
7. Web Master Development
8. Information Systems Management
9. ICT Help Desks

Caribbean Regional ICT Market Size

On-line research identified several ICT opportunities within the Caribbean region, growth in the sector, and changes in the ownership and market strategies of ICT companies that have the potential to increase the ICT market size within the Caribbean region. As stated in the publication *Caribbean - Telecoms, Mobile and Broadband - Market Insights and Statistics, of* March 2015, the telecoms sector in the Caribbean remains one of the region's major growth industries, particularly in the mobile telephony and ICT data sectors. The two main telecommunication companies in the region are Cable & Wireless Communications (CWC) Limited, operating services under the LIME brand, and the other is Digicel.

These operators have been consolidating their positions in the region through a number of acquisitions. This has been aimed at strengthening their presence across a wider number of markets, as also diversifying their offerings. Digicel in particular has emerged from its mobile-centric platform offering to include pay-TV services through acquiring a number of small cable TV operators and Internet Service Providers (ISPs) providing Internet Protocol Television (IPTV), (providing TV through the internet) across various countries. For its part, CWC's recent acquisition of Columbus International represents a continuation of existing collaborations on network assets in the region. The deal provides CWC with greater reach through subsea cable

[10] Interview with Mr. Omar Gordon, ICT Specialist, August 17 2015

infrastructure (cables under the sea) which extends to many more markets in the Caribbean, with links to both North and South America.

Tourism is a major source of revenue and employment for St Lucia and other Caribbean countries and depends a lot on ICT infrastructure and services from airline and hotel booking, ground transportation and entertainment services. The tourism sector is however adversely affected by economic recession in North America and Europe which are the main sources of tourists coming to the Caribbean.

Telecommunications and the ICT industry has significant growth potential e in the Caribbean, estimated to be between 1% and 2% in 2015. This is important as St. Lucia and other Caribbean countries have a limited market for small-scale primary industries involved in agro processing and other manufacturing. The telecoms sector accounts for a larger proportion of GDP than may be found elsewhere, at between 4% and 6%. This underscores the strong potential for employment opportunities in the ICT sector and its significant potential for increased contribution to the region's GDP.

There is growth in the telecommunications sector and there is increased competition as a result of new licences for mobile services. This growth is expected to continue in 2016, with new telecoms players coming into the sector. These developments are expected to bolster market size and increase the number of ICT based opportunities within the region, along the ICT value chain. **Special measures would however need to be considered to ensure that more women are informed of emerging opportunities and are able to take advantage of these opportunities in a male dominated ICT industry that assumes a level playing field for all.**

St. Lucians in the ICT sector also need to be aware of the following key developments within the ICT Sector in the Caribbean as reported in the publication: *Caribbean - Telecoms, Mobile and Broadband - Market Insights and Statistics*:

1. Trinidad and Tobago open an Internet Exchange Point (IXP);
2. Digicel T&T launches Fibre to the Premises (FttP) services;
3. Mobile Number Portability (MNP) in T&T launched in February 2015;
4. Number Portability launched in Jamaica in June 2015;
5. United Telecommunications Services (UTS) sells loss-making subsidiaries in Suriname and Saint Kitts & Nevis;
6. Caribbean Research and Education Network (CaribNET) network delivers connectivity to international research stations;
7. KeyTech acquires TeleCayman and British Overseas Territory Cable & Telecommunications, Ltd. (BOTCAT) Holdings;
8. Digicel switches on HSPA in the BVI, providing 95% coverage;
9. CWC invests $30 million in Cayman Island infrastructure;
10. The Eastern Caribbean Telecommunications Authority (ECTEL) updates schedule on release of 700MHz spectrum;
11. CWC reduces ownership of BTC to 49%;

12. The Bahamas Telecommunications Company Ltd (BTC) issue of third mobile licence delayed to at least 2018;
13. Legislative amendments extend jurisdiction of the Barbadian telecom regulator to include mobile services;
14. Bermuda's KeyTech acquires Cablevisión;
15. Bermuda Telephone Company acquired by Digicel;
16. CWC acquires Columbus International; regulatory developments.

The ECTEL publication, *Annual Electronic Communications Sector Review, 2013-2014,* also provides important information on the Caribbean ICT market. The report shares key ICT findings on the member states of ECTEL[11], which are St. Lucia, Grenada, Dominica and St. Kitts and Nevis, highlights of same are as follows:

17. *4G/HSPA+ mobile broadband service launched in St Kitts and Nevis and Saint Lucia.*
    a. During the period 2013-2014, Digicel and LIME launched mobile broadband service in St. Kitts and Nevis and LIME launched island-wide service in Saint Lucia. The availability of mobile broadband has increased the accessibility of broadband services to consumers in the OECS Member States. By the end of 2014 the service was available in all ECTEL Member States.
18. *In 2014 sector investment topped EC $110 million and sector revenue remained flat*.
    a. For the first time since 2010, capital expenditure by service providers exceeded EC $100 million, being recorded at EC $118 million as at March 2014. The 32% jump in investment was driven by infrastructure upgrades for the launch of 4G/HSPA+ mobile broadband series in the Member States. As an interesting observation, this increased investment was made in an environment of stagnated revenue growth.
19. F*or the period ended March 2014, fixed broadband penetration in the ECTEL states increased 110 basis points to a high of 17.2 per cent.*
    a. Subscriptions to fixed broadband services advanced a further 7 per cent, to more than 87,400 and resulted in a penetration rate of 17.2%.
20. *Overall local calling traffic from both fixed and mobile declined*
    a. Local calling minutes from both fixed and mobile networks declined 15% to 1.1 billion minutes. Fixed call volumes fell 18%, and 13% less local traffic originated from mobile networks.

The breadth of these developments within the Caribbean's ICT Sector confirm that the region is rife with existing and emerging ICT opportunities across the ICT value chain. To benefit equitably however, St. Lucians must seek to be more innovative and responsive to these areas with growth potential, build human resource and technical capacity to take advantage of these significant opportunities but also ensure gender

[11] The ECTEL Member States are the *Commonwealth of Dominica, Grenada, The Federation of St. Christopher (St. Kitts) and Nevis , Saint Lucia and St. Vincent and the Grenadines*

equity in access to as well as benefit from these empowerment opportunities within the sector.

Caribbean ICT Market: Potential for the growth of Innovation and Entrepreneurship

There are many encouraging signs throughout the Caribbean that Innovation and Entrepreneurship (I & E) within the ICT Sector is taking hold. As evidence of this 2015 saw many I & E activities being staged throughout the region such as Hackathons, ICT Fairs and the establishment of business think tanks centred around encouraging the growth of the region's innovation ecosystem. The following are examples of some of the activities which demonstrate the wave of I & E presently filtering through the Caribbean:

1. The West Indies News Network reported in their "*Eastern Caribbean Central Bank (ECCB) Spearheads Business Think Tank & Hackathon*[12] article*, "*With a number of member states facing high youth unemployment and stubbornly low economic growth numbers, the Eastern Caribbean Central Bank, partnered with regional stakeholders to host the first, OECS Business Solutions Think Tank and Hackathon, from 14th to 15th August 2015". The event was a tremendous success and acted as a fertile breeding ground for the use of Innovation in ICTs to solve some of the challenges faced by the OECS business community, and in so doing, acted as a critical development opportunity for the region's ICT entrepreneurs.

2. As previously mentioned, St. Lucia staged its first ICT Fair and Hackathon from August 10-14, 2015. St. Lucia's Minister for the Public Service, Sustainable Development, Energy, Science and Technology, Senator James Fletcher indicated in an August 22, 2015 article in The Voice[13] that "the extremely well put together event" provided the "opportunity for St. Lucia to showcase to the general public, that which is possible with ICTs". The article also notes that "the purpose of the fair was to increase the awareness of ICT trends and the GOSL's efforts to facilitate a more ICT enabled economy."

3. There also interesting I & E initiatives being spearheaded by the multilateral community. One such initiative is infoDev's[14] Entrepreneurship Program for Innovation in the Caribbean[15] (EPIC). EPIC is a seven-year programme funded by the Government of Canada valued at CAD $20M. It seeks to build an

[12]http://www.winnfm.com/index.php?option=com_content&view=article&id=13253:ctr-30-eccb-spearheads-business-think-tank-hackathon&catid=85:tech-news&Itemid=361

[13] http://www.thevoiceslu.com/2015/08/minister-hails-ict-fair/

[14]infoDev, a global program in the Global Practice on Trade & Competitiveness of the World Bank Group, supports growth-oriented entrepreneurs through path-breaking business incubators, accelerators and innovation hubs.

[15] http://www.infodev.org/infodev-files/epic_brochure_2015.pdf

enabling ecosystem to foster high growth and sustainable enterprises throughout the Caribbean. EPIC has three core activity pillars: digital innovation, climate technology, ***and women-led entrepreneurship***. These pillars are complemented by an access to finance programme for Caribbean entrepreneurs, and a skills upgrading and capacity development programme for all ecosystem stakeholders. These stakeholders include entrepreneurs, business enablers, policy makers, universities, seed and early stage investors, and other private sector partners.

- There are many interesting activities now taking place throughout the Caribbean as it's concerns EPIC's digital innovation pillar, via a project dubbed the Caribbean Mobile Innovation Project, within which St. Lucian's may get involved. More details may be had at www.pitchitcaribbean.com.

The regional Caribbean ICT landscape also has a place for IT professionals who use ICTs innovatively to afford greater access to basic human rights. In so doing these professionals work to implement development projects where ICTs are used as a tool for advocacy, policy creation and human development.

Analysis of the data from secondary sources reviewed confirmed that the Caribbean ICT market size is really boundless. ICTs can be used to address or solve many major development problems at personal, institutional, community and national levels of development. It also has the potential to facilitate greater participation of women and other marginalized groups such as persons with disabilities, and rural residents to enhance their education, training skills development as well as job creation opportunities.

St Lucia's scope to increase market size is only limited by the capacity of policy makers, private sector, civil society and male and female business entrepreneurs to increase knowledge of the opportunities, build skills and partnerships to take advantage of these opportunities and to imagine, innovative and create solutions to everyday problems.

Opportunities for Trained and Qualified Service Providers, Innovators and Entrepreneurs to Provide IT Enabled Services

As previously discussed St. Lucia's local ICT Sector can grow with increased links to the Caribbean's wider ICT Market, which has a wealth of opportunities for trained and qualified service providers, innovators and entrepreneurs to provide IT enabled services.

Analysis of the primary data collected also showed that persons interviewed had very limited knowledge of the opportunities compared to the scope outlined through on-line resources and reported earlier in this report. The range of opportunities identified from the research showed the following: Computer and data networking; website

applications/mobile development; Java programming; e-Commerce Strategy; Internet Security; Business process analysis and re- engineering; Managing Website Content; IT Project Management and Mobile Commerce Technologies and services.

Analysis of the primary data also identified opportunities in the following areas, with the corresponding percentage of respondents who indicated each category:

1. Teaching/training/lecturing (7%)
2. IT Technician/Technical Support (5%)
3. Call Centres (3%)
4. Public Sector/Government (2%)
5. Computer Repairs (2%)
6. Data Entry (2%)
7. Cell Phone Repairs/ Phone Technician (2%)
8. Purchasing/Trade (2%)
9. Unlimited/various options (2%)

Among the secondary sourced reviewed was the 2015 Employment Generation through Private Sector Development Baseline Study. This showed several job opportunities for investors: Computer Aided Design, Data Entry and Transfer, Electronic Publishing Services, Image Processing, Claims adjudication, Offshore Computer Training Facilities, and Software Development and Voice Centre Operations. (Baseline Study 2015:26). *Several ICT related opportunities were also identified in the Creative Industries.*

Analysis of data from the primary data's Executive Interviews showed that the majority of participants believed that opportunities for small businesses was the main business opportunity in the ICT Sector in Saint Lucia and the wider Caribbean. This may be due to perceptions related to the size of St. Lucia and most of the other Caribbean countries. More St. Lucians however need to recognise that ICTs negate the impact of size of their country as a limiting factor. Indeed, one of the key realities of the sector is that a small team of committed ICT professionals can successfully support a major undertaking as technologies enable a single individual to support a wide range of projects of various sizes.

Interviews with the Community of Persons with Disabilities (CPWDs) revealed that members of this group were aware of the many business opportunities in the ICT sector for the CPWDs. Some of those opportunities identified were in areas such as customer service, online sales, data input jobs, telephone operators and teaching online.

