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CANNABIS COMMISSION REPORT

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CANNABIS COMMISSION REPORT

BACKGROUND

1. The Cabinet of Ministers in the Government of Saint Lucia (the Cabinet), at a meeting held of July 29, 2019, "approved the establishment of a Commission to review and make recommendations on a regulatory framework for Cannabis". The work of the Commission was to report to Cabinet through the Honourable Minister for Commerce. Terms of Reference (TOR) were prepared and submitted to the Commission to assist in guiding its deliberations. The objectives as set out in the TOR are set out at Appendix 1

2. In this report the terms "cannabis" and "marijuana" are used interchangeably

3. Prior to (and perhaps because of) the Cabinet determination to set up this Commission the CARICOM Heads of Government at its twenty-fifth Intersessional Meeting in St. Vincent and the Grenadines in March of 2014 mandated the establishment of a commission "to interrogate the issue of possible reform to the legal regimes regulating cannabis /marijuana in the CARICOM countries."[1] That Commission was set up under the Chairmanship of Professor Rose-Marie Belle Antoine and delivered its report as of June 2018 (hereafter "the Antoine Report.")

4. The Antoine Report digs deeply and analytically into the sociology, religious, medical and criminal (among other) aspects of the study of Marijuana and the possible effects of legalising its use in our Caricom countries. There is no intention to regurgitate the very broad and thorough treatment of the subject by the Antoine Report[2]. However, the conclusions and recommendations of the Antoine Commission are a suitable point from which to take-off and are quoted in their entirety below.

5. In reading this report (and the Antoine Report) it is necessary to bear in mind that the element in a cannabis plant which makes it necessary to even contemplate control is

[1] Page v, Report of the CARICON Regional Commission on Marijuana 2018

[2] Report is available on the Caricom website "Caricom.org/documents

a chemical, usually referred to as THC, the initials of a rather long chemical name, responsible for the psychological effects of cannabis. At Appendix 2 there is a fuller description of THC and its possible effects.

6. The following is a somewhat long but apposite extract from the Antoine report which captures the conclusions and recommendations of that commission:

"CONCLUSIONS AND RECOMMENDATIONS

"12.22. After carefully evaluating the evidence, including the most up-to-date body of medical and scientific research on the multi-faceted and complex subject of cannabis/ marijuana, the Commission makes the following findings and conclusions:

"12.23. Marijuana is a plant substance with historical, cultural and religious significance to the Commonwealth Caribbean, which existed benignly as a beneficial plant without condemnation or legal intervention for centuries. Legislative history illustrates that cannabis/ marijuana acquired an illegal status and classification as a "dangerous drug" with "no value," without scientific or moral rationales to support the radical change in the law, both internationally and domestically. Further, there is considerable evidence to suggest that this transformation was due to cynical motives to quash competition with the merging alcohol industry, itself emerging from prohibition and even racial policy. This resulted in the draconian legal regime existing today for cannabis/ marijuana which by virtue of its now illegal classification, acquired a demonised social status.

"12.24. The Commission acknowledges that there are documented health risks associated with cannabis/ marijuana. However, modern scientific data demonstrates that there is conclusive evidence that cannabis/ marijuana has considerable value as a medicinal substance and as liberalisation in the law occurs, scientific studies are proving more medicinal uses for the plant. At the same time, medical science has disproved some of the most important myths or propaganda about the supposed negative physiological impact of cannabis/ marijuana, including a causative link to psychosis and its status as a gateway drug. It has also proved that cannabis/ marijuana is no more harmful than alcohol and other substances that are no longer prohibited and in many respects, less so.

"12.25. Science has also proven some important adverse impacts of cannabis/ marijuana. These relate mainly to specific, high risk groups, among the most important being the young (adolescents) and its negative impact on psychomotor functions.

"12.26. The argument for law reform is premised on the finding that the identified risks are more effectively managed and minimised within a responsibly regulated public health/ rights framework and market, than a punitive criminal justice led response and unregulated criminal market.

"12.27. The now incontrovertible proof of the medical benefits and the value of cannabis/ marijuana as a medicinal substance challenges its classification as a "dangerous drug" without value (both domestically and internationally). This fact alone is sufficient to dismantle its currently legal classification. Accordingly, such inaccurate classification is now obsolete, can no longer be supported as a justification for law- making and should be rejected, as it undermines the legitimacy of the law itself.

"12.28. Caribbean peoples have been eager to emphasise their views on potential legal reform. There is much concern about perceived injustices. There is also some misinformation and fear. However, there is now a clear majority and an increasing groundswell of Caribbean peoples in favour of law reform, largely because of social justice imperatives and enthusiasm toward Medical Marijuana. Calls for law reform, in particular, the removal of criminalisation from cannabis/ marijuana regulation have come, not just from the public at large (first hand or via polls), but from the Churches, law enforcement, judges, magistrates, the Bar and attorneys, the medical fraternity, informed NGO groups, National Commissions on cannabis/ marijuana and other professionals and organisations. Many believe that prohibition should be removed altogether, within a controlled regulatory environment, as was done with alcohol decades ago.

"12.29. A core objective of any regulatory regime for cannabis/ marijuana would be to discourage the promotion of cannabis use for recreational purposes on a voluntary basis. This would involve adequate education and marketing strategies as currently obtains for tobacco. The World Health Organization (WHO) Framework Convention on Tobacco Control and WHO guidelines for alcohol control should provide the framework for marketing and advertising controls. Marketing should be tightly controlled and only allowed for the limited purpose of ensuring awareness of the legal availability of cannabis products, but not to promote the use of cannabis products generally or of any particular product.

" 12.30. The evidence indicates that the existing legal prohibitionist regime on cannabis/ marijuana is not fit for purpose. Both the financial and human costs are huge. The Commission is satisfied that there should be significant changes to the laws of the region

to enable the dismantling of this regime to better serve Caribbean peoples. A public health/ rights based approach is better able to confront the challenging multidimensional parameters of the drug problem, including its health, social justice and citizen security aspects.

"12.31. The Commission has heard the calls for caution in some quarters. Understandably, many of these reservations have to do with the several myths and misinformation in the public domain about a substance that was criminalised and demonised for over a century, but which has now been proven to be less harmful than legalised substances such as alcohol. The Commission is of the view that the end-goals for CARICOM should be the removal of a prohibitionist regime that has proven to be ineffective, unjust and caused more harm than it sought to prevent.

"12.32. Notwithstanding the endgame, the Commission does not believe that total legalisation in a fully liberalised regime is a plausible option at this juncture for CARICOM. Yet, the Commission is of the view that a too limited approach to law reform, including one that focusses only on medical marijuana, would be counterproductive and inimical to the goals of Caribbean development, as outlined in the SDGs and endorsed by CARICOM. A balanced approach that would meet the main social justice, public health rights and citizen security objectives of the region would be a hybrid or mixed option. This would be an incremental and cautious approach to removing prohibition, but not too little that the goals would be frustrated, nor too much that CARICOM states are unable to manage the important regulatory controls that are envisaged. This approach would best suit the developmental objectives of the region.

RECOMMENDATIONS

- *Cannabis/ marijuana should be declassified as a "dangerous drug" or narcotic, in all legislation and reclassified as a controlled substance;*

- *CARICOM states should act to remove ''Prohibition ''status from cannabis/ marijuana, substituting the current prohibitive, criminal sanctioned regime with legal and social policy that emphasises public health, education and human rights; CARICOM states should have a margin of appreciation as to how to achieve this ultimate goal, either:*

- Complete and immediate removal of all prohibitive legal provisions, thereby rendering cannabis/ marijuana a legal substance, which is regulated only in strictly defined circumstances; or

- As a preparatory step, the decriminalisation of cannabis/ marijuana for personal use in private premises and medical purposes;

• Full prohibition for children and adolescents with an appropriate age limit should be maintained except for medical reasons; however, young people who use marijuana will be directed to treatment and diversion programs rather than being prosecuted or criminalized;

• The law should enact legal definitions of hemp based on low THC levels and make clear distinctions between hemp and other varieties of cannabis and ensuring that all legal sanctions be removed from hemp and hemp production;

• Legislation should provide for the protection of seeds, strains of cannabis, through intellectual property mechanisms;

• Customs Law should be amended to make provision for the import and export of cannabis and cannabis products, as appropriate;

• To avoid the implications of Anti-money laundering and Proceeds of Crime legislation which currently prohibit legitimate banking and other financial transactions for illegal cannabis, commercial cannabis activities will need to be legalised;

• Small farmers and small business persons should be included in production and supply arrangements with appropriate controls limiting large enterprise and foreign involvement;

• An equitable land use policy for marijuana cultivation should be formulated;

• Distribution points for cannabis and its products should be limited;

• Special provision should be made to protect religious rights in the new regime;

• Retroactivity should be used as a tool to correct past injustices, such as expungement of criminal records and CSME rules;

• Restrictions that support no public smoking and vaping of cannabis in alignment with tobacco smoking and vaping restrictions should be adopted. Cannabis / marijuana use should be banned in public spaces with appropriate exceptions for Rastafarians on religious grounds. Such restrictions should include prohibiting use in workplaces,

enclosed public spaces, on health authority and school board property, transit shelters, common areas of apartment building and community care facilities. In particular, measures that ban consumption in places frequented by children should be adopted;

- *States should regulate the locations of marijuana retail establishments, by ensuring an appropriate distance from playgrounds and schools and also prohibiting stores that sell other products to minors from selling marijuana;*
- *Regulations should be aimed at reducing the likelihood of children accidentally ingesting marijuana. States with legal marijuana can regulate the appearance, packaging, and labelling of products likely to be appealing to youth, such as marijuana -infused candy and baked goods;*
- *Limit marijuana's appeal by implementing restrictions on marketing through traditional media such as billboards, television, radio, newspapers;*
- *Retail availability of marijuana should be tightly regulated. States should develop licensing policies applying to all actors in the recreational marijuana supply chain, including retailers;*
- *Apply limits of allowable THC in products;*
- *Drugged driving regulations should be created;*
- *Ensure appropriate and reasonable pricing to deter consumers from purchasing cannabis through illegal means;*
- *Moderate taxes should be imposed taking care that the black market is not reinvigorated;*
- *Availability of cannabis should be limited by placing caps on retail density and hours of sale;*
- *Environmental conservation and preservation must guide commercial marijuana activities;*
- *Public Education programs should be prioritized;*
- *A data collection system to track processes and outcomes should be established;*
- *Regular performance evaluations should be conducted to guide policy refinements.*

SPECIAL PROVISIONS TO REGULATE CANNABIS/ MARIJUANA FOR MEDICAL PURPOSES

In the liberalised regime for cannabis/ marijuana, its availability as medicine should take into consideration the following;

- Access to Medical Marijuana should be made for qualifying conditions in which there is clear evidence of its therapeutic effects and for debilitating, life threatening conditions that are intractable to treatment in which there is evidence of possible benefits e.g. disastrous and intractable seizures in children;

- The smoking of Marijuana should be discouraged except in persons with terminal conditions in which benefits may outweigh the risks;

- Measures should be put in place to regulate the market to minimise diversion into the illegal market (e.g. Track and Trace System);

- Measures should be put in place to support public health education, prevention and treatment;

- Support for research to explore and confirm beneficial and harmful effects of Marijuana;

- Mechanisms to identify those who require treatment should be expanded

Some (but not all) of these conclusions and recommendations will be returned to later in this report".

THE LAW

7. It is the view of the Commission that a suitable starting point is a review of the existing laws relating to Cannabis. Fundamentally, the law can be found in one piece of legislation – Drugs (Prevention of Misuse) Act, Cap 3.02 of the laws of Saint Lucia (hereafter referred to as "the Act").

8. Pursuant to Schedule 2 of the Act, Cannabis, Cannabinol derivatives and Cannabis resin are classed as Class A and Class B drugs both classes of which are defined as a controlled drug. The Act makes it a drug trafficking offence to produce, supply, offer to supply, trade in or simply possess a controlled drug. The penalties for a drug trafficking offence, on summary conviction, are a maximum of $100,000.00 (or three times the value of the drug, whichever is the greater), and imprisonment to a term which may extend to 10 years but shall not be less than five years. On conviction on indictment (High Court) a person is liable to imprisonment for life.