As it concerns regional opportunities, St Lucia's 2015 National ICT Survey identified the following opportunities as shown in Table 1.0:

Call Centres/Data Entry	Systems Mgmt	Public Sector/Govt	Office Jobs
Purchasing/Trade	Entrepreneurship	IT Specialist	Hardware Technicians
Unlimited/Various	Website Development	Telemarketing	Online Marketing
Accounting	Managerial positions	Hospitality	Telecommunications
Schools/Centres	Insurance	Programming	Networking
Private Sector	Outsourcing	Software Technicians	Video Surveillance
Banking	Business Support	Administrative Positions	ICT Engineering
Marketing	Car Engineering	Online Business	Data Processing
Regional Organisations	Software Design	Systems Analysis	Applications Design

Table 1.0. Regional Opportunities in the Caribbean ICT Sector as identified in the 2015 National ICT Study

Major Knowledge Gap regarding ICT Opportunities

The data in this table again confirmed that there is a major gap between the range of options noted by the persons interviewed in the primary data collection process and the wide range of opportunities available in the ICT industry globally. The respondents focused on relatively basic hardware, software and ICT services. However there are a range of other opportunities now available: **the Internet of Things;** the possibilities afforded by **Big Data**, **the Open Data movement, Machine to Machine Interactions**, sophisticated **Animation and graphics solutions**, application of ICTs in the regulatory and policy sphere of the region's various countries, application of ICTs for human socio economic development as with **telemedicine or e-Learning**, and indeed many more developments at the frontier of the 21st century ICT Sector.

Gender and ICT Training

Data from the 2015 National ICT Survey noted that approximately 30% of respondents stated specific ICT skills which they believed could enhance job performance. However most were non-technical areas and related more to the use of software and applications. The report also noted that both males and females identified similar ICT skills that would help to enhance their performance on the job.

Table 11 from the 2015 National ICT Survey Report illustrates the areas that were identified for ICT training or skills enhancement by men and by women.

Areas for Training and ICT skills Enhancement

Men	**Women**
o Basic programmes/ Basic training	
o Programming	o Microsoft Excel
o Graphics	o Microsoft PowerPoint
o Game programming	o Spreadsheet applications
o Applications	o Microsoft Word
o Microsoft Excel	o Microsoft Access
o Microsoft PowerPoint	o Programming
o Spreadsheet applications	o Typing
o Microsoft Word	o Technical aspects
o Typing	o General skills in ICT
o Coding	o Advanced IT/Training
o Quickbooks	o Basic programmes/ Basic training
o Photo Editing	o Database Management
o Advanced IT/Training	o Using specific software
o Web Design	o Online database
o Industrial design	o Website development
o Using e-mail	o Computer repairs
o AutoCAD	o Desktop Publishing
o Latest technology	o Intermediate IT/Training
o Qualifications in ICT	o Multimedia Presentation
	o Applications

Source: National ICT Survey for SLCSI project 2015: Table 11

The two main factors cited in the National Survey as reasons for St. Lucians not taking advantage of ICT training opportunities were cost 48% and time 24%.

Access to ICT Training

The 2015 Baseline Report also provided valuable insights into **the main issues noted by ICT businesses concerning ICT Training.** Among these were:

1. ICT training offered in the public education system is inadequate to meet market needs.
2. Companies therefore had to spend a lot of time (and money) training graduates who then moved on in a short space of time.

3. Training costs were high and the estimate of one company was that 20% of operational costs were for staff training.
4. The problem of having limited numbers of qualified ICT graduates was further compounded as some were not trainable or willing to work in the sector while others did not live in economic proximity to work.
5. Targeted training of youth was recommended to reduce high youth unemployment.
6. Absence of consensus on cyber-services training and learning strategies to improve St. Lucia's competitiveness was also noted.

Primary and Secondary data ascertained for the 2015 Gender Equity in ICTs study also showed that programmes for ICT education, training, entrepreneurship and employment were 'gender blind'. The organisations delivering education and training programmes assumed a *level playing field* for both women and men. The institutions did not consider gender gaps in access that resulted from gender socialisation experiences from early childhood through to secondary school and tertiary education. This gender socialisation learnt through a system of rewards and punishments to boys and girls, and encouragement towards certain types of toys and areas of study, builds the confidence of boys to pursue subjects in Science Engineering Technology and Mathematics (STEMs) which includes ICT- related subjects but often discourages girls.

It is therefore not surprising that the National ICT study reported that there was the perception that 'girls were not as good as boys in technical subjects'. This would no doubt impact on the self-confidence of some girls and undermine their interest and confidence in doing STEM subjects which are pre-requisites to pursuing higher education and certification in the ICT industry, and job prospects in the sector.

Gender Differences in Formal ICT-Related Education and Training

Figure 25 in the 2015 National ICT Survey, conducted for this consultancy, presented data which showed that in rank order, almost half of respondents (47%) stated that they never had any formal ICT-related training. They were followed by a quarter (25%) of those interviewed who reported that they had participated in short ICT-related courses. Only 14% had secondary school level certification (CXC/CSEC), 7% had Associate degrees from the SALC, 3% had Bachelor's degrees and 2% had a masters degree in ICT-related fields. Most had been trained outside the Caribbean which was not surprising as these persons tended to be older (over 35 years).

Gender Differences in ICT at CXC/CSEC Level:

The National 2015 ICT Survey Report also showed that among men and women interviewed with no ICT training, there were no significant gender differences although more females had no training (51%) compared to 47% males. As expected, there were gender differences in completion of IT subjects in secondary school. *Some*

19% of males had completed IT subjects at the CXC/CSEC level compared to 11% of females.

Girls, Women and ICTs in St. Lucia[16]

An article in the St. Lucia News Online of May 14, 2015 entitled 'NTRC Launches Girls in ICT Day National Essay Competition' signals increased national commitment to gender equality and equity in the ICT sector.

Globally, International Girls in ICT Day is celebrated on the 4th Thursday in April each year. The report noted that on April 23, 2015, the National Telecommunications Regulatory Commission (linked to the Geneva-based International Telecommunications Union) and the Universal Service Fund of St. Lucia, supported an essay competition that targeted girls aged 8-18 years. These activities were part of the annual global commemoration and commitment to increase the number of women and girls in ICTs. The ITU notes that although there is an estimated shortfall of over 2 million skilled ICT professionals worldwide, many girls never consider a career in ICTs. The ITU also noted that many companies are seeking to increase the number of women in the sector, which is growing in both industrialised and developing countries. The Fund is supported by contributions of telecommunications companies consistent with the legal provisions of the Telecommunications Act.

Discussions have already taken place with CARCIP regarding emboldening and enriching ideas for the commemoration of Girls and Women in ICTD Day on April 23, 2016. This would include partnering with other institutions where feasible to ensure a most impactful island wide commemoration and awareness building of the need for further female involvement in the ICT Sector.

Main Constraints to Gender Equity in St. Lucia's ICT Sector

Among the main constraints emerging from several studies on gender and ICTs in St. Lucia were:

a. Gender roles and responsibilities (challenges of balancing work and family responsibilities)
b. Educational subject stereotyping in schools (girls' subjects and boys' subjects)
c. Access to safe transportation to attend evening classes or commute home from work late
d. Lack of mentoring to participate in ICT careers
e. ICTs being perceived traditionally as a male dominated domain

[16] See http://www.stlucianewsonline.com/ntrc-launches-girls-in-ict-day-national-essay-competition/

f. Unequal access to funding/capital for training and/or establishment of businesses
g. Constrained access to male dominated networking circle
h. Dearth of success stories of females in high income earning ICT positions

Main Inhibiting Factors for Gender Equity in the ICT Sector

Among the major inhibiting factors cited in the reports from the Primary Data Collection were:

a. The limited number of skilled ICT professionals in the country;
b. Too few businesses offering ICT services
c. Very limited number of companies offering software development which is at the higher end of the ICT scale.
d. Absence of gender related factors in career advancement of women and men in the sector.
e. The need to mainstream gender in the ICT Policy strategy and plans to promote gender equality and equity for national development.

Other inhibiting factors are as follows:

1. Cultural and Patriarchal Norms

Patriarchy: Culturally St. Lucia is a very male-dominated country and is very patriarchal. This is reflected in the traditional stereotypical attitudes and behaviours of both women and men which regard males as superior and females as subordinate. Patriarchy is the result of the behaviour learnt through social interactions between persons. The main agents of socialisation are the family, school, religion, peers and the media. As a result, boys and girls learn gender roles attitudes and behaviours associated with masculinity and femininity. These roles are different, often complementary but are valued and rewarded differently. The roles and responsibilities ascribed to each sex, (male family breadwinner and protector and female family caregiver) can influence each sex's access to power and decision making. Many women experience gender discrimination and gender inequality but may regard this as the norm. This is a strong factor which was evidenced in the primary data acquisition process for this study. Gender stereotyping also influences the creation of occupational stereotypes for women and men that are discriminatory.

St. Lucia's patriarchal culture would also explain the common view expressed by many women and men who were interviewed, that *women are less interested than men in ICTs*; that women face no barriers to pursue careers in the ICT industry and that is their free choice to pursue or not a career in this sector. In the interviews, and focus group discussions, there was the common view that the gender inequality evident in the ICT industry was the result of women exercising their free choice.

Patriarchy is also evident in St. Lucia's governance structure. This reflects a *gender imbalance in leadership* at the highest levels of policy decision making as well as in the top leadership of the public and private sectors including within the ICT sector, as confirmed by the National ICT Study 2015. There are relatively few women in top leadership positions in St. Lucia as policy and decision-makers. This means that without the one-third minimum required as a critical mass to influence decision making and the allocation of financial resources, there is less likelihood that issues considered important for women's development will be considered a priority. The extreme gender inequality as obtains in St. Lucia's political and public leadership has impacted and may continue to impact the GOSL's allocation of adequate resources to redress gender imbalances. This includes providing women and men with equal access to and use of ICTs for development.

The 2015 National Gender and ICT study also confirmed that fewer women than men were in the sector, very few were in high end ICT positions and even fewer were ICT business owners. The 2015 study also revealed that St Lucia's patriarchal culture and practices are changing. Data showed that more males than females were enrolled in ICT training programmes at the Sir Arthur Lewis Community College but the gender gap in enrolment was getting smaller.

Interviews conducted for the 2015 Gender Equity in ICT Study with staff from the Computer Engineering Department, also showed that despite females being qualified in ICTs and certified in technical subjects from the SALCC, companies that provide internships and employment for graduates had a bias against hiring females. They sometimes placed them in administrative and not technical positions if hired. In other instances, the assigned female interns were flat out rejected and the college requested to replace them with males.

2. Structural Barriers

Lack of a Gender Equality Policy is considered a major structural barrier that needs to be addressed. St. Lucia ratified the CEDAW (Women's rights) convention in November 1982. The last CEDAW report was submitted in 2006. This covered the initial period to the sixth report (1982 to 2006). No reports have been submitted since then, which means that as at 2015, St. Lucia has two four-year reports outstanding. Of note is the fact that technical and financial resources are needed to conduct the requisite research, prepare and submit the report and physically present it to the CEDAW Committee which meets annually at the UN Headquarters in New York.

The absence of a national gender equality policy undermines the country's capacity to fulfil its commitment to mainstream gender in all national policies, programmes and strategies and hence they remain 'gender blind'. This means these instruments assume everyone is the same and there is no diversity or difference in the population which would affect levels of access to and use of resources required for development.

The Consultants interviewed the Head of the Division of Women's Affairs in 2015 and she reported that steps were being taken to mainstream gender in national development.

Lack of a National Gender Equality Policy also has a negative impact on the *strategic gender needs of women* re: power and decision-making. Absence of gender equality in national political leadership undermines the capacity to develop laws, policies and the capacity to strengthen institutions aimed at the elimination of all forms of discrimination against women and girls. The reality is that in a context of gender inequity, issues surrounding discrimination against women and girls are less likely to get the priority they deserve. Similarly, *the practical gender needs of women* are not given national priority. The latter would include for example, improving access to affordable quality child care facilities to support women's role as primary caregivers for their family. Presently, this issue is not adequately addressed to meet the needs of St. Lucia's working women. The high cost of child care and the limited access to quality day care act as serious inhibiting factors. This means that fewer women are able to combine work, study and family life. Where child care is available a common concern cited was the limited opening hours before and after regular work hours. Another factor cited during primary interviews for this Study was the limited access to school pick up services and after school care for older school aged children, which are tasks traditionally primarily assigned to women.

The lack of a gender equality policy further contributes to St. Lucia's transport policy not being gender sensitive. As such the policy does not consider specific needs and risks that vulnerable demographic groups such as women and girls face. They are more likely than men to be at risk of sexual assault when travelling on public transportation early in the mornings or late at nights. Absence of safe transportation to travel in the early mornings and late evenings was cited by quite a few women and men in the 2015 Gender and ICT study, as a factor that a) discouraged some women from taking advantage of education and training opportunities and b) severely hampered their ability to remain at work beyond 7:00 pm.

Barriers To Women's Entry in St. Lucia's ICT Sector

Specific barriers to women's entry into the ICT sector cited in the National Gender and ICT survey were that 'both men and women cited factors such as finances; lack of interest among women; pregnancy; and the perception that men do a better job'. Women mentioned 'discrimination'; 'underestimation of women'; and 'lack of/limited opportunities' The factors cited by men included; perceptions of a 'lack of flexibility among women'; 'women's (limited) access to training'; 'society' and 'chauvinism'. Feedback from some men was that "it's a gender thing" and that "[women] are frightened." Table 10 from the 2015 National ICT Survey as shown below, illustrates gender differences in the perceived barriers to women's entry into the ICT Sector.

Perceived Barriers to Women's Entry into the ICT Sector by Gender

Men	Women
o Women are less flexible	o Women are underestimated
o Finances	o Gender discrimination
o Men are thought to do a better job	o Family/Children/Home duties
o Pregnancy	o Finances
o Access to training	o Men are thought to do a better job
o Lack of interest among women	o Pregnancy
o It's a gender thing	o Men are chosen more/given more privileges
o They are frightened	o Lack of interest among women
o Chauvinism	o Lack of/Limited opportunities
o Society	

Source: National ICT Survey for SLCSI project 2015 -Table 10

Other barriers to women's entry in the ICT Sector are as follows:

1. **Perception that ICT are for Males:**

Image of the ICT sector is that it is male dominated and male centred. This view emerged as a potential barrier. in the research conducted by the Consultants. ICT work is often seen as requiring persons in the sector to work on their own with limited opportunities to interact with others. The view was that women tend to be more social. They place more value on social interactions than men. Further research would however be needed to test the validity of this view in St. Lucia as not all women in the ICT sector are sociable and not all males in the sector are likely to value isolation. The perception of a computer 'geek' is a male who spends long hours on the computer away from others .

2. **Male dominated ICT business Networks:**

Analysis of data from the 2015 study on *Gender and ICTs,* confirmed that the membership in St Lucia's ICT sub-sector in SLCSI, is male dominated. *The study also showed that the ICT Business networks operate more in favour of men and work against women*. Therefore since many business decisions are made through networking, women seeking to start an ICT business who would need more investment capital than they presently have, would find themselves compromised as in many instances such capital could be available directly or indirectly through networking. Hence women's inability to access and use these male dominated spaces could also impact their ability to achieve their career goals.

3. **Limited Visibility of Women in ICT Professions, Businesses:**

The 2015 National ICT Study confirmed that lack of visibility of successful women in high positions in the ICT sector was a factor discouraging some women from pursuing careers in the high end of the ICT sector or establishing their own businesses.

Some 75% of the female business owners consulted indicated that their decision to start their businesses was not influenced by the success of other women in business. This is regrettable as responsibilities in higher income categories are greater. Concerns of some businesses and male and female workers, is that work demands may compromise family responsibilities in higher income earning ICT positions. This was also cited as a possible reason why some women avoid Board of Director positions if offered.

Additionally, some women in ICT businesses did not promote themselves to positions of prominence where they would be visible as they did not wish to appear 'boastful'. This could accounts for the lack of sharing of information on the profitability and successes of women in St. Lucia's ICT Sector.

4. **Lack Of Access to Affordable Finance/Start Up Capital & Collateral:**

To start or expand an ICT Business, men and women in the ICT sector would need to access affordable loans to finance further education, establish a new endeavour or expand their ICT businesses. Mortley's 2015 EU Study of Female Entrepreneurship in St. Lucia showed gender differences in access to financing for the ICT sector. Page 42 of Mortley's Report details that some 45.7% of male owners stated that they were more likely to receive financial assistance for start-ups from St. Lucia's banks, compared to 36.5% of female owners. In addition, male owners were more than twice as likely to receive financial assistance (28.3%) from banks to manage their daily operations compared to their female counterparts (12.5%).

As a substantial share of business financing is still only available on a 'risk free' basis, with applicants being asked to provide significant security as collateral. In this regard women are likely to be at a greater disadvantage as a group than men as they have less collateral. Additionally, women generally own smaller sized businesses, which are less competitive than larger businesses and those owned by men. (Mortley, 2015).

5. **Personal Barriers:**

In St. Lucia's patriarchal society, some men may not support the desire of their female partner to pursue further education. Further, primary data acquired for the 2015 Gender Equity in ICT Study also showed that a few companies view the employment of women as a potential threat to business as they may become pregnant. The Study also identified qualified women who did not consider putting themselves forward for higher positions as they hoped to start a family and felt there would be a conflict between work and family responsibilities.

6. **Sexual Harassment**:

A few women complained of sexual harassment. This was noted for example, when having to transact business e.g. from Customs Officers.

7. **Work/family balance**:

Women are more risk averse and are more likely to consider how decisions will impact their family/reproductive roles. Data show that women may be less confident in 'selling' their ideas and skills, despite evidence of their capacity for multi-tasking, being organized, and equally capable as men of running a business.

Main Enabling Factors for Gender Equity in St. Lucia's ICT Sector

The enabling factors to encourage more women in ICTs, as cited in the primary data results of this Study were:

1. **Increased knowledge sharing** on employment and business opportunities in the ICT sector. This would include affordable ICT education/training, outreach, scholarships, assistance with business incubators, courses in ICT related skills and specific information re: high income ICT opportunities. This would be very helpful as supported by members of the 2015 ICT Private Sector Professionals Focus Group which formed a part of the interview groups polled during the Primary Data Collection for this Study, as they indicated that St. Lucians are not generally aware of the employment opportunities in ICT. The view was that ICT education should start from a young age, so the interest of the male or female would grow over the years from early childhood to adulthood.

2. **Educating young women and young men in the ICT industry about inhibiting and enabling factors** for gender equality in the ICT sector.

3. **Sharing findings from the 3025 Gender Equity in ICT Primary Data Research**

4. **Advocacy**
    a) **To support the development of a National Policy for Gender Equality** that will also promote gender mainstreaming in all national polices, programmes and strategies
    b) **Advocacy to integrate gender in the National ICT Policy** inclusive of a robust monitoring and evaluation framework to support and report on the implementation of recommendations.

5. **Gender Mainstreaming**

The SLCSI is to support the **integration of gender in education and training institutions** offering ICT programmes to high schools as well as institutions offering academic, technical and vocational training in ICTs to all age groups.

6. **Access To Care Giving**

Expansion of care giving support services to enable more women to balance care-giving and paid work can be beneficial to working women generally as well as those specifically employed in the ICT sector. This service can be expanded in partnership

with SMILE and SLASPA, which offer two great models for effective child care programmes.

7. **Access To Transport**

Organise a policy dialogue meeting with the Transport Ministry to share findings of this Study and to encourage safe and reliable transportation especially during early mornings and post 7pm at nights. The goal would be to encourage more women to attend education & training programmes and in so doing enable themselves for promotion in the job market.

Enabling Factors which could be implemented by the GOSL to Foster Gender Equity in the ICT Sector.

8. **Establishment of Technology/Business (Virtual) Incubator Services** as a joint initiative with CARCIP, the Small Enterprise Development Unit (SEDU), the Trade Export Promotion Agency (TEPA) and the National Resource Development Foundation (NRDF);

9. **Legal protection for processing and storage of networked information** and intellectual property rights;

10. **Consumer protection** (Consumer Protection Act 2015);

11. **Digitalisation** of trade infrastructure and procedures (ASYCUDA) (p.23).

Actions Needed to Address Barriers To Women's Entry In the ICT Sector, especially In Higher Income Earning Categories

These include:

1. **Mentorship & Internship Programme For Women In ICTs:**

The SLCSI could partner with:

a) relevant institutions to strengthen mentorship and internship programmes for women in ICTs. This partnership could also provide ICT business incubators, support services and technical advice to support the transition from ideas to implementation of envisioned businesses. These business incubators can, over time develop to promote sales of their incubatees using local, regional and global opportunities for using ICTs for Development.

b) experienced and successful women entrepreneurs in ICTs, to share best practices and lessons learned to provide role models for women

who aspire to be industry leaders and entrepreneurs. This is especially important for new female entrepreneurs who are intimidated by gender stereotypes and hostile business environments. A formal mentorship programme between students and ICT professionals could be instituted.

2. **Access To Affordable Finance**:

The SLCSI could organise a policy dialogue meeting with financial institutions to encourage the adoption of **Special Temporary Measures** to enable women to access affordable loans for ICT business start-ups or to expand their businesses.

Recommendations to Aid in Reducing Gender Inequity in St. Lucia's ICT Sector:

1. **Organise a Gender awareness training programme** for:

a) **the Education sector stakeholders** to include: policy makers, principals, guidance counsellors and ICT Teachers/Lecturers to encourage and train more girls and women in ICTs.

b) **private sector HR managers** to identify and address barriers to gender equality in women's access to high paying jobs & positions in the ICT industry.

c) **the general public to promote '*ICTs Are for All*'** *targeting* parents in poor communities as well as the community of persons with disabilities; and young unattached males.

2. **Organize initiatives to assist with parenting education**

Such initiatives would be undertaken in schools and day-care centres. The aim is to increase parents' awareness of gender, gender socialisation and the role they can pay in encouraging *both* boys and girls to pursue careers in ICTs.

3. **Make the ICT operating environment in which both genders work more streamlined and efficient**

This objective would be achieved through alignment of initiatives within the private sector, civil society and public sector ministries, departments and agencies (MDA)s.

a. An independent audit by a Monitoring and Evaluation Expert/Team to conduct a rapid assessment of the roles, responsibilities and activities of those agencies that support ICT and business development/incubation in St. Lucia to identify strengths, weaknesses, opportunities and threats (SWOT Analysis). This will identify and guide the elimination of areas of duplication and waste across agencies.

b. Once item a) is completed, stream line agencies with clearly defined roles and responsibilities and eliminate areas of duplicity and waste.

4. **Effect a public education and gender awareness** programme:

A public education campaign can be developed to build awareness of gender stereotypes in ICTs and encourage behaviour change through radio and television shows, public events promoting equitable business practices, strong social media engagement and knowledge sharing re: successful female ICT entrepreneurs in St. Lucia.

5. **Conduct research** on successful women owned ICT businesses

Develop local and international case studies on ICT business best practices and gender mainstreaming within ICT businesses/government/policies.

6. **Provide technical assistance** for Gender Equity in business:
    a. Integrate/link MSME business initiatives, NICE and SMILE etc. for a more enabling environment for young females, especially those situated in rural areas to take advantage of ICT training & business opportunities.
    b. Establish special community based ICT education, training and employment programmes to increase opportunities for employment for women and men with disabilities re: ICT opportunities for education, training, employment locally and regionally and gaining independence.

7. **Promote a gender-responsive Financial Sector to support ICT investments**

Organise a gender sensitisation workshop and programme for financial institutions that provide funding for ICT start-ups, as well as MSMEs and big businesses to:

a. Conduct a gender review of loan polices re alternative collateral options for ICTs and the creative industries and services.
b. Suggest alternatives to facilitate move away from traditional zero risk model
c. Encourage the establishment of a special ICT investment fund at financial institutions to build St. Lucia's ICT entrepreneurial ecosystem.

Proposed Capacity Building, Technology Innovation and Entrepreneurship Skills Development Programmes

There are eight main suggested training and capacity building activities suggested by this Consultancy to aid in ameliorating the gender inequity in St. Lucia's ICT Sector and provide access to higher income earning opportunities in the ICT Sector. These initiatives span ICT and Gender sensitization programmes, technology innovation and entrepreneurship skills development programmes. Details on each of the above projects/programmes are given in the immediately following section below. The

potential opportunities for employment of graduates of the respective prescribed capacity building programmes in existing ICT firms, is also incorporated in the discussion on the respective projects/programmes.

The discussion of the various capacity building programmes is followed by a short list of international training institutions with which the the Sir Arthur Lewis Community College could collaborate on the design of a programme of training that would address the gaps in the CARCIP Training Initiative and provide graduates with the skills and knowledge required to take advantage of existing opportunities in the ICT sector and access new entry points for entrepreneurship activities relating to IT enabled services, expanding trade and business, and government and consumer applications. Detailed guidelines and documentation for establishing an alliance with the preferred institutions are also provided consistent with the TORs for this consultancy.

Final Recommendations to Aid in Reducing the Gender Inequity in St. Lucia's ICT Sector

The eight (8) recommendations within this Final Report include the following short, medium and long-term ICT based interventions. They are as follows:

Short Term (less than 1 year - November 2015 - October 2016 for the majority of activities)

1. A proposed Caribbean Regional Communications Infrastructure Programme (CARCIP)/ Saint Lucia Coalition of Services Industries (SLCSI) Gender Equity in ICT Partnership Initiative which comprises the following sub-projects:
    a. Website Competition and ICTs in Entrepreneurship Empowerment Programme for the *Upton Gardens Girls' Centre* (Jan-Apr 2016)
    b. Women in ICTs Skills Development Training and Job Placement Programme (Feb – June 2016)
    c. ICT Awareness Building and Sensitization Programme (from November 2015 onwards)

2. A Converge Solutions Inc./SLCSI 6 months Women in ICT Internship and Mentorship Programme

3. Implementation of a three day Gender Sensitization Workshop for key stakeholders in the ICT sector (in a mutually agreed timeframe).