9. It will be noted that the first recommendation in the Antoine Report is that Cannabis "be declassified as a "dangerous drug" or narcotic, in all legislation and reclassified as a controlled substance". The Commission is of the view, based on Objective 4 in the Terms of Reference that Cabinet may already have taken the decision in principle to legalize or decriminalize cannabis whether such decision was taken formally or informally. Objective 4 of the TOR reads as follows: "Recommend changes to the Drugs (Prevention of Misuse) Act to create a regulated environment that minimizes harms and maximizes benefits associated with cannabis."

10. At the present time there are approximately thirty-nine (39) persons at Bordelais Correctional Facility, either on remand or serving sentences related to infraction of the Dangerous Drugs Act. The Commission recommends that each case be reviewed by a committee appointed pursuant to the terms of sections 74 and 75 of the Constitution of Saint Lucia and, provided that "possession", simpliciter, is the reason for incarceration then the person should be pardoned or the charge dropped. Antoine goes further and recommends that "retroactivity should be used as a tool to correct past injustices, such as expungement of criminal records…" The Commission is in full accord with the sentiment so expressed. It is the recommendation of the Commission that a body (different from the Committee on the Prerogative of Mercy) to which

application could be made by persons convicted under the Drugs (Prevention of Misuse) Act for the expungement of any record of such conviction.

Health Issues

11. There is a substantial body of medical opinion that Cannabis used by persons under the age of majority (18) can have long lasting deleterious effects (see highlighted portion of Appendix 3 – Health Brief for the Cannabis Commission prepared by Dr Stephen King). The Commission is of the view that purveying of marijuana to persons under the age of 18 for "recreational use" should be an offence, penalties and process to be defined in regulations. The principle to be applied is similar for purveying alcohol to persons under the age of 18 years. Possession of marijuana with intention to provide the substance to persons under the age of 18 would remain a criminal offence carrying a substantial penalty (being in the vicinity (to be defined) of a school or other educational facility or playground and possessing more than 15 grams of Cannabis would create a presumption of intent to supply). Youth, under the age of 18 years, found in possession of marijuana for personal use should be referred to substance abuse care. The possession or supplying of Low THC cannabis products (hemp) and prescription cannabis to persons under the age of 18 would not be not an offense. The commission recommends that smoking in public should be under legislative control. That is there should be designated public spaces in which smoking is acceptable outside of those areas would be an offence. The draft tobacco legislation can be reviewed and be made more comprehensive as "public smoking" legislation and cannabis smoking may then be adequately covered. Otherwise the Cannabis legislation should address this issue in regulations."

12. It is also the view of the Commission that limits of the amount of cannabis legally in the possession of any one person at any one time should be set. It was suggested that legal possession be limited to 30 grams. Possession of larger amounts would create criminal liability varying in intensity based on the amount in excess. This provision is seen as necessary to avoid (or at lease attempt to control) the trading in marijuana by 'drug lords' outside of the regulated industry (see paras 13 et seq below)

POSSIBLE STRUCTURE OF AN INDUSTRY

13. The Commission held meetings in the communities of Anse la Raye, Castries, Babonneau, Soufriere, Vieux Fort, Gros Islet and Dennery to which the public were invited to attend and express their views. It is a matter of regret that the meetings were, on the whole poorly attended in a numerical sense. The quality of input, however, of those present more than made up for the relatively poor numbers. It must also be recorded that at none of the meetings were there any attendees who opposed the legalisation of cannabis.

14. At the community meetings the strong view was expressed that in the development of any framework for a future industry based on cannabis, whether for medicinal, recreational or religious use provision must be made for the protection of the small farmer as well as the control of quality. It was felt that this could be achieved in one of the following ways:

Method I

- Establish a Central Purchasing Agency (CPA) which would have the exclusive right to buy and sell wholesale marijuana;
- The CPA, and the CPA only, would purchase cannabis from registered growers;
- To be a registered grower a person would have to be a St. Lucian and be the owner/lessee of the portion of land on which the cannabis is to be grown which in no circumstance should exceed one acre in area.
- The CPA would be responsible for the quality control of marijuana purchased (TCP levels);
- The CPA would be governed by a Board;
- The CPA would have the exclusive right to sell cannabis to retailers and to other persons who would use cannabis in some form of process to produce an end-product different from unprocessed marijuana;

- Retailers of marijuana and cannabis derivatives would have to be licensed. Retailers would not be allowed to sell more than the permitted possession amount to any one person per sale transaction;

Method II

15. This is very similar to Method I save that the in this method the function of the CPA would be bifurcated. There would be a CPA and a Cooperative. The CPA would be a Statutory Board concerned with quality control. Rather than create a stand-alone statutory board, this function might be given to the Bureau of Standards. The Cooperative would be a body comprising all licensed growers of Cannabis. This model is not dissimilar to the structure that existed in the banana industry where the Banana Grower Association was the growers' body, controlled by the growers and would perform all of the CPA functions set out in Method I except quality control.

16. The methodology of becoming a member of the cooperative is something that significant thought would have to be given to. For example, would there be qualification criteria excluding persons with a criminal record; would there be qualifications related to a minimum size of farm; would previous experience in farming be a requisite.

17. A prime function of the CPA in Method I and the Cooperative in Method II would be the licensing of growers. Licensing of growers will be the prime method of controlling the industry. Through licensing, the following could be controlled:

    - size of the farm

    - quality of cannabis including strength of psychotic element

18. It is the view of the Commission that an integral part of the proposed structure be a revenue generating base. At Appendix 4 is a possible structure prepared by Ms. Melissa Hippolyte Descartes, Economist.

19. The Commission recommends that Method 2 be adopted

Education issues

20. A comprehensive and effective sustained health education campaign is an essential component for the way forward. The principle is that people should be so informed that they make the best and most responsible choices with regards substance use. Substance use and abuse is primarily a health issue with some defined risk factors such as: childhood trauma, mental illness, low levels of education including poor lifeskills education, social pressures and genetics. The Ministry of Health should facilitate all stakeholders (public, private and NGO) in a comprehensive substance abuse mitigation strategy that addresses risk factors. Cannabis, alcohol and tobacco revenues can be allocated to funding this strategy.

21. Medical use of cannabis should be embraced and medical cannabis guidelines developed and promoted to health care workers and the general public.

22. Alcohol legislation should be reviewed as part of the overall substance abuse strategy.

23. Education and regulation on the manufacture, packaging and use of edible cannabis products must ensure that children and persons under the age of 18 years are protected and accidental ingestion by children is minimized.

Rastafarians

24. It is appropriate to introduce this section of the report by recalling certain parts of the essence of our Constitution

"PROTECTION OF FUNDAMENTAL RIGHTS AND FREEDOMS

"1. Fundamental rights and freedoms

Whereas every person in Saint Lucia is entitled to the fundamental rights and freedoms, that is to say, the right, whatever his or her race, place of origin, political opinions, colour, creed or sex, but subject to respect for the rights and freedoms of others and for the public interest, to each and all of the following, namely—

(a) life, liberty, security of the person, equality before the law and the protection of the law;

(b) freedom of conscience, of expression and of assembly and association;……"

"9. Protection of freedom of conscience

(1) Except with his or her own consent, a person shall not be hindered in the enjoyment of his or her freedom of conscience, including freedom of thought and of religion, freedom to change his or her religion or belief and freedom, either alone or in community with others, and both in public and in private, to manifest and propagate his or her religion or belief in worship, teaching, practice and observance…."

25. Sections 1 and 9 of the Constitution of Saint Lucia, quoted in part above make it absolutely clear that freedom of religion is a fundamental right and freedom enjoyed by citizens and residents in Saint Lucia. Though it is unquestionable that in the past Rastafarians have been treated with less that fulsome protection of the law that attitude of the State is being changed. In a recent judgment of the High Court Ventose J held that Rastafari is a religion and is entitled to protection under the Constitution of Saint Christopher and Nevis[3]

26. The Constitution of Saint Christopher and Nevis is, in regard to the protection of fundamental freedoms, in *pari materia* with the Constitution of Saint Lucia. Therefore, as the law presently stands, there can be no doubt that the law of Saint Lucia would provide equal protection to Rastafarians in Saint Lucia. Indeed, Ventose J struck down those laws which sought to criminalise the use by Rastafarians of Cannabis (the Herb) as a sacrament in their religion. The case has not as yet, as far as the Commission is aware, been heard by the Court of Appeal.

27. The Commission recommends that Rastafarians be permitted to grow the herb in the surrounds of their Church for use in their religious ceremonies without the necessity of obtaining a license to grow.

[3] Ras Sankofa Maccabbee v (1)The Commissioner of Police; (2) The Attorney General of St. Christopher and Nevis SKBHCV 2017/0234 judgment delivered May 3, 2019

CONCLUSION

28. The Commission, nemine contradicente, was of the view that the growing, possessing for industrial and medicinal purposes, the possession for recreative use by adults and the possession and use for religious use should be made legal within a framework as suggested herein. The Commission was of the view that the protection of young persons under that age of 18 should be achieved by the criminalising of the sale or otherwise supplying or attempting to supply high THC cannabis (cannabis products with >0.3% THC dry weight) for recreational use to young persons. .

29. As there will be expense to the Government in policing the new cannabis regime, there should be incorporated into any proposed structure a revenue stream of a level to both pay for the expenses and to make a contribution to the tax base of the Government.

Appendix 1

Terms of Reference

SAINT LUCIA COMMISSION FOR THE REGULATION OF CANNABIS

TERMS OF REFERENCE

The Terms of Reference and Guidelines for the Saint Lucia Commission for the Regulation of Cannabis

TERMS OF REFERENCE

SAINT LUCIA COMMISSION FOR THE REGULATION OF CANNABIS

BACKGROUND

The Government of Saint Lucia is committed to regulating the laws on cannabis and to create a system with strict controls on the sale and production of cannabis. This new system will aim to prevent youth from accessing cannabis and to restrain the black market. A commitment is also made to ensure the laws are more effective in enforcing the punishment of those who provide cannabis to minors and drive under the influence as well as those who sell outside the new regulatory framework. The government is equally committed to positioning the country to become a global leader in the production and cultivation of medicinal cannabis and to establish a burgeoning international cannabis industry. This development will provide relief for individuals suffering from a range of medical conditions and has the transformative potential to positively impact rural livelihoods and communities. The purpose of this Commission is to develop a clearly defined medical cannabis industry with strict controls on personal use. The Minister of Commerce, Industry, Investment, Enterprise Development and Consumer Affairs is therefore creating a Commission to design a new regulatory framework on cannabis (the Commission).

OBJECTIVES

The Terms of Reference for the Commission is to:

1) Conduct rigorous enquiry into the social, health, economic and legal issues surrounding cannabis in St. Lucia;
2) Engage governments, organizations, youth and experts in relevant fields with expertise in production, distribution and sales and seek their views on issues fundamental to a legislative and regulatory system for restricted access to cannabis;
3) Provide opportunities for all Saint Lucians to offer their views on key questions related to cannabis.
4) Recommend changes to the Drugs (Prevention of Misuse) Act to create a regulated environment that minimizes harms and maximizes benefits associated with cannabis.

SCOPE OF WORK

The Commission will consult on issues fundamental to the design of a new legislative and regulatory framework for restricted cannabis use and will undertake the following scope of work:

1) Review the benefits and adverse effects of cannabis both in the Caribbean and other States.
2) Examine the drugs (Preventions of Misuse) Act and other legislation as they pertain to cultivation, manufacturing, utilization, possession and distribution of cannabis and outline the legal status of cannabis.
3) Review available data on cannabis use by type: religious, therapeutic, industrial, recreational and socio-cultural.
4) Examine global trends in the regulatory framework on accessibility and availability of cannabis, with particular attention to the legal and administrative systems that have been developed to accommodate:
    a. Possession of small, specified quantities of cannabis for personal use
    b. Licensed therapeutic and medical cannabis programmes
5) Engage in an extensive consultation process with members of communities and other key stakeholders to elicit the perceptions on current usage, perceived benefits and harms and resistance or support for the reformation of laws on cannabis. This consultation process should use surveys, structured and semi structured interviews, focus groups, community meetings and other methodologies and should include a broad cross-section of interest groups in society including but not limited to:
    - Researchers
    - Saint Lucia Medical and Dental Association
    - Cannabis growers and sellers
    - Drug treatment and rehabilitation service providers
    - Faith based organizations
    - People who use cannabis therapeutically or medicinally
    - Recreational users
    - Representatives from the legal and judicial system
    - Psychiatrists/mental health practitioners
    - Practitioners of alternative medicine
    - Educators
    - Law enforcement and custodial services
    - Youth

6) Examine incarceration patterns in St. Lucia as a result of cannabis.
7) Examine mental health disorders in St. Lucia attributed to cannabis use.
8) Review the state of research on industrial and therapeutic/medicinal cannabis products.
9) Examine the economic benefits that may accrue as a result of a regulated cannabis industry in Saint Lucia.
10) Present a final report to the Government of Saint Lucia at the end of the consultation period. The Report should include:
    - The design of a legislative and regulatory framework on cannabis;
    - Other legal and administrative changes that would be required

A special website or webpage will be set up to assist the Commission in the consultation process. The Commission shall use this platform to provide an opportunity for Saint Lucians to provide their views on key questions related to cannabis. The website/page would also serve as an education tool and to keep the public engaged in the Commission's ongoing work. A marketing specialist shall be engaged to assist with same.

The Commission shall also engage an Economist to provide expert analysis on the possible economic outcomes of law reform on cannabis.

The Commission Scope of Work shall be guided by the following:

1. Protect Saint Lucians by keeping cannabis out of the hands of children and youth.
2. Keep profits out of the hands of criminals, particularly gang-related.
3. Reduce the burdens on the police and the justice system associated with simple possession of cannabis offences.
4. Prevent Saint Lucians from entering the criminal justice system and receiving criminal records for simple possession of cannabis offences.
5. Protect public health and safety by strengthening laws and enforcement measures that deter and punish more serious cannabis offences particularly selling and distributing to children and youth, selling outside the regulatory framework and driving under the influence of cannabis.
6. Ensure Saint Lucians are well-informed through sustained and appropriate public health campaigns, and for youth in particular to understand the risks involved in cannabis use.

7. Establish a system of strict production, distribution and sales, taking a public health approach, with regulation of quality and safety, restriction of access and application of taxes with support for treatment, mental health support and education programs.
8. Provide access to quality-controlled cannabis for medical and scientific purposes.

DURATION

The overall consultation will run for a period of three (3) months and shall commence on August 1, 2019 and end October 31, 2019. The final report will be made public by the government at a time to be determined.

SCHEDULE OF PAYMENT

The Commission will be paid in six (6) equal lump sum payments over the duration period.

Appendix 2

What is THC?

By Alina Bradford - Live Science Contributor May 18, 2017

“THC, or tetrahydrocannabinol, is the chemical responsible for most of marijuana's psychological effects. It acts much like the cannabinoid chemicals made naturally by the body, according to the National Institute on Drug Abuse (NIDA).

“Cannabinoid receptors are concentrated in certain areas of the brain associated with thinking, memory, pleasure, coordination and time perception. THC attaches to these receptors and activates them and affects a person's memory, pleasure, movements, thinking, concentration, coordination, and sensory and time perception, according to NIDA.

“THC is one of many compounds found in the resin secreted by glands of the marijuana plant. More of these glands are found around the reproductive organs of the plant than on any other area of the plant. Other compounds unique to marijuana, called cannabinoids, are present in this resin. One cannabinoid, CBD is nonpsychoactive, according to the National Center for Biotechnology Information, and actually blocks the high associated with THC.

“Effects on the body

“THC stimulates cells in the brain to release dopamine, creating euphoria, according to NIDA. It also interferes with how information is processed in the hippocampus, which is part of the brain responsible for forming new memories.

“THC can induce hallucinations, change thinking and cause delusions. On average, the effects last about two hours, and kick in 10 to 30 minutes after ingestion. Psychomotor impairment may continue after the perceived high has stopped, however.

"In some cases, reported side effects of THC include elation, anxiety, tachycardia, short-term memory recall issues, sedation, relaxation, pain-relief and many more," said A.J. Fabrizio, a marijuana chemistry expert at Terra Tech Corp, a California agricultural company focused on local farming and medical cannabis. However, he said, a study in the British Journal of Pharmacology found that other types of cannabinoids, as well as terpenes (compounds that produce flavor and fragrance in plants), can modulate and reduce negative effects.

“Risks

“The effects of marijuana make it a popular drug. In fact, it is considered one of the most commonly used illicit drugs in the world. But these effects also concern mental health advocates. THC can trigger a relapse in schizophrenic symptoms, according to NIDA.

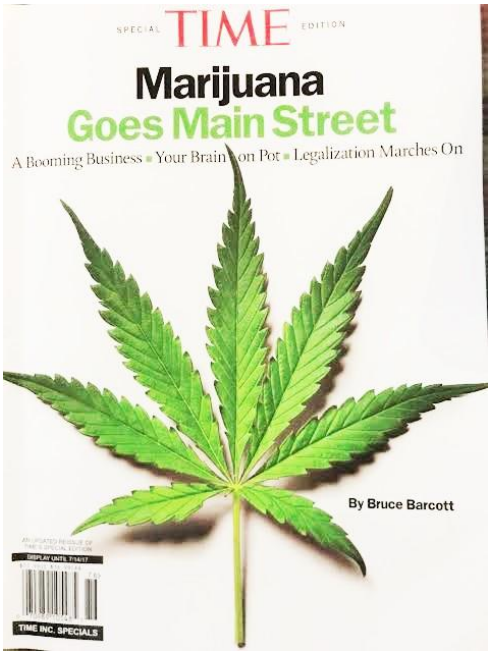
“Another possible risk of consuming THC comes in the form of impaired motor skills. Marijuana may impair driving or similar tasks for approximately three hours after consumption and it is the second-most common psychoactive substance found in drivers, after alcohol, reports the National Highway Traffic Safety Administration. People taking medical marijuana are instructed not to drive until it has been established that they can tolerate it and conduct motor tasks successfully.

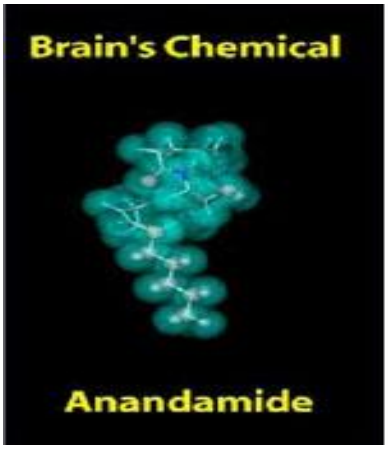
“The use of marijuana may cause problems for younger people, and long-term problems. "Some of the side effects of THC include a decrease in IQ, memory and cognition, especially in younger people," said Dr. Damon Raskin, medical director at Cliffside Malibu Treatment Center. "However, the jury is still out on long-term effects, as not enough research has been done on it yet. There is some speculation that it could impair fertility in men and women and also compromise a person's airways, but the studies are still not clear."

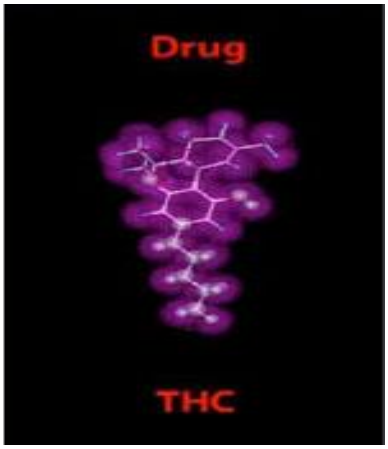
A study by the University of Montreal published in the journal Development and Psychopathology in 2016 found that early use of marijuana can affect teens. Smokers that start around age 14 do worse on some cognitive tests than non-smokers. The study on almost 300 students found that pot smokers also have a higher school dropout rate. Those that waited to start around age 17 did not seem to have the same impairments.

NIDA reports that rats exposed to THC before birth, soon after birth or during adolescence have shown problems with specific learning and memory tasks later in life.

Appendix 3







HEALTH BRIEF FOR THE CANNABIS COMMISSION

SAINT LUCIA

By Dr. Stephen King

28th JANUARY 2020

A. Current Situation

Today in Saint Lucia all cannabis and cannabis products are illegal, including hemp, cannabidiol (CBD), cannabis medical products, cannabis for sacramental use, cannabis for personal use. Possession or trafficking are offenses that can result in incarceration. Despite this cannabis use is widespread from low tetrahydrocannabinol (THC) products such as hemp oil and hemp seeds to high THC cannabis. Despite the widespread use the society generally maintains a negative perception of cannabis products without any understanding of the fact that the only cannabinoid of the over 104 cannabinoids in naturally grown cannabis plants is THC.

Various studies have revealed that the prevalence of cannabis use is at least 33% in males 13-17 and 21% in females 13-17 (CICAD). The World Drug Report states that overall population prevalence of cannabis use is 11%.

The following tables are possible thanks to data from Mental Wellness Center Admissions for Cannabis June 2019 – December 2019 (Dr Naomi Deterville and Dr Naomi JnBaptiste)

Table 1: Admissions to mental wellness June 2019-December 2019

Month	Admissions	Male	Female	Total Cannabis	Cannabis use + other disorder	Cannabis use only	Male cannabis associated	Female cannabis associated
June	74	44	30	27	23	4	24	3
July	75	52	23	28	21	7	26	2
August	86	64	22	35	26	9	33	2
Sept.	74	55	19	29	23	6	27	2
Oct	88	68	20	31	27	4	30	1
Nov	76	54	22	32	17	15	29	1

Dec	95	65	30	47	35	12	45	2
Total	568	402	166	229	172	57	214	13

Table 2: Percentage male, female and cannabis associated admissions

Total	**% male**	**% female**	**% admissions that are cannabis associated**	**% cannabis admissions that are cannabis use plus psychosis or other disorder**	**% cannabis admissions that are cannabis use disorder only**	**% male admissions that are cannabis associated**	**% female admissions that are cannabis associated**
568	71%	29%	40%	75%	25%	53%	8%

What is noteworthy is the difference between cannabis associated mental health disorders in females (8%) vs males (53%). Is this related to a lower prevalence of cannabis use in females?

The controversy with cannabis use associated with other mental illness including psychosis, paranoid schizophrenia, bipolar disorder, other psychoactive substances, severe mood disorder raises the questions:

Is cannabis the cause or is cannabis part of self-medication?

Does cannabis exacerbate the severity of mental disorders?

Does cannabis use decrease the lead time of serious mental disorder onset in susceptible individuals?

Studies such as “The Contribution of cannabis use to variation in the incidence of psychotic disorders across Europe – a multicenter case-control study, Marta Di Forte et al, Lancet Psychiatry 2019 vol 6: 427-436” indicates that daily use of high THC cannabis is correlated with a 5 fold increase incidence of psychosis. This paper also makes the point that if access

to high potency cannabis (THC >10%) was eliminated there would be an almost 50% decrease in cannabis associated psychosis and if daily use of cannabis was eliminated that would be a 20% decrease.

It is this author's opinion that Cannabis does contribute to increased significant mental health disorders. More so with daily use of high THC cannabis products. The author also accepts that most cannabis users will not suffer a significant mental health disorder. In general, approximately 9% of cannabis users will probably have a significant mental health issue and a further 10% will probably minor detrimental effects for example anxiety or sleep disorder.