Medium Term (1– 3 years)

4. A Sustainable Annual *Mentorship and Internship* programme modeled off the present Converge internship programme to increase women's participation in ICTs and to move women up the ICT value chain;

5. Delivery of a *Gender Mainstreaming Training Course and Gender Sensitization P*rogramme by the UWI's Institute for Gender and Development Studies Mona Unit;

6. An annual *Girls Coding Summer Camp* to foster female interest in Science, Technology, Engineering and Mathematics (STEMs), to include the ICTs, from the very formative years.
    a. Emphasis should be placed on ensuring both schools in the northern and southern corridor of St. Lucia, the latter of which is often underserved, participate in this annual summer camp. Special efforts would be made to include girls with disabilities and girls in rural areas.

Long Term (3-5 years)

7. Master of Science in Telecommunications Policy and Technology Management (TPM) offered by the Telecommunications Policy and Management Centre located in the Caribbean Institute for Media and Communications (CARIMAC) at the University of the West Indies Mona campus, Jamaica. Three options are possible:
    a) the GOSL could facilitate scholarships to enable a designated number of St. Lucians to complete the programme face to face in Jamaica;
    b) St. Lucians could undertake the programme in a blended 70% on-line and 30% face-to-face in Jamaica format;
    c) All courses within the TPM Master of Science programme are also offered as Modular Singular Courses. Consequently, St. Lucians could choose to register for specific courses that would be of direct value to them.

This programme has the potential to build national capacity for both ICT Training institutions and individuals in St. Lucia.

8. Modular ICT skills development short term training certificate courses offered by the Caribbean Institute of Media and Communication (CARIMAC) for delivery in St. Lucia. This includes courses on animation, film and other areas in response to emerging ICT opportunities.

Short Term Recommendation #1/3

ICT Training and Capacity Building Initiative 1

Proposed Caribbean Regional Communications Infrastructure Programme (CARCIP)/ Saint Lucia Coalition of Services Industries (SLCSI) Gender Equity in ICT Collaboration
Concept Note

This Concept Note for the first ICT Training and Capacity Building Initiative of this Final Report is divided into the following four sections:

Section #	Content
1	**Details of the *Promotion of Girls and Women in ICT* Campaign**
2	**Suggested Activities For Proposed SLCSI/CARCIP Collaboration Geared Towards Increasing Participation Of Girls and Women in the ICT Sector**
3	***Promotion Of Girls and Women in ICT* Campaign Budget**
4	**Follow-ups to September 27, 2015 Samuels/Peterson-Alfred Planning Meeting**

Section 1: DETAILS OF THE *PROMOTION OF GIRLS AND WOMEN IN ICT* CAMPAIGN

Title: *Promotion of Girls and Women in ICT* Campaign
The focus of the proposed collaboration is the development of an awareness and capacity building, technology innovation and entrepreneurship skills development programme for women in St. Lucia's ICT Sector. Such a programme blends well with the goals of CARCIP, being *Fostering Innovation - Building Competence,* with innovation having direct links to entrepreneurship and competence being directly linked to training, ICT capacity building and gender equality.

Brief CARCIP Situational Analysis:
After two years of work, participation of women within CARCIP's programmes has been generally low.

CARCIP's Business Incubator Grant (BIG): Analysis of this component of CARCIP showed that only 23% of its grantees were women despite a stated objective to recruit 50% of grantees as women. As such, CARCIP is keen to increase the involvement of women in its programmes. Consultants analyzed the strategies used by CARCIP to recruit participants for the programme and noted that a 'gender blind' approach was used which could explain the low number and percentage of women who applied for grants. Dialogue between the Consultants and CARCIP staff showed that the organisation is very committed to using a more gender sensitive approach to marketing and is keen to partner with the SLCSI to increase its direct targeting and recruitment of women. The BIGs can help to reduce occupational segregation of women in the ICT Sector, by specifically targeting women and providing them with the skills, competencies, knowledge and confidence and support to enable them to participate more equitably in the sector. This is ultimately expected to result in higher revenue earning business opportunities and entrepreneurial avenues for women in the ICT industry.

CARCIP's Training Grant Component got off to an exciting start with a one-week ICT Fair and Hackathon in August 2015. Two hundred and forty-two young St. Lucians

were trained at this event with 54% of them being female. However the majority of females came from the northern corridor of St. Lucia, indicating that there is much unmet demand from women in the country's southern region.

CARCIP's ICT Skills Development Programme commenced as at October 2015 and is moving to have 800 - 1,000 St. Lucians trained by the end of the project in February 2017. This number of people represents a movement down from the original projected number of 7,000 St. Lucians trained under CARCIP's training initiative.

Gender Review of CARCIP Policies and Programmes: The Consultants review of CARCIP documents revealed that gender was not specially considered in its strategies to achieve its stated objectives. The results of interviews conducted by the Consultants with some members of the management and staff of CARCIP showed varying levels of awareness of the importance of gender in ICTs. Awareness had not however been translated into mainstreaming gender in CARCIP's outreach methodologies and some of its policies and programmes.

A major recommendation of the Consultants is therefore to mainstream gender in CARCIP's policies, programmes and strategies. Gender sensitive indicators and targets should be established and appropriate strategies should be used to promote increased Gender Equity in the country's ICT industry.

Objectives of the *Promotion of Girls and Women in ICT* Campaign:

The specific objectives are to:

1. Provide employment opportunities for women within the ICT sector, with a special focus on increasing the number of women in higher income earning categories.
2. Provide opportunities to certify and train women in the use ICT (s)
3. Increase the participation of women in the ICT Sector
4. Provide human resource and capacity building initiatives to support female entrepreneurship in the ICT sector
5. Train and certify 100 women in various ICT courses
6. Foster innovation through the provision of financial resources to support the ICT/ ICT enabled business development projects of five (5) female owned SMEs
7. Foster interest in Science, Technology, Engineering and Math, to include ICTs, in girls from the primary school stage, in order to ensure sustainability of efforts to promote Gender Equity in St. Lucia's ICT Sector.

***Promotion of Girls and Women in ICT* Campaign Description:**

The campaign will consist of a series of activities geared towards promoting the participation of women and girls in ICTs. The four components of the campaign's activities are:

1. The provision of capacity building initiatives as a means of developing or strengthening the ICT skills of women
2. Encouraging teachers to use of high-energy, creative and interactive ICT learning activities, in primary schools, to encourage the growth of increased and sustained interest by girls in Science, Technology, Engineering and Math, including ICTs.
3. Information on the provision of financial assistance to support ICT based business development activities of female entrepreneurs.
4. Special messages targeting women to assist them in identifying potential employment and entrepreneurial opportunities in the ICT sector in Saint Lucia and the wider Caribbean.

The campaign will adopt the strategies, rules and procedures articulated in the CARCIP Business Incubator and ICT Training Grants Manuals, These will be amended to include the activities detailed in Section 2 of this CARCIP/SLCSI Concept Note. The campaign will also partially satisfy the requirements of the SLCSI's Gender Equity in ICT Consultancy's TORs.

A signed Memorandum of Understanding (MOU) between the Ministry of the Public Service, Information and Broadcasting as the implementing authority for CARCIP, and the SLCSI would be required to formalise the collaboration between the two agencies.

Campaign Duration:
Preparatory activities would commence in October 2015. The Campaign would be officially launched in January 2016, culminating in a timeframe to be agreed by both parties.

Campaign Awareness Activities:
1. Island wide Road shows directly targeting women participation in the programme.
2. TV ADs
3. SMS
4. Marketing Paraphernalia
5. Social Media
6. Taglines
7. Round table Discussions
8. Outreach to the Community of Persons with Disabilities

Section 2: SUGGESTED ACTIVITIES FOR PROPOSED SLCSI/CARCIP COLLABORATION GEARED TOWARDS INCREASING PARTICIPATION OF GIRLS AND WOMEN IN THE ICT SECTOR

1. GENDER and ICT COMPETITIONS

a. Build an ICT Website/ APP Campaign Competition (Jan-Apr 2016)

St Lucian females aged 17 -35 years from across the island would be invited to participate in a website building programme for a period of one to two months. The aim is to develop their skills in basic website design using basic web building tools such as WIX, for business purposes. It is hoped that with such a skill, more girls can become self employed by developing basic websites for entrepreneurs and businesses within their community. Incentives can be included. For example, the female trainee with the best website design could receive ICT equipment or a scholarship to enroll in a professional web development course, such as those offered by CARCIP and others.

b. Provision of Content to Develop a Website Prototype Competition (Jan-Apr 2016)

Female web developers will be provided with content to be used develop a prototype of a website for a specific institution, e.g. the Upton Gardens Girls' Centre of St. Lucia. The mission of this Centre is to provide a quality day care rehabilitation service in a conducive environment for young girls who are abused, disadvantaged, abandoned, underprivileged or neglected. The Centre believes they can be empowered through high community involvement, timely and appropriate interventions and effective case management.

In support of the global commemoration of **International Girls in ICT Day in April 2016 organised by the International Telecommunications Union (ITU)**, the female web-developer who has created the best prototype could be awarded a contract to develop an actual website for the institution. Partnerships could then be sought with interested parties to strengthen the ICT infrastructure of the Centre, through the provision of a computer(s). As an initial intervention, girls living at the Centre could be trained to maintain the website themselves.

b) i) ICT Capacity Building Initiative for Wards of the Upton Girls Centre (timeframe to be confirmed by the SLCSI and CARCIP)

As a second more advanced intervention, to increase the technical ICT capacity of the girls at the Upton Gardens Girls' Centre to make use of ICT tools for their empowerment, there will be a strong focus on the use of ICTs to enable entrepreneurship opportunities, across the areas of professional interest of the Centre's wards. Within this ICT and entrepreneurship training initiative, the Upton Garden's girls will be taught how ICTs may be used to build their business acumen, grow their businesses and networks, create an online presence and strong brand, and facilitate access to strong business opportunities, with the potential to transcend the national borders of St. Lucia. Business areas may include but are not limited to: using ICTs to develop spa services, cake baking, cosmetology, housekeeping, etc. Finally, an alumna mentorship programme would be suggested to demonstrate tangible examples to the Centre's girls of how they may become empowered once they exhibit dedicated focus to their professional growth. All these initiatives are also aimed at

building the self-esteem of the Centre's girls. Evaluation of these initiatives when implemented, can help to guide the further enhancement of the programme.

c. Women's Mobile App Hackathon (Jan-Apr 2016)

A Women's Hackathon is another initiative that could be implemented. This could involve the Identification of a problem facing St. Lucians and/or the region and encouraging groups of females or individual female programmers to develop an ICT app as a possible solution to the problem.

The above competition(s) should commence at the launch of the *Promotion of Women in ICT* campaign in November 2015, with the winners of the competition (s) announced and awarded on International Girls in ICT day celebrated annually during the month of April. As a suggestion, CARCIP could provide resources to train these women, with the SLCSI providing the awards or funding the web development consultancy.

2. BECOMING A FEMALE ICT CEO/INTERNATIONAL ICT ENTREPRENEUR ONE DAY SEMINAR (Apr 2016)

This one-day seminar would be focused on effecting knowledge sharing around key skills, attitudes and best practices needed for women to achieve higher income earning opportunities in the local, regional and international ICT Sector. This would include opportunities that require innovation. The aim would be to educate, inspire and motivate St. Lucian women about the wide scope of possibilities across the ICT Value Chain. Three speakers would be featured during the seminar. The suggested speakers for a one day April 2016 seminar would be:

a. Ms. Siobhan James-Alexander, Country Manager, Digicel St. Lucia
b. Ms. Geraldine Pitt, Regional Manager for St. Lucia and the OECS, LIME
c. Ms. Regenie Fraser, Secretary General, 2004-2015, Caribbean Association of National Telecommunication Organizations (CANTO). Ms. Fraser is resident in Suriname so would need to linkled via video conference into the seminar or flown to St. Lucia.

3. WOMEN IN ICT SKILLS DEVELOPMENT TRAINING PROGRAMMME (Feb-Jun 2016)

This programme would facilitate the training of at least 20 women in all major villages of St. Lucia in various ICT programmes. These programmes would fall within the CARCIP list of approved subject areas, which are as follows:

1. Technology (ICT)/ IT Management
2. Internet, Cyber and Network Security
3. Analysis and Design
4. End point Maintenance and Repairs to include specialties such as Cell phone repair, etc.
5. Multimedia Production

6. Mobile App./Web Development
7. Computer Graphics/Animation to include Multimedia production, etc.
8. Photography
9. Database Management
10. Automotive Technology
11. ICT Business Development Capacity Building Training would also be available through CARCIP's Business Incubator Grant programme.

These areas for ICT training needs emerged from primary data collected by the SLCSI's Gender Equity in ICT Consultancy. They were mentioned by females interested in entering the sector or wanting to achieve higher income earning positions within the sector.