Table 3: Prevalence of Marijuana Use Among Secondary School Students (%)

Indicators	Saint Lucia	St. Vincent	Jamaica	Trinidad	Average
Prevalence:					
Life-Time	**28.8**	26.4	21.1	16.6	**20.6**
Past Year	**17.2**	19.4	11.9	10.7	**13.7**
Past Month	**10.7**	14	6.3	6.2	**8.8**
Past Year Use by Age:					
Male	**22.7**	24.8	14.5	13.8	**17.5**
Female	**11.8**	15.3	10.1	8.0	**10.3**
Past Year Use by Age					
14 or less	**10.6**	12.3	5.4	6.0	**7.5**
15-16	**19.9**	20.8	16.5	13.2	**16.1**
17+	**25.5**	30.4	12.2	12.5	**19.8**

This table shows the current easy access to cannabis by youth it also shows more male use and increased use in later teens (15+). Strategies to engage youth in positive activities and to educate youth in the dangers associated with youth use of cannabis are important. Also important are societal and legal regulation to reduce access to cannabis by youth.

Adolescent use of Cannabis has been correlated with poorer learning outcomes and reduced lifetime achievement. Cannabis does affect memory and learning. Prolonged Cannabis use starting in adolescence has been associated with functional and physical anatomical brain alteration. Some research has correlated adolescent use with mental health issues whereas other studies such as the recent study published in the Lancet Psychiatry 2019, Vol 6: 427-436 suggest that it is not an independent variable and rather daily use of cannabis and use of high potency cannabis are the independent variables correlated with Cannabis associated psychosis.

In order to reduce the significant mental health disorders associated with Cannabis the health literature suggests:

- product regulation to reduce access to high THC products (products with >10% THC)
- health education to minimize daily use
- restriction of youth access to Cannabis
- minimize adverse childhood experiences

Cannabis has long been used for medication purposes over 4000 years. The current mainstream medical cannabis and cannabinoid formulations are documented in the following table.

Table 4: Current medical formulations

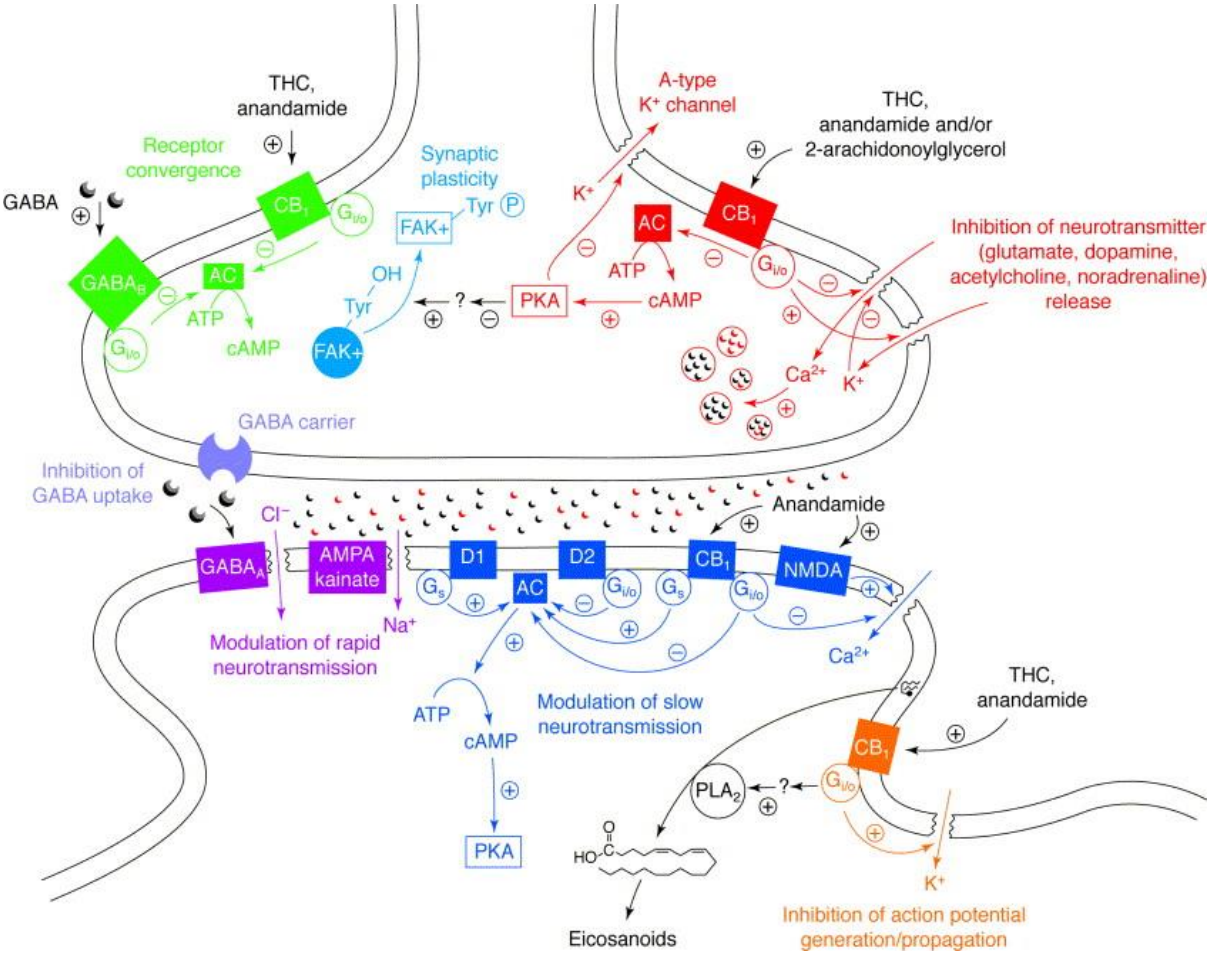
	Compound	Administration	Pharmacology	Condition treated
1	Epidiolex	Oral	Natural CBD	Seizures – Dravet's and Lennox-Gastaut syndromes
2	Sativex	Oral spray	Natural THC:CBD, 1:1	Neuropathic pain Cancer associated pain Spasticity in multiple sclerosis
3	Canasol	Eyedrops	Natural THC	Glaucoma
4	Asmasol	Inhaler	Natural THC	Asthma – acute and prevention
5	Dronabinol (marinol)	Oral	Synthetic THC	Chemotherapy associated nausea and vomiting Appetite stimulation in HIV/AIDS Neuropathic pain
TH	Nabilone (Cesamet)	Oral	Synthetic compound similar to THC	Chemotherapy associated nausea and vomiting
7	Dexanabinol	IV or oral	Synthetic non psychoactive NMDA receptor blocker	Seizures Neuroprotection in brain injury
8	CT-3 (ajulemic acid)	Oral	Synthetic analogue of THC metabolite THC-11-oic acid	Spasticity Neuropathic pain Inflammation – arthritis
9	Cannabinor	Oral	Synthetic CB2 receptor agonist	Chronic pain Inflammation

10	HU 308	Oral	Synthetic CB2 receptor agonist	inflammation hypertension
11	HU 331	Oral	Synthetic CB1 and CB2 receptor agonist	Neurodegeneration Memory loss Weight loss Pain Inflammation
12	Rimonabant/ acomplia	Oral	Endocannabinoid blocker	Obesity
13	Taranabant (MK-0364)	Oral	CB1 receptor blocker	Obesity

B. Physiology and Pharmacology

The endocannabinoid system is an extensive negative feedback regulatory system with several receptors on various cells, neurons, lymphocytes, lungs, kidneys, liver, bone, smooth muscle and many other cells. The endocannabinoid system is part of the natural cellular regulatory and developmental process. The main receptors are CB1, CB2, TRPV and TRPA receptors. CB1 receptors are widespread in the central nervous system and CB2 are widespread in the immune and haematopoietic cells. The body produces endocannabinoids - anandamide and 2-Arachidonoylglycerol (2AG) which interact with these receptors and inhibit cyclic AMP through the G-protein coupled mechanism.

Figure 1: Cannabinoid neuronal interactions



The endocannabinoid system helps regulate neural development, immune function, inflammation, appetite, metabolism, energy homeostasis, cardiovascular function, digestion, bone development and bone density, synaptic plasticity and learning, pain, reproduction, psychiatric disease, psychomotor behaviour, memory, sleep/wake cycles, stress and emotional state.

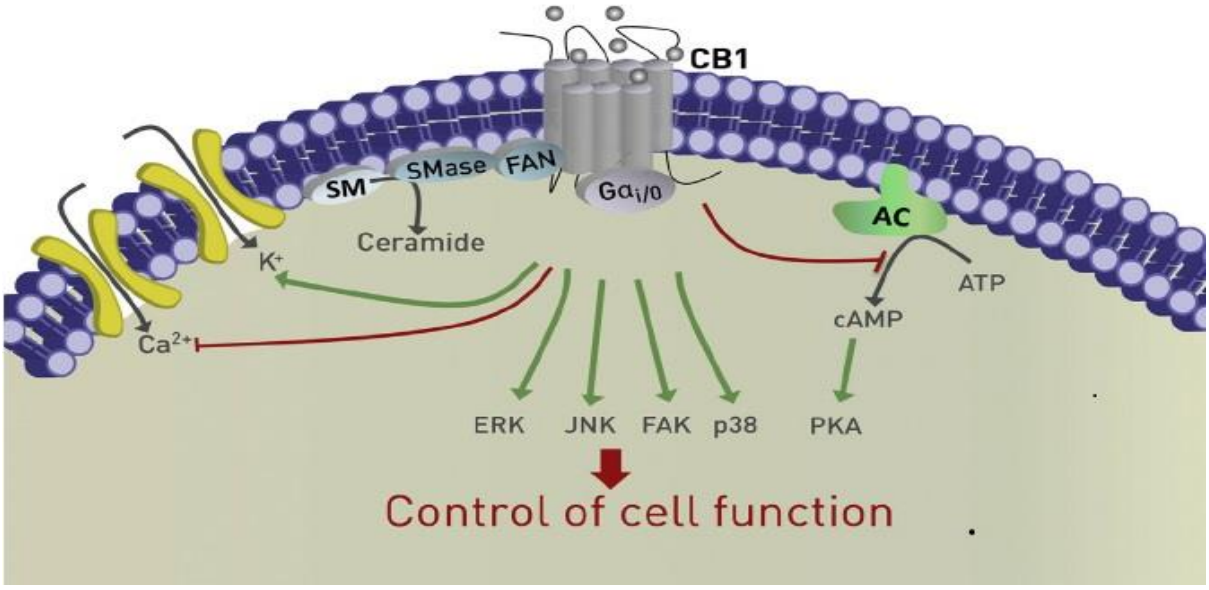
C. Chemistry

There are three relevant Cannabis species of the Cannabis plant family (Cannabaceae) : Cannabis Sativa, Cannabis Indica and Cannabis Ruderalis. There are many chemicals contained in Cannabis plants. Phytocannabinoids are found in varying quantities and types

in all components of the plant, THC and other cannabinoids are concentrated in the flowers of the female plant. There are over 104 phytocannabinoids, the most understood ones being THC, CBD, CBN. The phytocannabinoids act on the endocannabinoid receptors with variable results affecting the nervous system, immune system, GI tract, and musculoskeletal system. For example, THC has a strong psychoactive effect through its integration with CB1 receptors in the brain. CBD alters THC effects and has some opposite effects on the brain through its action on the CB1 receptors. There are over 400 other chemicals in naturally occurring cannabis. These include terpenes that are responsible for the aroma of cannabis but also appear to have physiological effects in the human body. The consumption of these naturally occurring chemicals produces different effects depending on the ratios of the various phytocannabinoids and other chemicals - the so called “entourage effect”.

The effects of cannabis on the body is complex and variable. Cannabis alters levels of endocannabinoids, gamma aminobutyric acid (GABA), glutamate and serotonin in the CNS. Cannabis acts by binding receptors that modulate G-protein coupled inhibition of cyclic AMP. The CNS effects are produced not only through neuronal modification but also glial cells (microglia and astrocytes).

Figure 2: CB1 G-protein coupled cellular mechanism



The effects of cannabis on an individual are related to variables the main ones being:

1. The cannabis product, for example high THC products vs high CBD products.
2. The route of administration – edibles vs smoked vs sprays vs others
3. The biology of the individual – some individuals are more susceptible to certain effects, for example people with variants of COMT or AKT1 genes are more likely to suffer cannabis induced psychosis from THC.