Advisory Component for Women in ICT Skills Development Training Programme
The programme will be enhanced with an Advisory Service component for the women interested in signing up for ICT training. The aim of this component is to act as a "Helpdesk" to assist women in choosing the right ICT courses and ICT Business Development Capacity Building Training options from the CARCIP programme offering.

***ICT Career Options*:** The Help Desk will also provide advice to applicants and participants, regarding the suite of professional career options available to them in the local and international ICT market.

***Mentorshi*p:** The advisory service will also include targeted mentoring regarding ICT career opportunities and link women with mentorship opportunities to enhance their skill set as well as provide advice on succeeding in their professional lives in the ICT Sector, subsequent to their acquisition of the ICT Training and Certification opportunities within CARCIP.

***Financial Assistance*:** CARCIP could provide financial resources to support the technical training for females within this programme. The SLCSI could support this process by providing assistance with awareness building programmes as well as training in 'soft skills' and stipends to help young women overcome the barriers that exist which undermine equal female participation in ICT training programmes.

***ICT Certification*:** This will also be provided for these women enrolled in CARCIP programmes to facilitate their participation and increase the likelihood of them completing the training programme and graduating with the other participants of CARCIP's ICT Skills Training programme, in June 2016.

Internships: The National Initiative to Create Employment (NICE) is recommended as a partner to assist with job/internship placements after the women complete their training and certification in June 2016. There is also scope for additional certification resulting from internships and job placement opportunities. There will be direct and

focused targeting of women to apply for this training programme with special outreach to be made to qualified potential applicants from St. Lucia's National Skills Development Centre's Single Mothers in Life Empowerment SMILES Project. Targeted recruitment efforts will also be undertaken to encourage the participation of underserved women and rural women from St. Lucia's southern corridor.

12. BUSINESS INCUBATOR (BI) GRANT (Feb-Aug 2016)

The BI Grant in CARCIP's programme would be extended to give qualifying female entrepreneurs a business incubator grant to enhance the ICT functions of their businesses. To qualify, females would be required to meet the specific requirements of the CARCIP BI Grant programme. In addition, the business must be the primary source of their income and applicants should be females aged 18-40 years. The possible grant ceiling could be **XCD 30,000.00.**

13. CREATION OF AN ICT ENTREPRENEURS MENTORSHIP CLUB (Feb-Dec 2016)

Young ICT entrepreneurs/professionals with various skill sets e.g HR, Marketing, IT, Finance could be encouraged to work together to support each other at least once a month. Special recruitment efforts would be undertaken to ensure the targeting and participation of women. These individuals could network at various functions organised under the SLCSI/CARCIP collaboration such as: 'power breakfasts', 'lunch and learn sessions', 'innovation nights' or other business networking mixers.

Each of these meetings would be a capacity building exercise aimed at developing or strengthening ICT entrepreneurship or innovative skills. Guest speakers would also be invited to present on topical areas. These experienced speakers could provide insight into how young entrepreneurs can access and manage their startup costs and monthly overheads to improve profitability. The objective is for this Business to Business networking to eventually lead to the formation of Business to Customer relationships. In so doing, the very same business persons mentoring each other may eventually become a customer/supplier to each other or form other types of solid business partnerships.

There would also be the possibility for mentorship between the featured speakers and young and aspiring/established entrepreneurs. The speakers would decide how best they could support the young ICT entrepreneurs according to their individual capacities and available time.

14. *ICTS FOR ALL* CAMPAIGN (Feb–Apr 2016)

An island wide campaign could be conducted, to reinforce the ethos that ICTs exist to empower all members of society. These include the ten (10) percent of St. Lucia's population representing the community of persons with disabilities (CPWDs). There would also be a focus on empowering the elderly, an increasingly important demographic group who are living longer and need to earn an income to address rising costs and inflation. Targeted knowledge sharing campaigns can be undertaken to enable attributes of the ICT Sector to be known. This could culminate in a special event

during April 2016. This special event could feature a video conference seminar with presentations from a leading Caribbean member of the CPWDs such as Senator Floyd Morris, the visually impaired President of the Jamaican Senate, who is very knowledgeable in the use of JAWS and other ICT tools to enable visually impaired persons to access information, education training and employment. .

Ms. **Gloria Goffe**, Executive Director of the Combined Disabilities Association (CDA) in Jamaica is also a resource person. She helped to develop early warning systems for disaster risk management for use by persons who are blind or deaf as well as persons with other disabilities in the community of Portmore in St Catherine, Jamaica. The ***ICTs for All Campaign*** would specifically target women with disabilities as part of the broader CPWDs. ICTs are a powerful tool to empower women with disabilities to combine and balance their productive (paid work), and reproductive responsibilities (unpaid caregiving work).

The outreach component of the ***ICTs for All Campaign*** will be undertaken with appeals to St. Lucia's private sector, to support the programme. This would include funding to import much needed ICT equipment and software for the CPWDs to facilitate their further economic empowerment and acquisition of greater independence.

This need was identified through analysis of the primary and secondary data collected under the SLCSI's Gender Equity in ICT Consultancy. The research confirmed that the availability of specialized ICT tools for the CPWDs is a major area of need in St. Lucia. The SLCSI could support programmes targeting the women in this campaign, and CARCIP could support programmes targeting the men. Findings from this campaign could be shared and evaluated and if possible, the campaign could be replicated with any possible improvements from lessons learned.

Section 3: *PROMOTION OF GIRLS AND WOMEN IN ICT* CAMPAIGN BUDGET

Activity	Unit	Unit Cost	Total XCD
	(person)	XCD	
Build ICT App or Website Competition			
Training/ Professional fees	20	3,000	60,000
Stipends to assist Transportation, Food, Daycare, etc.	20	500	10,000
Awards			15,000
Sub-Total			**85,000**
BECOMING an ICT CEO/INTL ENTREPRENEUR **1 Day Seminar**			
Professional Fees	3	3,000	9,000
Air Travel	1	3,000	3,000
Boarding and Lodging	4	500	2,000
Catering and Location Rental	100	80	8,000

Sub-Total			**23,000**
ICT Skills Training Programme			
Trainer fees	100	2,500	250,000
Stipends to assist Transportation, Food, Daycare, etc. for 3 months	100	500/mth	150,000
Sub-Total			**400,000**
Business Incubator Grant			
Grant awards	5	30,000	150,000
Sub-Total			**150,000**
ICT Entrepreneurs Mentorship Club			
Monthly ICT Professional Development Workshops	12	5,000	60,000
Sub-Total			**60,000**
***ICT for All* Campaign**			
Capacity building activities including road shows, ICT awareness campaigns. Provision of ICT equipment to the Community of Persons with Disabilities (CPWDs). Education of CPWDs re: how ICT tools may be used to empower them across various sectors, where necessary.	20W 20M	1,000	40,000
Sub-Total			**40,000**
Miscellaneous			
Stationary, etc.			20,000
Sub-Total			**20,000**
ICT Public Awareness Campaign*			
Social Media outreach, National TV Network advertising, SMS, Marketing Paraphernalia, Billboards			45,000
Sub-Total			**45,000**
Total			**823,000 or USD 302,919**

*Wherever possible local resources will be used to assist in the Public Awareness Campaign. Government resources, available to CARCIP without cost, will be leveraged in the production of advertising campaigns. The majority of TV advertising costs related to the promotion of the above-mentioned programme activities would thus be for airing through public broadcasting channels.

Section 4: Follow-ups to September 27, 2015 Samuels/Peterson-Alfred Planning Meeting

This proposal for a CARCIP/SLCSI partnership was shared with the Director of the SLCSI who generally endorsed it. The following follow up actions were recommended in the proposal:

1. The SLCSI to indicate projects of interest and the total value they could contribute to the suggested CARCIP-SLCSI partnership;
2. Yvonne Agard (SLCSI) and Cindy Peterson-Alfred (CARCIP) to meet to discuss SLCSI-CARCIP Concept Note.
    a. A key question was whether the SLCSI may be able to contribute a project officer to assist with execution of the projects that both parties will agree to implement. This was slated as a critical factor for success, as presently CARCIP does not have the resources to ensure the successful implementation of the projects proposed.
3. CARCIP-SLCSI collaboration proposal to be revised to indicate projects both the SLCSI and CARCIP have agreed on, and a revised budget developed.
4. Proposed partnership documents to be shared with all required parties to obtain feedback for any desired amendments and eventual requisite sign offs
5. A CARCIP-SLCSI MoU was to be finalized indicating the roles and responsibilities of each party for each agreed project.
    a. A preliminary suggestion for the **Build an ICT Website/ APP Campaign Competition** and the **ICT Skills Training Programme** for example was that CARCIP could be responsible for training and associated fees, and the SLCSI could be responsible for facilitating the enabling environment for the involvement of women, by removing known barriers to the incorporation of women in ICT initiatives, such as the availability of daycare facilities, safe transportation and contributing to awareness campaigns to enable women's knowledge that they can be leading participants in the success of St. Lucia's ICT Sector.
    b. MOU to also stipulate that the SLCSI would disburse agreed funds directly to the beneficiaries, according to the rules of this statutory body, as opposed to paying their contribution to the Government Ministry responsible for CARCIP, being the Ministry of the Public Service, Information and Broadcasting, for them to then disburse to the CARCIP-SLCSI partnership beneficiaries.
    c. Consultants to provide assistance with the finalization of the MoU as necessary.

Short Term Recommendation #2/3

<u>ICT Training and Capacity Building Initiative 2</u>

ICT Internship Opportunity at the St. Lucian ICT Company, Converge Solutions Inc. for 6 female graduates of the SALCC.

Description of Converge Solutions Inc.'s Women in ICT Internship Initiative

Objective: To create an environment where the Intern can attain international certification with key industry recognized accreditations like Network+/A+ and the CCNA minimum standard for a networking technician, and develop competence, confidence and practical experience through the application of networking fundamentals in a real world situation. Options are available for Web and Webmaster skill set development towards CIW[17] certification.

Structure: Six month, full time internship opportunity for six women.

Key Agencies: Converge Solutions Inc.[18], and the Saint Lucia Coalition of Services Industries.

Profile of the Targeted Participants: The desired profile of interns is that the majority should be females who are recent graduates of the Sir Arthur Lewis Community College, having graduated with an associate degree in one of the College's ICT affiliated programmes. Potential interns should develop a competitive Curriculum Vitae that demonstrates their mastery of the studies successfully completed and well-rounded professional development.

Modalities: This will be an in-person internship opportunity requiring the full time presence of the six female interns at the offices of Converge Solutions, located in Reduit, Gros Islet, St. Lucia, for six months commencing in October 2015.

Key Results:

Benefits to Intern:

1. Opportunity to gain varied spectrum of practical experience for technical and business development skills in ICT
    a. Cabling practices
    b. Switching & Routing
    c. Telecommunications
    d. Hardware Configuration and testing
    e. Software Applications for Business – HR/Security/Accounting

2. Exposure to practical life and best practices within a well-established St. Lucian ICT working environment
    a. Project Management Fundamentals
    b. Working & Reporting Structure

[17] CIW comprises the world's fastest growing Web technology education and certification programs for professionals. - http://www.ciwcertified.com/About_CIW/index.phpvendor-neutral

[18] Converge is a renowned ICT Company located in Reduit, Gros Islet, St. Lucia

c. Team working Dynamics

Benefits to the Employer, Converge Solutions Inc.:

1. Achieving corporate social responsibility objectives
2. Human resource development in ICTs Capacity building for the nation's future work force by facilitating knowledge transfer of ICT Skills to young female graduates of the SALCC.

Main Topics:

This Internship programme will be divided between two main Projects to be pursued by Converge Solutions Inc.