Naturally grown cannabis generally has 5-10% THC. Genetically modified strains and different growing conditions now produce cannabis plants with up to 20% THC in the Cannabis flowers. The theoretical maximum is 35%. Cannabis plants with THC levels over 10% are labeled as high-potency cannabis.

Cannabinoids in the natural state in the plant are in the carboxylated chemical formulation that is, for example THCA (tetrahydrocannabinolic acid). THCA has no psychoactive effects however decarboxylated THCA, that is THC does. THCA is decarboxylated by exposure of the dried product to heat or light. Hence the delivery of THC via smoking.

D. Cannabis effects – personal use of Cannabis with significant levels of THC

Cannabis with significant levels of THC usually produces euphoria. The entourage effect of other cannabinoids and the ratios of THC to other cannabinoids, for example CBD, provide nuances to the THC induced euphoria. Cannabis products generally create a calm meditative state which is usually what users are seeking. The context of the use, the product used, the biology and history of cannabis use in the individual all affect the cannabis effect. Often there is a tendency to be happy and laugh, sometimes there is increased appetite. In a social setting cannabis can enhance interaction or can inhibit interaction. Most people (80% or more) who use cannabis especially occasionally will show no long-term detrimental effects and will have a good experience. Cannabis does not cause significant loss of executive function unless there is Cannabis intoxication, psychosis or cannabis use disorder.

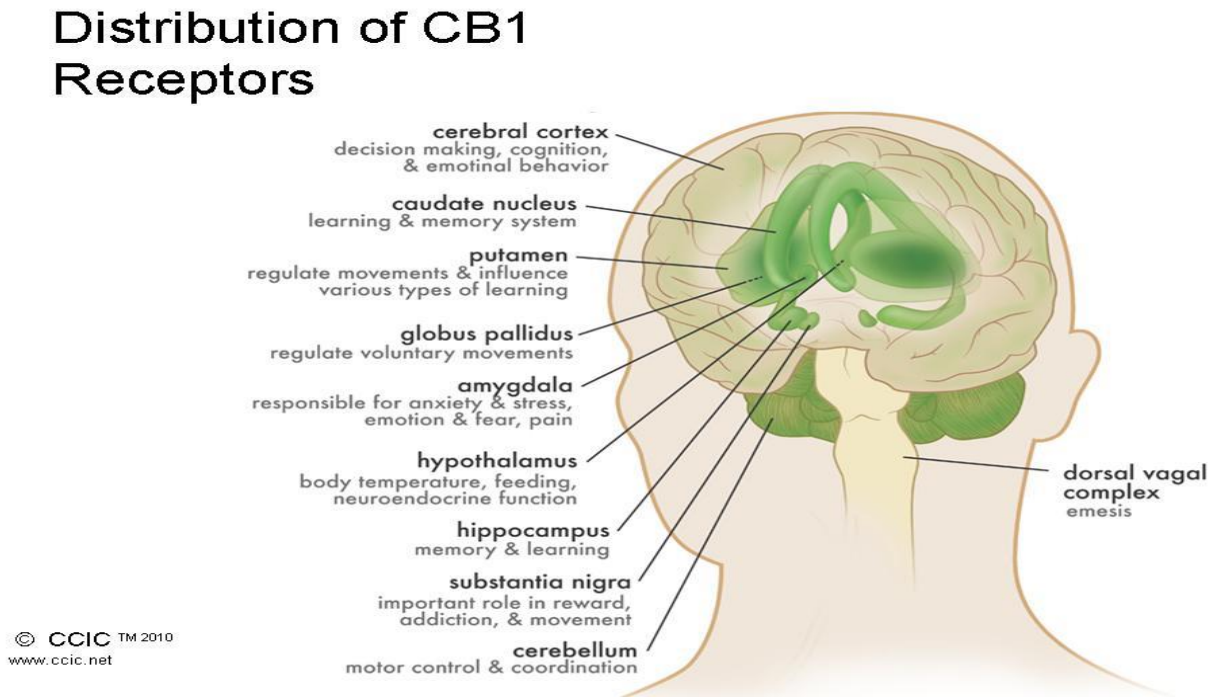
Cannabis often causes a feeling of depersonalization, being outside of oneself. Seasoned users manage this perception well and may even use it as part of the “meditation”. Novice users can be disturbed by this perception and become anxious or panicked. Some people experience paranoia which fuels the anxiety or panic.

Onset of cannabis effects depend on mode of use. Smoking effect commence within minutes of use, peaks in 30 minutes and dissipates in 1-2 hours. Edible effects may take 1-2 hours to be felt and last approximately 6 hours. Novices are more likely to experience intoxication from edibles because of this delay.

Cannabis affects the senses especially vision, hearing and sensation. This explains part of the perceived heightened or altered sensory perception in sight, hearing and sensation. Cannabis can also relax skeletal muscles causing the body relaxation “body high”. Cannabis often causes vasodilation which can produce hypotension (low blood pressure), tachycardia, conjunctival injection (red eyes). Cannabis often causes a dry mouth.

Cannabis alters visual spatial perception and can cause altered psychomotor function thus driving and equipment operation can be impaired. Time perception, memory and learning is altered.

Figure 3:



E. Health issues

1. Cannabis induced psychosis (DSM-5)

Estimated that 2% of daily users of cannabis will develop psychosis, this increases to 5% with daily use of high THC products. Daily use of high THC cannabis is correlated with a 5 fold increase incidence of psychosis. If access to high potency cannabis (THC >10%) was eliminated there would be an almost 50% decrease in cannabis associated psychosis and if daily use of cannabis was eliminated that would be a 20% decrease.

Cannabis psychosis has also correlated with certain genetic profiles with (Catechol-o-methyltransferase) COMT and AKT1 gene variants which alter the effects of phytocannabinoids on neurotransmitters.

2. Cannabis in association with mental health disorders

High THC Cannabis when used by persons with psychotic disorders will worsen the severity of the disorder. There is also suspicion that high THC cannabis appears is correlated with earlier onset of psychosis.

3. Cannabis use disorder (DSM-5)

Estimated that approximately 3-9% of chronic users will develop a cannabis use disorder.

It is defined as problematic use of cannabis that results in significant distress or impairment. Resulting in recurrent social or interpersonal problems, failure to fulfill role obligations at work, school or home, an inordinate amount of time spent on activities to obtain cannabis, craving or strong desire to use cannabis.

This includes the amotivational syndrome in which chronic use of cannabis creates a condition of complacency and apathy. Some authors indicate that this can also be caused by depression and persons are self-medicating with cannabis.

Cannabis use disorder is correlated with early initiation to cannabis use, daily use of cannabis and use of high potency cannabis products.

4. Cannabis induced anxiety disorder (DSM-5)

Panic attacks or anxiety associated with cannabis use. Pre-existing anxiety disorder must be ruled out.

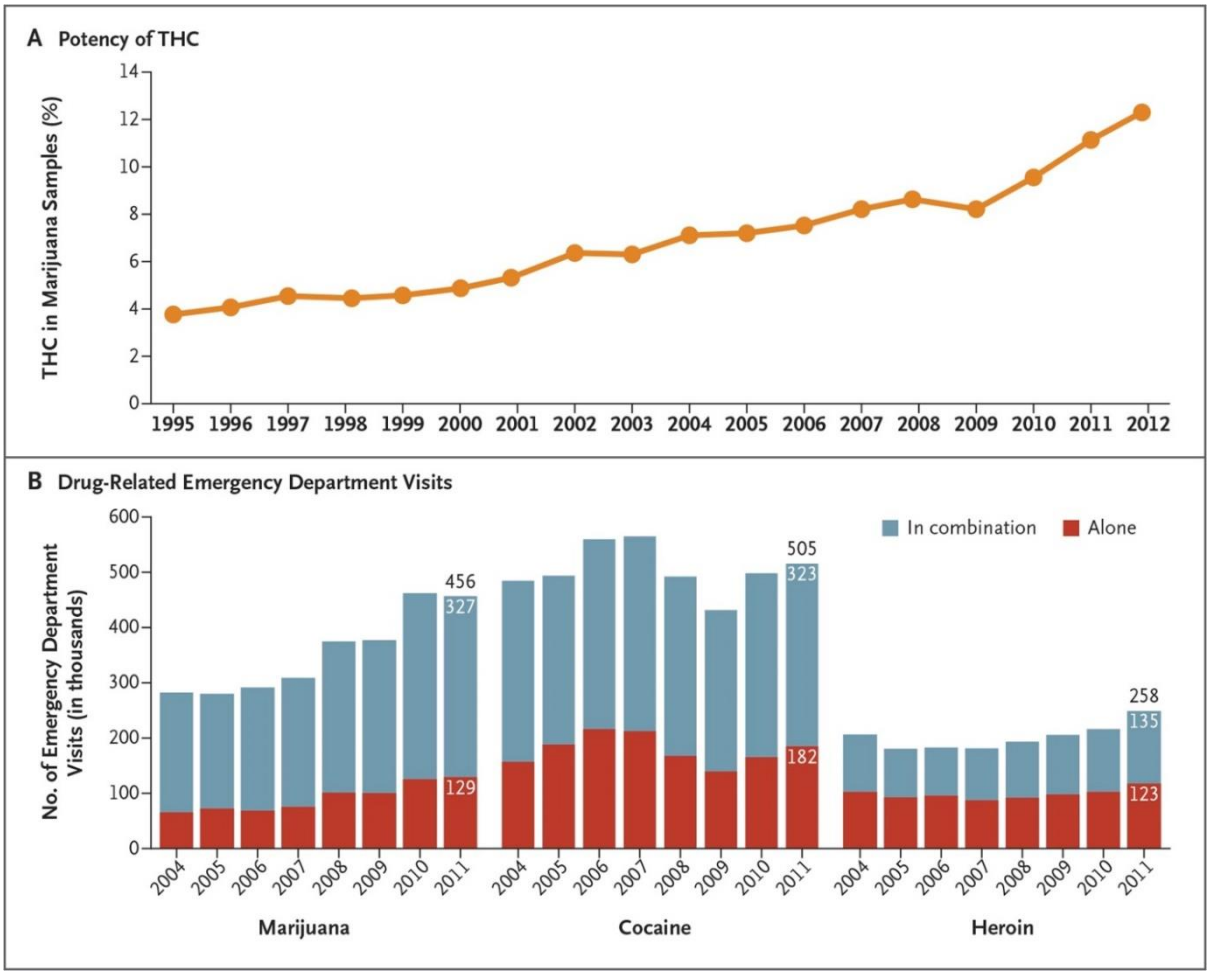
5. Cannabis intoxication (DSM-5)

Acute delirious state associated with recent cannabis use. Symptoms are usually disturbed attention and cognitive disturbance including disorientation, memory deficit, depersonalization perceptions and paranoia.

Most emergency room visits with cannabis use are as a result of intoxication. Cannabis intoxication is not directly life threatening as cannabis does not affect vital centers in the brain stem. Cannabis is therefore often considered a safe substance as compared to others because Cannabis is not directly life threatening and therefore is safer than other substances, for example alcohol.

In our experience it is more often seen in novice users who have used edible cannabis products.

Figure 4: ER visits correlated with access to higher potency cannabis products (USA)



6. Cannabis sleep disorder (DSM-5)

Severe sleep disturbance can be associated with cannabis use.

7. Cannabis withdrawal (DSM-5)

On cessation of cannabis after a period of prolonged frequent use that results in three or more of the following: irritability, anxiety, sleep disturbance, decreased appetite, restlessness, depression. It usually starts within 24-72 hours of cessation and lasts for 1-2 weeks; sleep disturbance can last for up to 30 days.

8. Hyperemesis

This is a syndrome of sudden onset of vomiting usually in chronic users. It is due to a centrally mediated mechanism and is treated by stimulating nociceptors through use of hot showers or pepper formulations applied to the skin, usually the abdomen.

9. Chronic obstructive pulmonary disease.

A Saint Lucian study "Worse Chronic Obstructive Pulmonary Disease in Patients who Smoke both Tobacco and Marijuana, LM Charles et al." Cannabis smoke contains toxic substances that irritate the airways and chronic use can cause chronic bronchitis. In our experience the practice of mixing tobacco with cannabis for smoking is causing significant lung disease (COPD) and resulting in end stage lung disease and death in a 20-30 year period. Pure cannabis use takes a longer period to reach end stage lung disease than pure tobacco use or mixed tobacco and cannabis use. The other issue with mixing tobacco and cannabis is the nicotine addiction to tobacco drives the excessive use of the mixed product not only causing rapid development of COPD but also higher rate of Cannabis use disorder.

10. Pregnancy and cannabis

Cannabis use in pregnancy is correlated with low birth weight babies. Since cannabinoids can alter neural development and the fetus is undergoing rapid brain and neural development it is wise to not expose the fetus to cannabis since long term effects are unknown, so erring on the side of caution means that we advise no cannabis use in pregnancy.

11. Accidents and cannabis

As stated above THC is associated with visual spatial and psychomotor disturbance and therefore driving or operating machinery should not be done for up to 3.5 hours after smoking, longer for edibles. Chronic users are better able to compensate for this cannabis disturbance.

Driving under the influence of THC is correlated with accidents.

12. Depression and suicide ideation

The association with depression and suicide ideation is complex and there are both beneficial and detrimental effects of various cannabinoids. The controversy continues is cannabis the

cause or do people with depression seek relief in cannabis? Further seeking relief of depression in Cannabis may then worsen the depression and suicide ideation. In general, it appears that high THC products are potentially detrimental and high CBD products are potentially beneficial.

13. Memory, learning and attention

High THC cannabis will alter memory and attention and therefore affect learning. This may also explain some of the findings described by some researchers of poorer life outcomes for daily users of high THC cannabis over prolonged time and especially when cannabis use starts in teenage years. Some studies indicate functional anatomical and anatomical changes in the medial temporal cortex, temporal pole, Para hippocampal gyrus, insula, and orbitofrontal cortex. These are the areas of the brain with high concentration of CB1 receptors. These changes are seen in long term use with early initiation in adolescence.

14. Exposure to smoke

Exposure to smoke is irritating. Exposure to smoke can also cause reactive airway disease asthma, sinusitis and obstructive sleep apnea.

Education and regulation to minimize exposure to smoke for non-smokers, especially children, in households and in public spaces is important.

15. Vaping

Vaping has been proposed as a safer than smoking because of the reduced levels of irritants and toxins in vapor over smoke. In recent times (2019), however, toxins in vaping fluids has caused vaping associated acute lung injury which is a severe and life-threatening disease.

Also vaping is exposure to high potency THC.

There needs to be regulation to ensure that vaping liquids are safe and in this author's view should be a mix of THC and CBD.

16. Synthetic recreational cannabinoids

There are synthetic cannabis analogs, for example K2 and Spice. These products are more toxic than natural Cannabis and there have been deaths associated with them.

There needs to be regulation to control these products and access to them, including banning or recreational synthetic cannabinoids.

F. Health benefits of Cannabis

Apart from the emotional and psychological benefits to some people from the use of Cannabis there are many other medical uses of Cannabis and Cannabis products. These include:

a. Seizures
b. Pain
c. Multiple sclerosis
d. Spasticity, muscle rigidity and spasms
e. Inflammatory conditions
    a. Inflammatory bowel disease
    b. Arthritis
    c. Autoimmune conditions
    d. Psoriasis and eczema
    e. Others
f. Glaucoma
g. Asthma
h. Cancer
    a. Chemotherapy induced vomiting
i. Anxiety
j. Psychosis
k. Post traumatic stress disorder
l. Appetite stimulant
m. Metabolic syndrome
n. Substance abuse
o. Alzheimer's and other dementias

p. Sleep disorders

q. Endocannabinoid deficiency syndrome has been postulated for the following

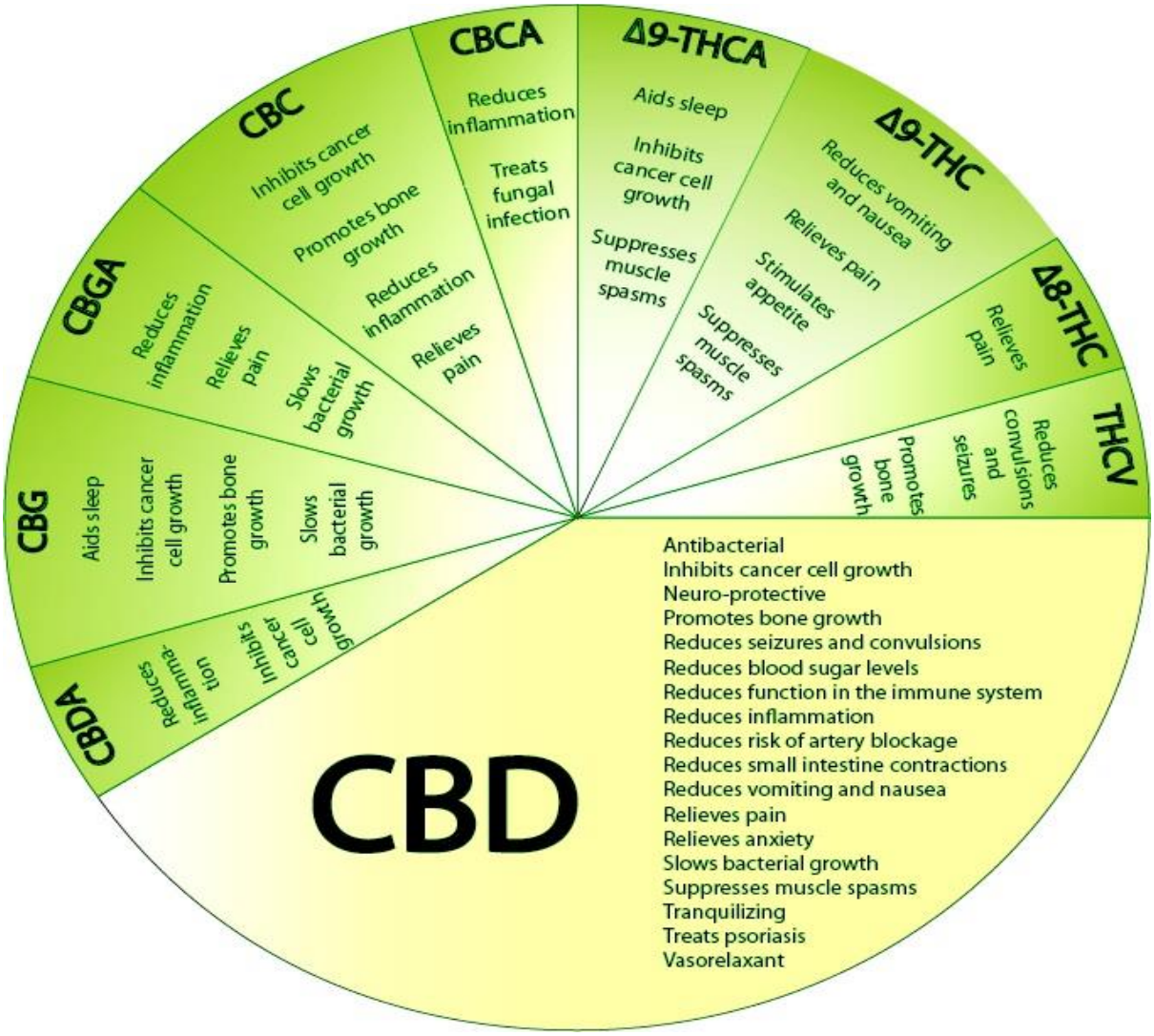
   a. Fibromyalgia

   b. Migraine

   c. Irritable bowel syndrome

   d. Some neurodegenerative disorders

Figure 5: Cannabinoids as medicine



Cannabidiol is being identified as an important compound for medical use and is being used for the above conditions. Some researchers indicate that the mix of THC and CBD is important and may be more effective for many conditions outlined above. Researcher is ongoing and necessary to identify the best cannabis products to treat various conditions. There is no doubt that cannabis is an important pharmaceutical and will become more so. The efficacy and safety profile of cannabis makes it an attractive pharmaceutical.

The gateway theory of cannabis use that states that cannabis use especially in youth leads to use of "harder" drugs has been disputed and essentially debunked. The belief now is that there is individual common liability to substance abuse. Substance abuse is highly correlated to adverse childhood experiences and genetics/epigenetics.

Cannabis addiction is a diagnosis we don't make since cannabis does not appear to create the physical dependence that characterizes addiction. What has been called cannabis addiction is now included in cannabis use disorder.

G. Recommendations

Improved regulatory regime that achieves the following:

1. Regulated cannabis products with <10% total THC by dry weight and Cannabis products should contain CBD at significant levels, ratios of CBD:THC to be established.
2. Remove low THC <0.3% (Hemp) products from regulation
3. Vaping products should be regulated to be mixed THC: CBD and should be regulated to ensure no toxic chemicals associates with vaping-induced acute lung injury.
4. Propose 18 years old as age at which Cannabis can be used legally
5. Restricted public smoking can be covered by the smoking legislation fulfilling the obligations under the framework convention for tobacco control.
6. Driving under the influence or operating machinery under the influence as an offense (need establish THC levels and testing)
7. Medical cannabis use allowed

8. Sacramental cannabis use allowed
9. Personal cannabis use allowed
10. No access to synthetic recreational cannabinoids
11. Taxation regime established to produce public revenue
12. Establish the Substance Abuse Council

Support systems developed

1. In country testing facilities to analyse and quantify THC, CBD and other cannabinoids.
2. In country testing to quantify saliva THC levels and serum THC levels
3. Training of health professionals, social workers, counsellors, teachers, law enforcers and judicial officers about cannabis
4. Cannabis revenue to be used to fund health education programmes and other prevention programmes (e.g. parenting, reducing adverse childhood experiences, counselling)
5. School curriculum modified to include Cannabis and other substance abuse education, life skills training including meditation techniques, esteem building activities, emotional intelligence education including youth engagement and school enrichment programmes
6. Investment in early childhood development
7. Investment in BTC and Bordelais substance abuse reduction programmes
8. Investment in the Substance Abuse national programmes
9. Public education and social pressure to minimize daily use of cannabis
10. Public education and social pressure to stop mixing tobacco and cannabis
11. Research activities should be supported
12. Ongoing monitoring and evaluation and investment in ongoing data collection

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Appendix 4

REGULATORY FRAMEWORK

Drawing on the cannabis frameworks presented in the Social and Economic Lab Report[4] (with some amendments),

Table1: Possible Regulatory Framework for the Regulation of Cannabis in Saint Lucia

Parameters		Legalization
Regulatory Authority		Cannabis Statutory Body
Minimum Age		18
Personal Possession Quantity		30 grams
Home Cultivation		6* organically grown plants per household within perimeter of residential area
Fine		Not Applicable
Interpersonal Sharing		30 grams
Retail Transaction Limit		30 grams per person
Retail Pricing Structure		To be Determined by Cannabis Cooperative/ Market
Average retail price per gram after tax		To be Determined by Cannabis Co-op/Market
Maximum THC Content		Subject to Use

[4] Saint Lucia Social and Economic Labs- Agriculture Key Results Area. PEMANDU. 2019.

*Revised from 5 plants to 6 plants following consultation with the Cannabis Commission

**Author's suggestion

		-Retail for Personal Use: Maximum15% -Commercial Use: Varies
Commercial Production		Licensed Producers
Commercial Distribution		Licensed
Restrictions on Edibles		None
Drugged Driving		Prohibited and Strict Enforcement Policy
Public Smoking		Prohibited
Advertising		Prohibited
Taxation		Tax rates are determined by the Government/State

Implementation Framework

In the proposed implementation framework for the legalization models, it was assumed that the cannabis industry would be operated within three sectors: agriculture (cultivation), manufacturing (production) and retail. The farmers would produce and cultivate the cannabis plants. The cleaned and dried cannabis[5] would then be sold to the cooperative. The cooperative would monitor demand and supply and would be the sole intermediary between the farmers and the wholesale and retail market. The cooperative would provide technical guidance to the farmers on what cannabis strains to produce and ensure good agricultural practices for sustainability.