Converge Solutions Inc. Project One

1. **The design, supply, implementation and commissioning of the information and telecommunication services required for St. Jude Hospital Reconstruction Project (SJHRP) of St. Lucia.**

The SJHRP deliverables are as follows:

1. The development and installation of the ICT infrastructure:
    a. CAT6 Cabling system
    b. Design & commissioning of the fibre optic network
2. Hardware, software and security for the Local Area network (LAN)
3. Hardware and software for the IP PBX and Video conferencing solution
4. Hardware and software for the CCTV surveillance solution
5. Hardware and software for the Inventory Management System
6. Hardware and Software for WiFi solution
7. Hardware and software for Computers on the LAN
8. Supply of infrastructure and hardware for Cable TV system

Converge Solutions Inc. Project Two

2. **Research & Design/Development for Project X.**

The ICT related skills and tasks required in support of Project X are:

1. Web-site development – software programming using PHP/JAVA/MySQL/XML
2. On-Line marketing campaign – social media activation/tracking and management
3. Search engine optimization
4. Web Master Services
5. e-Commerce and on-line payment application and integration

The following activities are slated to be undertaken across these aforementioned two projects for the planned six-month period

Month 1: Activities

1. Cabling
    a. Termination of RJ 45 end on CAT6, CAT5
    b. Termination of RJ11 ends on CAT5
    c. Termination of Coaxial Cables
    d. Understanding Fibre Optic fundamentals
    e. Research and be able to differentiate the differences between
        i. Racks
        ii. Patch Panels
        iii. Switches/Routers
    f. Installation and termination of Cables on Patch Panels
    g. Installation and Termination from Patch Cables to Switches
2. IP Networking Fundamentals theory – design components towards CCNA Certification
3. IP Networking Fundamentals – Practical network design and Installation
4. IP networking - Trouble Shooting techniques and procedures

Month 2 & 3: Activities

1. Servers – Hardware & Software
    a. Architecture & Functions
    b. Dimensioning and Configuration
    c. Virtualization
2. CCTV Systems – IP vs Analogue
    a. Components for CCTV systems -
    b. Research the different types of CCTV cameras available
    c. Research Recording and storage devices for CCTV systems
    d. Remote access and monitoring applications and management
3. Telephony Networks – Fundamentals & design
    a. IP PBX systems
    b. VOIP networks
    c. Video Conferencing systems
    d. Unified Communications Networks (UC)

Month 4 & 5: Activities

1. Configuration of Ethernet Switches and Routers
    a. Research and practice configurations of Ethernet Switches/Router
    b. Research and practice configurations of Switching & Routing Protocols
    c. Practice exams for Network + and CCNA

Month 6: Activities

1. Customer Service & Support
    a. System trouble shooting and Repairs

b. System reports and Network Monitoring
c. Customer reporting
d. Sales & Service
e. Project Reporting

Budget for Converge Solutions Inc.'s Women in ICT Internship Initiative:
Converge's existing capacity will allow the company to work with a maximum of six (6) female interns to implement the two key projects for the proposed 6-month period.

Activity	Duration	No. of Female Interns	Unit Cost	Extended Cost (USD)
Stipend	6 months	6	$ 600.00	$ 21,600.00
Training Material and Incidentals etc.	6 Months	6	$ 24.00	$ 864.00
Transportation	6 months	6	$ 70.00	$ 2,520.00
Total (USD)				**$24,984.00**

Monitoring & Evaluation: Ms. Yvonne Agard, Executive Director of the SLCSI will manage the M&E process for this Internship opportunity. A Balance Scorecard methodology will form the basis of the M&E framework. The balance scorecard will request that each intern conduct both a self-evaluation and an evaluation of Converge Solutions every two months. Converge will also be asked to evaluate themselves and each intern independently, again every two months. Evaluation ratings will be as follows:

A = very competent; **B** = somewhat competent; **C** = not competent

Three payments are planned for each intern, over the six-month internship period, with each payment being predicated on successful completion of the Balance Scorecard.

Expected Results at the end of the Internship Programme and the Potential Opportunities for Future Employment:

As graduates of Converge's six-month internship programme, the interns would have attained international certification in the ICT Sector with key industry recognized accreditations like Network+/A+ and the CCNA minimum standard for a networking technician. Scope exists to further enhance the skills and certification of these recent SALCC graduates to acquire additional certification during their internship with Converge. These may include skills in Web and Webmaster development towards CIW[19] certification.

[19] CIW comprises the world's fastest growing Web technology education and certification programs for professionals. - http://www.ciwcertified.com/About_CIW/index.phpvendor-neutral

New Internship Standards The detailed technical ICT skills to be gained from the six interns' participation in Converge internship programme (CIP) will establish new and higher standards for ICT internship programmes and on the job ICT training. This will help to guide future ICT capacity building and internships programmes for ICT graduates with an Associate Degree. It will also enable future graduates to make more strategic use of internships and will surely set these interns apart from their contemporaries locally and regionally. The internship opportunity can also act as a major leverage towards the acquisition of skills and experience that will enable the interns to qualify for higher income earning jobs and entrepreneurial opportunities across the spectrum of the international ICT Value chain upon completion of the CIP. This internship programme will also respond to a concern raised by SALCC ICT Lecturers in an interview with the Consultants that female graduates were not given appropriate technical jobs during current internships with some companies. Their skills are underutilized by some managers who assume the female graduates are not qualified and able to implement very technical ICT jobs and solve problems.

Career Development Internships. Converge Solutions Inc., a well-known and respected company considered to be an excellent St. Lucian ICT company, provides valuable opportunities for the professional development of young female graduates. The internships will expose them to Converge's industry practices, which have led to the company's success. The internships will provide an opportunity to hone their professional discipline and standards which will be a significant asset as they develop their careers in the ICT sector. Indubitably, the CIP will also make them each highly sought after assets to any ICT initiative they may aspire towards. It will also equip the young female graduates to work in the private or public sector, or civil society in St. Lucia or indeed within the OECS and the international ICT market. Finally, the competence, confidence and practical experience they each will gain applying ICT knowledge and skills learned through problem solving in the real world, under guidance from Converge, will equip them for future work opportunities in the ever evolving international ICT market. This also has the potential for higher income earning positions being fully within the reach of the female CIP graduates.

Establishing a Partnership

Detailed guidelines and documentation for establishing a partnership with Converge have been outlined in a Memorandum of Understanding Document which was prepared for the SLCSI by Ms. Samuels, and which has already been shared with Converge.

Short Term Recommendation #3/3

ICT Training and Capacity Building Initiative 3

Three Day Gender Sensitization Workshop

To address the lack of awareness of gender and gender mainstreaming that emerged from the research study, a three- day gender sensitization workshop is planned in the short term to target specific stakeholders identified in this research study. The objectives of the training workshop are to:

a) Introduce participants to basic definitions and concepts of gender
b) Provide a summary of key commitments to gender equality and human rights at global and national levels and gender mainstreaming in development policies and programmes
c) Introduce 'tools and tips' for gender mainstreaming
d) Provide opportunities in small groups, for participants to apply gender mainstreaming tools to their work and discuss the benefits and challenges
e) Provide information to promote continued self-learning on gender and development as well as formal courses and degree programmes to build personal, institutional and national capacity;
f) Provide an opportunity to evaluate the workshop content and process and to identify future needs and the next steps

Medium Term Recommendation #1/3

ICT Training and Capacity Building Initiative 4

Gender Mainstreaming Training Course and Sensitization Programme

Structure: a one-year gender Training of Trainers & Technical Assistance programme

Key Agencies: UWI/Institute for Gender and Development Studies (IGDS), Mona Unit

Modalities: face to face workshops and on-line short courses; scope for education degrees in Gender and Development at UWI (BSc (Mona); MSc & PhD, (all campuses); IGDS Summer Institute (Cave Hill).

Main Topics: Understanding Gender as a tool of analysis for development; Tools for mainstreaming gender in policy development; Programme and human resource planning; Programmes and M & E Tools for integrating gender in research; Data collection; and Gender analysis of data (Final topic list will align with needs of the ICT sector)

Key Results: Gender training organized in the short term, resulting in increased gender awareness among key stakeholders; increased national capacity to integrate gender in ICT policies, programmes and strategies; SLCSI Services Sector (including ICTs) and CARCIP having improved capacity to integrate gender in ICT policies and programmes.

Targeted Participants: Key MDAs: e.g. Education (TVET; SALCC); Division of Gender Affairs; Financial institutions providing loans to MSMEs; Key stakeholders in ICT sector:

CARCIP; SLCSI; ICT Businesses; ICT sector regulatory agencies; Key members of Civil Society: Disability sector

Recommendations for M & E: SLCSI to support the development of a Strategic Action Plan to implement recommendations from the 2015 Gender and ICT Study. The Strategic Action Plan is to include an M & E framework for the entire proposed Gender Mainstreaming Course. Draft Plan could include:

Short to Medium Term

- Integrate Gender in ICT Training - enhance CARCIP with support from other key stakeholders through MOUs;
- Establish MOU with UWI's IGDS to provide gender training to key institutions to create a more enabling environment for Gender and ICTs (in CARCIP, SLCSI, TVET, SALCC).
- Consultations with key partners to increase women's participation in ICTs training, business, high skill occupations in MDAs, Businesses;
- Establish ICT Mentorship programme for women and girls;

Medium to Long Term

- Advocacy programme to integrate gender in St. Lucia's National ICT policy and the CARCIP Policy and Programme
- First degree and postgraduate degrees in Gender and Development to build national capacity for training of trainers programmes and support increased capacity to mainstream gender in all national development policies and programmes.

The Potential Opportunities for Employment of Graduates of the *Gender Mainstreaming Training Course and Sensitization Programme* in Existing ICT Firms:

The graduates of this programme will have an increased national capacity to integrate gender in ICT policies, programmes and strategies. Their scope for employment and entrepreneurship opportunities within the region would thus be quite wide as they would be equipped to apply a gender lens to the administration of any public or private ICT based initiative. Examples of employment opportunities would range:

1. Ministries of Government
2. Financial Institutions offering loans to MSMEs
3. ICT Development Projects such as the World Bank's Entrepreneurship Programme for Innovation in the Caribbean (EPIC) and CARCIP
4. Private Sector ICT Businesses such as Converge
5. ICT Regulatory agencies such as ECTEL
6. Civil Society Groups which could use ICTs to strengthen their core mission, such as Disabilities Organizations.

Medium Term Recommendation #2/3

ICT Training and Capacity Building Initiative 5

A Sustainable Women in ICTs Annual Mentorship and Internship Programme modeled off the October 2015 Converge Solutions Inc./SLCSI Women in ICTs Internship and Mentorship Programme

The **objectives** of the annual mentorship and internship programme for recent SALCC female ICT graduates will be as follows:

1. Addressing the current delivery gaps within the present SALCC internship programme for ICT graduates

2. Equipping young St. Lucian women with the ICT professional experience needed to take advantage of 21st century opportunities along the ICT value chain. In framing the programme, consideration will be given to whether there are any regional or international internship options with which the proposed internship and mentorship programme could partner. (e.g. ITU in Geneva)

To ensure that the Annual ICT Internship and Mentorship Programme for female graduates will be impactful and relevant, the recommendation is to establish a mechanism to ensure the following benefits for employers and interns involved in the internship programme. As with the CIP, the preferred profile of interns in this program will be recent female graduate with an Associate degree in ICTs offered by the SALCC.

Benefits to Interns:

1. Opportunities to gain a wide spectrum of practical ICT skills and experience related to technical and business development skills in the ICT Sector;
2. Exposure to life as a working female professional and exposure to best practices within a well-established St. Lucian ICT firm which is likely to result in skills such as:
    a. Efficient communication
    b. Deadline management
    c. Team working dynamics etc.

Benefits to the Employer:

1. Opportunity to strengthen corporate social responsibility commitments;
2. Equitable development of St. Lucia's Human Resource pool in the ICT Sector;
3. Opportunity to contribute to boosting the nation's economy by taking concrete steps to actively support goals of gender equity in the ICT Sector

Incentives for participating companies will also be integrated within the Internship and Mentorship programme. These could include:

1. Provision of tax exemptions;

2. A 10% VAT tax credit;
3. Importation duty credits for the company's importation of ICT equipment.

The SLCSI will work closely with the SALCC to ensure:

1. The specific ICT skill sets of potential female interns are clearly communicated to the companies participating in the internship programme. This will ensure the work that is mapped out for them, will increase their capacity in respect of their ICT knowledge and skills.

2. SMART expected output and results are also clearly communicated to the participating companies. General best practices indicate that these should be:

   - *Specific* – target a specific area for improvement along the ICT Value Chain
   - *Measurable* – quantify or at least suggest indicator(s) of progress throughout the internship period
   - *Assignable* – specify clearly who will be responsible for achieving each desired result(s) and the task(s) required to realize each result(s).
   - *Realistic* – state what results can realistically be achieved, given available resources.
   - *Time-related* – specify when the result(s) can be achieved.

These criteria and objectives may not be all quantified at all levels of management. In certain situations, this is not realistic. The aim is for employers to not lose the benefit of a more abstract objective in order to gain quantification. It is the combination of the objective and its action plan that is really important. Therefore serious management should focus on this combination and not just the objective.[20]

3. **Checks and balances are integrated to ensure sustainability of the programme**

Monitoring & Evaluation will play a key role in securing checks and balances for this proposed Internship and Mentorship Programme. A carefully managed M&E framework will be integrated into this programme. The Balance Scorecard methodology previously suggested would guide development of the proposed M&E framework. The balance scorecard would request that each intern conduct both a self-evaluation and an evaluation of their employer every two months. The employer would also be asked to evaluate themselves and each intern independently, every two months. The following evaluation ratings are suggested:

A = very competent; **B** = somewhat competent; **C** = not competent

[20] *Doran, G. T. (1981). "There's a S.M.A.R.T. way to write management's goals and objectives". Management Review (AMA FORUM)* ***70*** *(11): 35–36.* & Why SMART objectives don't work.

The planned payments for each intern and the proposed incentives for each company within the programme will be predicated on successful completion of the Balance Scorecard requested of each party.