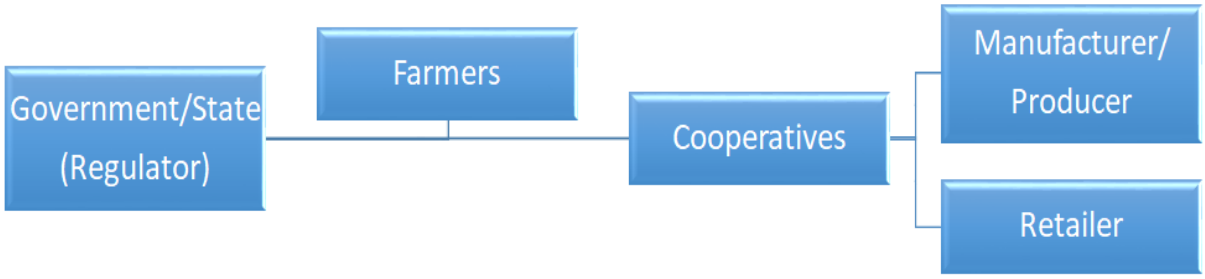
There are several ways in which the framework may be designed, however the following three options are considered in this assessment. The first option (Option 1) would represent regulation under competitive markets). Under Option 1 the Government/State would only be responsible for regulating the industry, issuing licenses and collecting taxes. The cooperative

[5] The farmer or the cooperative may be responsible for cleaning and drying.

would be owned by the farmers and privately operated, similar to the structure and operation of a Credit Union or other agricultural cooperative. ***The cooperative would have the exclusive rights to distribute and sell cannabis. The price of cannabis under this model is determined by the market.***

The Co-op would be responsible for regulating all industry activities such as licensing, enforcement, quality control, farmer education and collection of taxes as the agent of Government.

Figure 1: Implementation Design: Option 1



Revenue

The Government would collect revenue from across the value chain. The farmers would pay annual license fees and farm gate duties on cannabis supplied to the cooperative. The manufacturer would also pay an annual license fee, corporate income tax and excise duties on the export of cannabis and cannabis by-products such as CBD oil. The consumer would pay VAT and or a Cannabis Sales Tax on commercial sales and employees would pay Personal Income Tax on wages and salaries. Some suggested tax rates are presented in Table 1. In choosing tax rates, the government should ensure that the tax burden on the cannabis sector is not excessive as to encourage black market operations. While both VAT and a Cannabis Sales Tax is suggested the government may choose to implement only one of those options or both.

Table 1: Proposed Taxes and Rates

	Farm gate Duties	Corporate Tax	Personal Income Tax	Annual License Fees	Excise Duties	VAT	Cannabis Sales Tax
Rates	EC$50[6]/kg of cleaned and dried Cannabis leaf	Current rate of 30% of Profits	Current Rates specified by the Income Tax Act	$500 per acre	EC$3.49[7]/litre of CBD oil	12.5%	15%
Tax Burden	Farmer	Manufacturer/ Producer	Employees	Farmer	Manufacturer/ Producer	Domestic Consumption (Locals and Tourists	Domestic Consumption (Locals and Tourists

Table2: Revenue Collection

Taxes	Model (Competitive Market)
Farm Gate Tax	$16,822,800
License Fees	$1,012,000
Excise Tax	$4,559,148
Corporate Tax	$47,616,312
Cannabis Sales Tax	$6,661,417
VAT	$5,551,181
Total	**$82,222,857**

[6] Proposed by Author. Revised downwards from $100 kg proposed in the PEMANDU Agriculture Lab Reports

[7] Excise duty similar to what is paid on rum

The revenue estimates under the legalization models were derived based on the details of an investor proposal presented in the PEMANDU agriculture Lab Report together with additional assumptions by the author. These are outlined in Figure 36 and Table 29 and 30 below.

Figure 2: Implementation Design and Assumptions

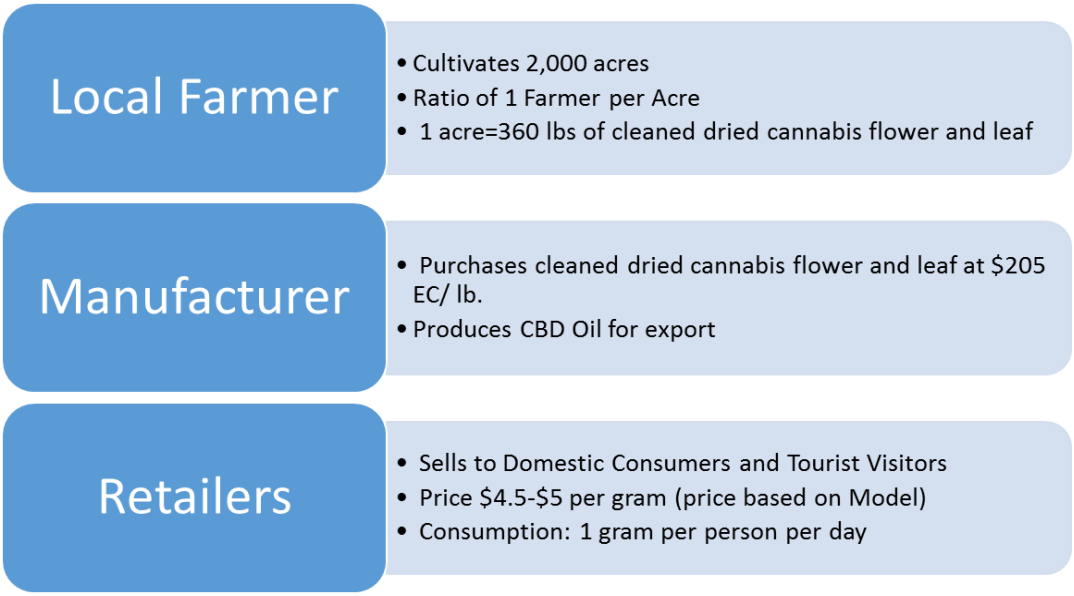


Table3: Revenue Estimates for Licenses and Taxes

Tax Category	Rate	Total	Assumptions	Source
Farm Gate Tax	$50 per Kg	**$16,822,800**	**Cannabis Production:** **1. Manufacturing**=720,000lbs/326,587 kg **2. Retail** =9,869 kg **Total=336,456 kg** (See below for demand estimates for Local and Tourist markets in grams. Grams were converted to Kg)	Lab Report
License Fees			1 Farmer per acre	Lab Report
Farmers	$500 per acre per Annum	**$1,000,000**	2000 farmers	Lab Report
Retailers	$1,000 per annum	**$5,000**	5 Retailers	Author
Manufacturer	$5,000 per annum	**$5,000**	1 Manufacturer	Author
Cooperatives	$2,000 per annum	**$2,000**	1 Cooperative	Author
Excise Tax	$3.49/ litre		1 gram of dried flowers and leaf produces about 4ml of CBD oil	Cannabinoid Information Platform
		$4,559,148	720,000lbs=326,586,506 grams of cleaned and dried flowers and leaf , which produces 1,306,346 litres of CBD oil	Author's Calculation
Corporate Tax	30% of Profit		Expected Revenue: $ 529,070,130	Based on Sales (See Table 34)
		$47,616,312	Estimated gross profit margin: 30 percent =$158,721,039	Benchmarked on Average Gross Profit Margin for CBD Unlimited
Cannabis Sales Tax	15%			
Domestic Market		**$6,163,810**	Increase in prevalence by 10 percentage points due to legalization= 18.9%	Author
			2018 Population (20 and above) =132,368 people	Central Statistics Office
			Estimate of Usage at rate of 18.9%=25,018 people	
			Usage: 1 gram per person per day	
			Annual Demand= 9,131,570 grams	
			Expenditure: $4.5/gram	Lab Report
Tourist Market		**$497,607**	Total Visitors (2018): 1,228,662	2018 Social and Economic Review
			Usage: 5% Visitors (61,433)	Lab Report
			Expenditure: US$20 per visitor	
			Annual Demand=737,196 grams	Lab Report
VAT	12.50%			
Local Market		**$5,136,508**	Same As above	
Tourist Market		**$414,673**		
Total		**$82,222,857**		

Appendix 5

Regulation

December 2019

Economic Analysis of the Regulation of the Cannabis Industry in Saint Lucia

Prepared for: Cannabis Commission

Prepared by: Melissa Hippolyte-Descartes

ACKNOWLEDGMENTS

This report was prepared by the consultant, Melissa Hippolyte-Descartes, Senior Economist at the Ministry of Finance and Founder of the Institute for Empowerment and Development Initiatives Inc. (IEDI). Special thanks to the agencies that provided data for this study including the Performance Management and Delivery Unit (PMDU), Bordelais Correctional Facility, National Mental and Wellness Centre and the Central Statistics Office.

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1.0 EXECUTIVE SUMMARY

Background and Context

The United Nations (UN) introduced the Single Convention on Narcotic Drugs in 1961, the 1971 Convention on Psychotropic Substances and the 1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. These international conventions became the legislative basis for the prohibition and criminalization of the production, non-medical use and trade of cannabis and several other drugs in UN member states. However, despite its status as an illegal substance, cannabis is the most widely used illicit drug worldwide.

The surge in scientific evidence on the medical and industrial benefits of cannabis undermines the arguments for prohibition and criminalization on the basis that cannabis is a dangerous drug without value. Furthermore, there is consensus in the literature that prohibition and criminalization policies have not delivered on the intended outcomes and come at high enforcement, economic and social costs. Nonetheless, concerns remain surrounding the psychoactive and health effects associated with cannabis use especially in children and young people.

Amidst these debates, global sentiments have changed as many countries advance regulatory reforms to capitalize on the opportunities in the cannabis industry. Over 33 countries have amended their legislations to decriminalize the medical and or the recreational use of cannabis. Uruguay in 2013 became the first country to legalize Cannabis for recreational use, followed by Canada in 2018. The Caribbean region through CARICOM are currently taking action towards a new regulatory framework that balances the economic benefit of legalization with public health concerns.

Within this context, the Government of Saint Lucia has committed to implementing a new legislative and regulatory framework for the production, sale and distribution of cannabis. In pursuit of this objective, a Cannabis Commission was established in July 2019. The objective of this report is to guide the work of the Cannabis Commission, by undertaking an economic analysis of the costs and benefits of following three (3) proposed regulatory models:

i) Model 1: Decriminalization of Cannabis Use Only

ii) Model 2: Full Legalization of Cannabis Production, Sale and Use (within a Competitive Market Framework)

iii) Model 3: Full Legalization of Cannabis Production, Sale and Use (with State Control)

Review of Current Landscape in Saint Lucia

A review of the current landscape in Saint Lucia revealed that Cannabis and other related products are classified as controlled drugs under The Drugs (Prevention of Misuse) Act, Chapter 3.02 of the revised laws of Saint Lucia (2008). The penalty for offence ranges from three (3) years in prison or a fine of $100,000 on summary conviction and up to fourteen (14) years in prison and a fine of $200,000 on indictment. Despite the illegality and associated severe penalties for use, the past year prevalence of use in the general population was estimated at 8.9[8] percent and 17[9] percent among students, with a higher incidence among males than females.

In the 2016 Student's Drug Use Study, 50 percent of the students surveyed in Saint Lucia reported that cannabis was easily accessible. The study also found that the frequency of behavioral problems and repeated years of school increased with the prevalence of cannabis use. Correlation patterns in the data from the National Mental Wellness Centre suggested that cannabis use may be connected to a higher risk of dependency and mental disorders such as drug induced psychosis and schizophrenia.

According to statistics from the Royal Saint Lucia Police Force, cannabis related offences in Saint Lucia have increased steadily over the last 5 years. In 2018, unlawful possession of cannabis accounted for over 60 percent of all cannabis related offences. As of October, 2019, 7 percent of the inmates (39 inmates) at Bordelais Correctional Facility (BCF) were incarcerated for cannabis related offences. Of these 39 inmates, 32 were on remand awaiting trial. Furthermore, during the period 2014-2018, 70 percent of the inmates admitted at BCF for cannabis related offences were between the ages of 20-35 years. Over 50 percent of these inmates had a secondary or tertiary education and over 97 percent were previously employed in farming, fishing and other industries. These statistics suggest that criminalization has a

[8] World Drug Report 2019, prepared by United Nations Office on Drugs, and Crime (2019).