This annual Women in ICT mentorship and internship programme for recent female ICT graduates of the SALCC is strategically important. To paraphrase a quote from President Barack Obama stated during a discussion on Women and the Economy on October 21, 2010, St. Lucia's economy will function at its best only when everybody is participating, and that means that critical issues like ensuring gender equity in the ICT Sector and securing equal pay for equal work are not just women's issues, they are indeed issues affecting the *entire* St. Lucian citizenry. Fundamentally, how well women do will help determine how well St. Lucian families are doing as a whole, which in turn determines the rate of socio-economic development of the entire country.

Medium Term Recommendation #3/3

ICT Training and Capacity Building Initiative 6

Encouraging the interest of girls in Science, Technology, Engineering and Math, including ICTs, through an Annual St. Lucia Summer Coding Camp for Girls Programme

It is proposed that a partnership be formed involving the Caribbean Development Bank, CARCIP, the SLCSI and the GOSL's Ministry of Education (MOE). The recommended focal point at the MOE is a Mr. Germain Anthony, who is a Curriculum Development Technology Integration Officer. The partnership would be aimed at giving life to a proposed annual St. Lucia Summer Coding Camp for Girls Programme. Indeed other stakeholders may possibly be keen on partnering with this initiative such as the OECS and the Caribbean Telecommunications Union (CTU), which both signed a collaborative agreement on September 30, 2015, aimed at deepening collaboration between the institutions in leveraging ICTs to support development in the OECS.

Speaking at the signing ceremony on September 30, 2015, representatives from both the CTU and the OECS expressed confidence that the formalization of their collaborative relationship would redound to the benefit of their member states, which include St. Lucia.

"This agreement (MOU) will allow us to converge our efforts and expertise and multiply the output of our shared objectives," said Dr. Didacus Jules, Director General of the OECS Commission.

"The CTU has an unrivaled track record as an action-oriented organization and as the region's premiere telecommunications body. We are looking forward to collaborating

more closely with them to develop strategies and practical initiatives to promote the interest and advancement of OECS member states through the effective use of information and communication technologies (ICT)," Jules added. It is specifically in regard to this point from Dr. Jules that potential is seen for the suggested summer camp to be an initiative of possible interest to support the aligned efforts of the CTU and OECS partnership.

During the proposed Summer Coding Camp for Girls Programme, the following two best in class technology summer programmes for girls could be used as models to guide the design of a similar programme for St. Lucia. The first example is the very successful **Alexa Café, All Girls Tech Camp**. This is a summer programme for girls ages 10-15 years. It offers creative courses in coding, web design, and more, through various locations in the United States of America.

The Alexa Café Camp is a week-long programme offering day and overnight sessions that feature personalized instruction from hand-selected staff, a unique campus experience, and a stimulating course curriculum delivered in small clusters of eight students per instructor. Whether a female student is designing a sleek webpage or learning to code creatively, the focus is to ensure technology is not intimidating or uninspired. The programme reinforces the philosophy that in the right environment, ICTs can be cool! With an emphasis on entrepreneurship, leadership, brand identity, and philanthropy, girls build tech skills in a unique, stylish setting, alongside tech-savvy mentors. Alexa Café's summer STEM camps are loaded with brand new, real-world curriculum and professional software from Adobe®, Apple®, Microsoft®, and other industry leaders.

The second programme is another best in class summer coding summer programme for girls called the **Girls Who Code Summer Immersion Programme.** The Girls Who Code Summer Immersion Program is a 7-week intensive computer science course, based in the USA that embeds classrooms in technology companies and universities. Girls learn everything from robotics to mobile development to HTML and CSS while gaining exposure to the tech industry and receiving valuable mentorship from women working in technology. The mentorship component of the Girls Who Code Summer Immersion Programme is quite structured, wherein top female executives, entrepreneurs and engineers provide career and academic mentorship.

These two high-potential ICT summer camp examples, could be adapted to respond to data from one of the Focus Group discussions from this Study's data collection. In the ICT Private Sector Professionals Focus Group, it was recommended that St. Lucia establish an association that would be focused on creating awareness and training in ICTs through educational institutions from the early childhood stage. The Focus Group

participants also felt that St. Lucians generally might be unaware of the employment opportunities in ICT and thus indicated that information be shared on opportunities available in the ICT sector from a very young age. This would enable interest in the sector to develop over the years.

To this end, ICT based, creative and fun educational programmes such as the two previously mentioned initiatives for young girls would serve to inspire, educate, and equip young St. Lucian girls with the ICT skills and enable them to be fully empowered citizens in the 21st century global economy. Interventions such as the proposed coding summer camp programmes for girls could be institutionalized in St. Lucia to achieve gender parity in ICTs. The reality is that more girls exposed to ICTs at a young age will lead to more St. Lucian women working in the ICT and engineering fields.

Long Term Recommendation #1/2

ICT Training and Capacity Building Initiative 7

The Master of Science in Telecommunications Policy and Technology Management degree programme at the Caribbean Institute for Media and Communication (CARIMAC), UWI, Mona having moved from the UWI's Mona School of Business and Management in 2013.

Or

Modular Singular Course Options within The Master of Science in Telecommunications Policy and Technology Management degree programme at CARIMAC, UWI, Mona.

Background & Objective: The telecommunications sector has expanded significantly in the Caribbean since liberalization began in the late 1990s. As the sector continues to grow, so has the demand for qualified personnel to manage and direct the growth of the industry, the emerging technologies and to drive policy. The Telecommunications Policy and Technology Management (TPM) Masters Programme specifically seeks to meet the demand for advanced training of telecommunications executives and technical specialists in the specialized areas of policy, technology and management. It has a specific emphasis on telecoms management and ICT policy. The Master of Science in Telecommunications Policy and Technology Management will strengthen the capacity of regional telecommunications and ICT managers, technical and engineering personnel, regulators and policy makers through an advanced level academic programme. The programme's emphasis will be on practical application of technology, business principles and information systems management to enhance the development of the sector and the wider Caribbean.

Among the areas of Telecoms and ICT research and teaching provided by the Programme as noted on the UWI's website are the following:

- Strategic Planning and Policy-making for Senior ICT Executives
- Network Utilization Principles and Pricing Strategies
- ICT Policy in the Global Environment
- Business Development for New Entrants to the ICT Sector
- Impacts of Industry Divestiture and Deregulation
- Rural Telecommunications Development
- Competition Policy and Network Interconnection
- Teledensity and Broadband Technology Penetration
- Telework and Telecommuting
- Caribbean Telecommunications History

A flier with more detailed information about this programme may be found at the TPM's website.[21]

Structure: The programme is offered part-time over 24 months. Students are required to complete seven (7) courses and a final Research Paper.

Key Agencies: UWI's Caribbean Institute for Media and Communication (CARIMAC), UWI, Mona

Modalities: The programme is delivered through on-line lectures on two days per week, with occasional on-line tutorials. Compulsory face to face seminars, representing 20% of the course curriculum, are scheduled for a Friday to Sunday period, approximately every three (3) to four (4) months over a two-year period.

Main topics covered: The UWI Masters Degree programme in Telecommunications Policy and Technology Management was originally established in the Mona School of Business in January 2008 and was relocated to CARIMAC in 2013. It has been successfully delivered to several cohorts of TPM graduates including leaders and managers of many telecommunications and ICT companies. In 2011, the programme was rated among the top 200 best Masters Degree programmes in the world in the Engineering and Project Management Category, from among 12,000 Masters and MBA Programmes in the top 1,000 Business Schools globally.

The TPM Masters degree received this high ranking from Eduniversal International Scientific Committee, based in France. The global academic adjudicating organization conducted and published its conclusions in a report entitled "Best Masters and MBA Programmes Worldwide for 2011".

1. **Frameworks for Telecommunications and ICT Policy Making**

[21] http://www.mona.uwi.edu/msbm/sites/default/files/msbm/uploads/msb_msc_tpm_students_catalogue.pdf

This course provides participants with an advanced working exposure to both the theoretical and practical implications of telecommunications policy making.

2. **Contemporary Telecommunication Networks and Technologies**

This course is designed to establish the technical framework for telecommunication networks as it introduces fundamental concepts, clarifies terminology and gives life to the telecom networks and technologies that have so dramatically changed our lives.

3. **Information Technology and Telecommunications Management**

This course aims to provide students with an understanding of the varying approaches to managing IT systems.

4. **Economics of Telecommunications, Information Technology and the Global Market**

This course provides participants with an understanding and working knowledge of the principles of economics as it relates to decision-making in the growing telecommunications market.

5. **Legal and Regulatory Frameworks**

This course provides the basis for understanding the principles of telecommunication law and the wider legal system; and the legal basis underpinning telecommunication policy.

6. **Interconnection in Telecommunication Networks**

The objective of this course is to equip participants with an understanding of existing telecommunication networks in the context of interconnection and connectivity.

The MSc-TPM also offers the following 2 electives of which students should select one.

7. **Mobile Applications and Broadband Content for Development**

This course explores and examines the mobilization of technological advancements to enable human and social development through ICT, or (one has a choice of course #7 or #8)

8. **Comparative ICT Strategies and Business Models**

This course focuses on new and upcoming trends in telecommunication strategies on the micro-level in businesses and on the macro-level in countries and regions.

Modular Singular Course Option for the TPM Masters of Science Programme: The TPM M.Sc. can be tailored to individual needs of learners. As such, the degree programme also offers any of the above neatly packaged single semester courses, as singular modular course offerings, should this be of interest to a candidate. **Also some of the above courses are available 100% online as in some cases the faculty members**

are located outside of the jurisdiction of the UWI, Mona Campus and as such must teach virtually.

Therefore, if a St. Lucian female is not interested in or is unable to enroll in the MSc. degree programme, she could increase her knowledge, skills and potential to earn a higher income in the ICT Sector pursuing modules of the TPM programme by writing to tpm@uwimona.edu.jm to explore options for matriculation in any of the individual courses above.

Profile of the Targeted Participants: Applicants should have an honours degree in Business Administration, Electrical Engineering, Electronics, Media and Communication, Computer Science, Information Technology, Law, Government, Economics, Public Policy, Management Studies or a related discipline or hold an equivalent qualification acceptable to the Board for Graduate Studies, The University of the West Indies, Mona.

In exceptional circumstances, applications from students who do not possess normal matriculation requirements will be accepted, subject to approval by the TPM Programme Director. This selection will be based on an assessment of industry and managerial experience as well as a review of any previous academic work in the field.

Recommendations for Monitoring and Evaluation: The Board for Graduate Studies monitors and evaluates this M.Sc. in TPM offering during an annual assessment to ensure it satisfies the requirements of the UWI to confer degrees.

Specific Results to Be Achieved:
St. Lucians having increased knowledge and skill in contemporary Telecommunications Policy and Technology Management.

The Potential Opportunities for Employment of Graduates of the Master of Science in Telecommunications Policy and Technology Management in Existing ICT Firms:
Graduates will be empowered to command high income earning leadership positions in St. Lucia's ICT Sector. Equipped with the knowledge and skills from this programme, graduates will be better equipped to provide leadership to guide St. Lucia's ICT policy and technology management. They will be empowered to excel at the highest levels of the local, regional and international ICT Value Chain consistent with global need and trends.

Long Term Recommendation #2/2

ICT Training and Capacity Building Initiative 8

Modular ICT skills development short term training certificate courses offered by the Caribbean Institute of Media and Communication (CARIMAC) and which could be offered in St. Lucia

Key Agencies: The SALCC (or any other similarly equipped teaching institution) and **The Caribbean Institute of Media and Communication** (CARIMAC), which is the leading academic institution devoted to media and communication research, teaching and training in the English-speaking Caribbean. CARIMAC started in 1974 and has been successfully meeting the Caribbean's need for training and certification in Media and Communication for the past 41 years and counting.

Modalities: Various short term modular certificate courses are available through CARIMAC and can be offered via the in-person modality in St. Lucia, through a CARIMAC certified lecturer(s) travelling to St. Lucia to deliver the course(s). The course offerings are subject to a partner institution in St. Lucia having the required resources such as the requisite Labs, software where applicable for courses such as animation, and a minimum number of students, being eight (8), with the maximum being twenty (20). In cases where there is interest in a course but attaining the minimum number of students appears difficult, the individuals interested in the courses in question would be welcomed to participate via distance if possible and failing that they would be welcomed to travel to CARIMAC's campus at the UWI, Mona campus in Jamaica to pursue the course(s) of interest.

Structure: The timeframe for each of these certificate courses is open to negotiation depending on the topics to be covered within each course, which would be dependent on demand. Average timeframes however range four to six months.

Main Topics to be covered:
The following short term certificate training courses are also currently on offer from CARIMAC:

1. Project Management
2. Social Media Marketing
3. Integrated Marketing Communications
4. Media Management
5. Communication Support for Disaster Management
6. Corporate Communications Management
7. Public Speaking for the Public Sector
8. Animation
9. Digital Media
10. Film Production
11. Diploma Programme for Media Practitioners (1 year)

Profile of the Targeted Participants: St. Lucians with an interest in how ICTs can be used to strengthen the fields of digital media, animation, marketing and communication.

Recommendations for Monitoring and Evaluation: UWI's respective Boards for Graduate and Undergraduate Studies monitor and evaluate the courses offered by CARIMAC during annual assessments to ensure they satisfy the requirements of the University. This sound M&E framework would guide the monitoring and evaluation of the aforementioned certificate course offerings to ensure they are offered at the same level of rigour as that required in order for degrees to be conferred.

Specific Results to Be Achieved and the Potential Opportunities for Employment: Results from the 2015 Gender Equity in ICT study showed that St. Lucia has a proud, fledging Film Industry which is growing. There is strong interest in digital media, animation and social media as demonstrated in the primary and secondary data researched. There are capacity building opportunities such as those available through CARIMAC. Short courses would equip St. Lucians with training that is in demand rendering them well positioned to transform the future of the Caribbean ICT Media and Communications landscape. The options available for training at CARIMAC build capacity to take advantage of many exciting entrepreneurship opportunities, along the international ICT Value Chain.

Short list of international training institutions which can collaborate with the Sir Arthur Lewis Community College on the design of a programme of ICT Training

that would address the gaps in the CARCIP Training Initiative and provide graduates with the skills and knowledge required to take advantage of existing opportunities in the ICT sector and access new entry points for entrepreneurship activities relating to IT enabled services, expanding trade and business, government and consumer applications.

Prior to October 2015, the CARCIP project was not fully meeting the demands of St. Lucians with interest in the ICT Sector. Further training offerings in the ICT realm were required to meet the needs of the market and effect capacity building in emerging topics in the ICT sphere. To identify training needs, CARCIP conducted field research to ascertain the ICT training needs required in the northern and southern corridors of the island. This 2015 Gender Equity in ICT research study helped to identify 10 subject areas which comprise CARCIP's ICT Skills Training Programme which got underway in October 2015. These 10 subject areas were detailed earlier in this report within the discussion of the Women in ICT Skills Development Programme previously mentioned. This forms a key component of the proposed SLCSI-CARCIP Programme Partnership and represents Short Term Recommendation 1 of 3 above.

Data from the 2015 National ICT Survey noted that approximately 30% of respondents stated specific ICT skills which they believed could enhance job performance. However most related more to the use of software and applications. The data also showed that both males and females identified similar ICT skills that would help to enhance their performance on the job.

Table 11 from the 2015 National St. Lucia ICT Survey Report, discussed earlier within this final report, illustrates the areas that were identified for ICT training or skills enhancement by men and by women. However, for the most part, these areas covered basic computer literacy and knowledge regarding computer hardware, software and basic ICT services.

Respondents at just over one-half of the participating companies in the 2015 Gender Equity in ICTs Business Survey sought external ICT training programmes to treat with the training needs of their staff. The following were cited as examples of the training programmes which had been supported or are desired by the companies:

1. Software maintenance
2. IT training (Training services have been procured from Softskills International)
3. Microsoft Certification Training (Training services have been procured from Softskills International)
4. Coding
5. Web Development

Source: National ICT Survey for SLCSI project 2015: Table 11

An assessment of the areas of training offered by CARCIP, which are detailed in Short Term Recommendation 1 of 3 of this final report, demonstrate that it adequately treats with a) the ICT training areas the respondents of the 2015 ICT National Survey indicated as shown earlier in this report, b) the areas of ICT training delineated by key ICT business entities in St. Lucia's private sector and c) key areas of ICT development which the Consultants deem fitting to propel the participants into high income earning opportunities in the international ICT market.

Several recommendations are being made as a follow-up to planning meetings that the Consultants held with CARCIP to ensure their training offering responds to the emerging training needs identified in the primary data collection, and the international needs of the global ICT market as informed by the desk review and consultants' knowledge. Among these are recommendations that the SLCSI partner with CARCIP in the execution of their offered ICT Skills Development training and other ICT based capacity building activities. The partnership would entail focused attention on female beneficiaries, as detailed within Short Term Recommendation #1 of 3 of this report.

Detailed guidelines and documentation for establishing an SLCSI-CARCIP partnership have been detailed in a Memorandum of Understanding which Samuels partnered with the SLCSI to prepare, and which has already been shared with CARCIP.

International and local training institutions, including the SALCC, have partnered to realize CARCIP's ICT Skills Development training offering. These are:

1. the Sir Arthur Lewis Community College (the College will be responsible for the execution of some of the ICT Skills Development training courses)
2. the American International University in Vieux Fort (which will provide training to the South)
3. Monroe College
4. General Business Technology Services Ltd.
5. European Computer Driver's License International Computer Driver's License (teaches computer skills certification)

This flagship training programme offered by the conglomerate of the above training institutions addresses the previous gaps in CARCIP's training offering to a large degree. To this end, the suite of ICT capacity building and training interventions in partnership with CARCIP as detailed in Short Term Recommendation 1 of 3 of this report, satisfy this Consultancy's requirement to design an ICT training programme, in collaboration with the SALCC, that would address the gaps in the CARCIP Training Initiative and provide graduates with the skills and knowledge required to take advantage of existing opportunities in the ICT sector and access new entry points for entrepreneurship activities relating to IT enabled services, expanding trade and business, government and consumer applications.

Other Training: As mentioned earlier, there are trending and emerging ICT opportunities now available globally which include the Internet of Things, the possibilities afforded by Big Data, the Open Data movement, Machine to Machine Interactions, sophisticated Animation and Graphics solutions, Innovation at the nexus of ICTs and Art which could aid further in propelling St. Lucia's high potential film industry, the application of ICTs in the regulatory and policy sphere of the region's various Caribbean states, application of ICTs for human socio economic development as with telemedicine, e-Learning or the use of ICTs for advanced farming approaches, and indeed many more developments at the frontier of the 21st century ICT Sector, which the Consultants wish to draw CARCIP's and the SLCSI's special attention to, for incorporation within CARCIP's present ICT Skills Development Training Programme whenever possible.

Whenever it might not be possible however to incorporate any cutting edge ICT application or area of ICT knowledge into the proposed SLCSI/CARCIP ICT Training and Capacity Building Programme as detailed in Short Term Recommendation 1 of 3, a gap in training needs may still exist. To address any possible such remaining ICT training gaps from the proposed SLCSI/CARCIP partnership, the primary data collection process and the desk review unearthed a network of additional international training institutions or programmes that offer ICT training and with which the SALCC and the SLCSI could seek to partner on the design of a programme of training to facilitate access to cutting edge ICT knowledge and applications. These are as follows:

Among the universities cited by Business Professionals were:

1. University for Leicester
2. St Thomas University
3. City University London
4. Brooklyn College
5. New Jersey Institute of Technology
6. Cameron University

Among the universities cited by GOSL ICT Professionals were:

1. University of Liverpool
2. London Metropolitan University
3. St. Mary's University

Among the universities cited by key stakeholders during the August 3-8 and September 16-18, 2015 Consultant field visits were:

1. Illinois Institute of Technology (IIT) [Please note that the SALCC already has established a relationship with the IIT].
2. Johnson and Wales
3. St. Mary's College (Canada)

The Consultants suggest that the following universities also be considered:

1. The Massachusetts Institute of Technology (advantage could be taken of the Institute's Free Open Course Offerings)
2. UWI's CARIMAC programme (further details given with Long Term Recommendation 2 of 2 of this report)
3. High quality, free online courses are also available from Stanford, Yale, Harvard, Berkeley and Oxford University, for example.

New Entry Points for Entrepreneurship Activities Relating to IT Enabled Services, Expanding Trade and Business, Government and Consumer Applications

**EPIC – Entrepreneurship Programme for Innovation in the Caribbean*

Figure 5.0 New Entry Points for Entrepreneurship Activities relating to IT Enabled Services

Global Potential for Entrepreneurship within ICT industry

The role of ICTs and its offer of new opportunities to foster innovations, boost economic and social prosperity in advanced and emerging economies, was highlighted in the *Global Information Technology Report 2014-'Rewards and Risks of Big Data*' published by the World Economic Forum (Bilbao-Osorio et al, (Eds.), 2014). The projection was that ICT spending worldwide was expected to reach US$3.62 trillion per annum (Smart Company 2014).

Regional Potential for Entrepreneurship of ICT industry

The report also cited the potential of ICTs to support regional integration and to shape globalisation (especially in the productive, commercial and financial sectors). It noted the CARICOM Secretariat's ICT Strategy to strengthen connectivity, development, prosperity and social transformation between and among member states and the rest of the world. Benefits of reducing poverty, providing basic services in health and education at lower costs, and broader coverage, were noted. The use of ICTs for monitoring and evaluation as well as reporting, fostering innovation and entrepreneurial activities to support the growth of the region are also among other critical benefits.

Opportunities for new ICT applications

Innovative ideas for new ICT applications may be found from industry leading research in this area. Once such example is the following report entitled "The Future of St. Lucia Telecommunications Market to 2025 - Analysis and Outlook of St. Lucia Mobile, Fixed

Line and Broadband Sectors" by Business Wire (2015).[22] A brief description of the report is as follows:

The St. Lucia Telecommunications report provides a complete analysis and outlook of the country's mobile, fixed landline and broadband service markets. The research report gives you the yearly outlook of the emergence of demand for mobiles, fixed landline, broadband services and ICT goods trade. In addition, changing patterns and key strategies being opted by companies in current shifting industry scenarios are detailed in the research work.

The St. Lucia Telecommunication industry is compared with peer markets to analyze the position of the country in the regional and global front. For detailed analysis of the market, key strengths, weaknesses, opportunities and threats of operating in the country are provided. Latest industry trends and drivers facing the St. Lucia telecom market is included to enable better understanding and evaluation of operating or expanding in the market.

Demographic and macro economic factors driving the telecom market in St. Lucia are also analyzed and forecasted to 2025 in the research work.

The consultants recommend that resources such as the above be referenced to form part of informed discussions about the future of St. Lucia's ICT Sector.

Conclusion

The expanded Literature Review conducted and the national ICT quantitative and qualitative data collected, along with the informative and enlightened stakeholder discussions had with key ICT informants during the August and September 2015 Consultant missions, have all confirmed the importance of the current study in supporting a national ICT policy that is equitable for all. The research process also clarified the unique contribution that the current study provides by building on previous research and enabling St. Lucia to move further towards achieving gender equity in its ICT sector. The main contributions are the recommendations to mainstream gender in ICT policies, programmes, teaching institutions awareness building and strategies, specific suggestions for more tailored ICT centred, gender sensitive outreach to the Community of Persons with Disabilities, and the crafting of the proposed ICT based training and capacity building, technology innovation and entrepreneurship skills development programmes. These recommendations will afford women the knowledge and skills needed to move along the ICT value chain, facilitating access to higher income earning jobs and entrepreneurial opportunities in the ICT Sector, nationally and internationally.

[22] DUBLIN--(BUSINESS WIRE)-- (http://www.researchandmarkets.com/research/hdsbtt/the_future_of_st) has announced the addition of the "The Future of St. Lucia Telecommunications Market to 2025 - Analysis and Outlook of St. Lucia Mobile, Fixed Line and Broadband Sectors"

The remaining funding available under the Caribbean Development Bank's kind support of the Gender Equity in ICT Consultancy, is insufficient to fund the eight (8) recommended programmes emanating from this Consultancy Report. As a result, other instruments should be identified to fund the implementation of this Consultancy's recommendations, in the most efficient timeframe possible. One example of such a facility could be the SLCSI's CSME standby facility. Securing funding mechanisms will be the critical factor in providing women in St. Lucia with the competencies and knowledge to access existing and potential higher wage and revenue earning opportunities in the ICT industry, and in so doing propel the island's economic growth forward.

Indeed, the world has realized that gender equity in technology will *not roll in on the wheels of inevitability*, but instead direct efforts, such as this commendable effort in the undertaking of this Gender Equity in ICT Consultancy by the CDB and the SLCSI, must be made. As further evidence of the move to usher gender equity into the global technology market, in 2014 the International Telecommunications Union – ITU and United Nations Women established the Gender Equality Mainstream in Technology (GEM - TECH) Awards, where the achievements of many amazing women in technology were recognised. GEM-TECH winners from around the world, as well as some outstanding Global Achievers have been making an unquantifiable difference to gender balance in the technology sector. In support of effecting gender parity, Houlin Zhao, Secretary-General of ITU stated "If we want to end gender inequality by 2030, we need to use all the tools at our disposal, aim for bold and transformative changes and ensure that women are leaders in critical 21st century sectors. Executive Director of UN Women, Phumzile Mlambo-Ngcuka also added, "ICTs hold incredible promise and influence." The Consultants share this bold vision that ICTs hold tremendous power to improve quality of life and submit this work as a contribution to moving St. Lucia's gender equity thrust forward.