[9] Data Source: Student's Drug Use Study, prepared by Inter-American Drug Abuse Control Commission (2016).

negative impact on the youth, employment and productive capacity of the economy as a whole.

Economic Assessment

An economic assessment of the proposed models was undertaken, drawing from economic theory, empirical evidence from country studies and cost benefit analysis to investigate the impact on selected indicators including prevalence of use, prices, implementation and government revenue.

Theoretical Model

The results of the economic theoretical model projected an increase in consumption and a decrease in prices under all three models, with the effects lower under decriminalization as compared to legalization. Model 2, had the largest increases in consumption and decline in prices. Under Model 3, the Government had the option of controlling prices by placing restrictions on the quantity supplied to mitigate the expected increase in consumption. This could also be achieved through licenses and taxes on cannabis consumption. State invention can affect the extent of black operations based on the variance created between the legal and illegal price of cannabis. If the regulated price or the price after tax is higher in the legal market than the illegal market then black market operations will increase. Conversely, if legal prices are lower than illegal prices then black market operations decline.

Country Experiences

Consumption and Prices

The evidence from country studies largely supported the results predicted by the theoretical model of an increase in consumption following decriminalization and legalization. However, there was no clear evidence that the increase in consumption was lower under decriminalization as compared to legalization. In Colorado and Washington State, countries with market-based legalization, the increase in adult prevalence was lower than in the case of Uruguay. However, among youth populations the results of the theoretical model were confirmed with higher increases in prevalence under Model 2 compared to Model 1 and Model 3. Concerning the impact on prices, it was found that Decriminalization led to no significant change in prices in most countries. However, in Colorado and Washington State, the market dynamics of supply and demand led to significant declines in prices. In Uruguay, prices are regulated by the State and restrictions are placed on supply through licensing regimes.

Arrests and Crime

Country experiences confirmed a drop in cannabis related charges, arrests, and court cases. However, the impact on crime is uncertain as it is often related to the extent of black market activity and cartelization. Some reports[10] claimed that drug related crimes decreased following legalization in Uruguay, however other studies[11] report a rise in gang violence and organized crime.

Black Market Operations

Black market operations accounted for 60 percent of the cannabis market in Uruguay on year after legalization. In Washington State and Colorado, black market operations comprised of 50 percent and 30 percent of the market respectively. This supports the argument that black market operations may still persist if the variance between the legal and illegal price is positive.

Cannabis Related Traffic Fatalities

The effects of the two legalization models on cannabis related traffic accidents were mixed in the country cases. The market-based legalization cases reported a rise in cannabis related traffic fatalities. However, Uruguay saw a decline in traffic accidents because of the implementation of strict policies and penalties for driving under the influence.

Implementation

Cost of operations of the regulatory division in Colorado was estimated at US$15.8 while in Uruguay regulatory cost was US$0.650 million in 2016. The cost per revenue earned was much higher in Uruguay than in Colorado.

Revenue

Government revenue from licenses fees and taxes increased significantly under Model 2. In Colorado, US$302.5 million in revenue was generated in 2019. Revenue generation was

[10] Crime Rate Drops but Uruguay Struggles with Illicit Sale of Cannabis to Tourists | News | teleSUR English [Internet]. 2018. [cited 2018 May 17]. Available from: https://www.telesurtv.net/english/news/Crime-Rate-Drops-but-Uruguay-Struggles-with-Illicit-Sale-of-Cannabis-to-Tourists-20180113-0015.html

[11] G. Ramsey "Getting Regulation Right": Assessing Uruguay's Historic Cannabis Initiative. Washington DC, 2016.

more modest under Model 3. In the case of Uruguay, revenue collected in 2016 was US$0.138 million.

Costs Benefit Analysis

The different models were evaluated using cost benefit analysis using available country data. In the case of Saint Lucia, the results of the costs benefit analysis indicated that the existing legal framework of prohibition and criminalization (Model 0) had the lowest net benefit, at an annual cost of $3.6 million. While the net benefit of decriminalization (Model 1) was 43 percent higher than the present regime, this model still came with net costs to the economy of $2.1 million, as it does not offer the added benefits of employment and revenue generation that comes with the options of legalization.

Of the three models, Model 2 offered the highest net benefit of $553.6 million, but also came at the highest health and treatment costs. The total costs under Model 2 was $2.1 million, however the benefits to the economy from employment, wages and revenue significantly exceeded those costs. Model 3, had the second highest net benefit of $544.1 million, however it was associated with the highest cost levels driven by sizeable implementation costs.

Summary of Costs and Benefits

(Cost)/ Benefits	Model O	Model 1	Model 2	Model 3
Cost	**($2,812,476)**	**($2,403,461)**	**($2,119,209)**	**($4,489,714)**
Enforcement Costs	($2,424,181)	($1,914,830)	($626,598)	($626,598)
Implementation Costs	$0	$0	($645,353)	($3,240,000)
Health and Treatment Cost	($388,295)	($488,631)	($847,258)	($623,116)
Benefits	**(837,258)**	**312,992**	**555,762,593**	**548,619,023**
Employment and Wages	**($837,258)**	**$29592**	**$45,894,504**	**$46,182,159**
Government Revenue	**$0**	**$17,900**	**$82,994,799**	**$80,789,398**
License Fees and Taxes on Goods	$0	$17,900	$82,222,857	$79,992,488
Taxes on Income	$0	$0	$771,941	$796,910
Value Added	**$0**	**$0**	**$426,873,291**	**$421,647,466**
Net Benefit/(Costs)	**($3,649,734)**	**($2,090,469)**	**$553,643,384**	**$544,129,309**

Macro-economic Impact Assessment

The results of the cost benefit analysis confirm that the establishment of a cannabis industry, (whether under Model 2 or Model 3) offers significant economic benefits to Saint Lucia. These include:

i) 9.8 percent increase in the size of the economy;

ii) Reduction in the unemployment rate from 20.2 percent (2018) to 18.2 percent;

iii) 6.9 percent increase in revenue;

iv) Reduction in overall fiscal deficit from 57.3 million or 1.1 percent of GDP (2018) to a fiscal surplus of 25. 7 million or 0.5 percent of GDP;

v) 314.9 percent increase in exports; and

vi) Narrowing of the external trade deficit from $1,397.3 million or 27.4 percent of GDP (2018) to $868.3 million or 17 percent of GDP.

Conclusion

Global sentiments are changing as countries move towards a more regulatory rather than prohibitive legislative framework for cannabis. The results of the economic analysis indicated that in Saint Lucia policies of prohibition and criminalization have not been effective in reducing the use of cannabis. However, the existing regime come at net annual costs of $3.6 million to the economy. Decriminalization presents a better option compared to the status quo, with net costs of $2.1 but does not provide the significant benefits of additional government revenue, employment generation and value added found under legalization.

According to the results of the cost benefit analysis, Model 2 (legalization within competitiveness markets) yielded the highest net benefit, but was also associated with the highest health and treatment costs across all the models. However, given the significant revenue generated under Model 2 social programs can be implemented to mitigate the prevalence of cannabis use and related adverse health and social effects.

Nevertheless, regardless of the model chosen for implementation, the 2018 report of the regional Commission on Marijuana offered useful guidelines for the design of the regulatory framework. These include; age limits to prohibit cannabis use among children and young people; public education programs to raise awareness of the associated risk of cannabis use;

restrictions on public smoking; restrictions on advertising; limits of allowable THC content in products; and the introduction of drug driving regulations.

2.0 INTRODUCTION

2.1 BACKGROUND AND CONTEXT

The use of cannabis in various forms and preparations dates back to early civilizations in Asia[12]. The cannabis plant was first used for medical and religious purposes and then industrially in soap, lamp fuel and fibre production. The recreational use of cannabis in the western world became popular in the 1960's. This development precipitated prohibitive measures and later the criminalization of cannabis use based on unsubstantiated associations with criminality and its perceived harmful effects.[13] These sentiments gained momentum leading to the adoption of a common legal framework for drug control by the international community.

In 1961, the United Nations (UN) introduced the Single Convention on Narcotic Drugs, followed by the 1971 Convention on Psychotropic Substances and the 1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. These international conventions were adopted to eliminate the unlawful production, non-medical use and trade of cannabis and several other drugs[14]. In compliance with the terms of the conventions, UN member states have instituted legal frameworks and penalties for cannabis use, production and sale ranging from punitive to more regulated and tolerant approaches.

However, despite prohibition and criminalization policies, cannabis is the most commonly used illicit drug. According to the World Drug Report (2019), an estimated 3.8 percent of the global population (188 million people) between the ages of 15-64 reported using cannabis at least once in 2017. Furthermore, during the period 1998-2017, the overall number of cannabis users worldwide increased by about 30 percent. These trends have prompted several studies

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[12] Martin Booth. *Cannabis: a history*. Macmillan, 2015.

[13] Harry G. Levine "Global drug prohibition: its uses and crises." *International Journal of Drug Policy* 14, No. 2 (2003): 145-153.

[14] David Bewley-Taylor and Martin Jelsma. "Regime change: re-visiting the 1961 Single Convention on Narcotic Drugs." *International Journal of Drug Policy 23*, no. 1 (2012): 72-81

challenging the basis and efficacy of existing prohibitive legal frameworks governing the use of cannabis.

The findings from an increasing body of literature have led to a shift in global perceptions and sentiments surrounding the use and commercialization of cannabis. To date, over 35 countries, including Caribbean countries such as Jamaica, Grenada, St. Kitts and Nevis and Trinidad and Tobago, have amended their legislations to either i) decriminalize the recreational use of cannabis; and or ii) legalize the medical use of cannabis. In December 2013, Uruguay became the first country to legalize cannabis for recreational use followed by Canada in October 2018. In the United States (US), 11 States have legalized the non-medical use of cannabis for adults over the age of 21, and 33 States have legalized it for medical use[15].

Amidst these recent reforms, the Caribbean Community (CARICOM) formed a regional Commission on Marijuana in 2014, to explore the social, economic, health and legal implications of cannabis use in the Caribbean. The Commission's 2018 report[16] revealed that in the Caribbean, public support has grown in recent times for decriminalization and legalization of cannabis especially for religious and medical use. The report found the existing legal framework governing the use of cannabis to be "ineffective, incongruous, obsolete and deeply unjust". As such, the Commission presented a case for decriminalization and legalization of cannabis and recommended that member states move towards a new regulatory framework for cannabis that balances the economic benefits with public health and social concerns.

Further to the recent global and regional cannabis reforms, the Government of Saint Lucia has committed to implementing a new legislative and regulatory framework for the production, sale and distribution of cannabis, to be strategically placed to benefit from the opportunities in the cannabis industry. In pursuit of this objective, a Cannabis Commission was established in July 2019 with a mandate to:

i) review the current laws on cannabis;

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[15] *World Drug Report 2019*, prepared by United Nations Office on Drugs, and Crime (2019).

[16] *Report to the Caribbean Community Heads of Government: Waiting to Exhale – Safeguarding our Future through Responsible Socio-Legal Policy on Marijuana*, prepared by CARICOM Regional Commission on Marijuana (2018).

ii) assess the social, economic and legal impacts of decriminalization and legalization; and

iii) make recommendations for a new regulatory framework to inform the development of the cannabis industry in Saint Lucia.

2.2 OBJECTIVE

The objective of this report is to guide the work of the Cannabis Commission by undertaking an economic analysis of the costs and benefits of three (3) proposed models for cannabis regulation. The models under review are:

i) Model 1: Decriminalization of Cannabis Use Only

ii) Model 2: Full Legalization of Cannabis Production, Sale and Use (within a Competitive Market Framework)

iii) Model 3: Full Legalization of Cannabis Production, Sale and Use (with State Control)

The scope of the study is detailed in the Terms of Reference in the Appendix.

3.0 ARGUMENTS FOR AND AGAINST REGULATORY REFORM

Arguments for the prohibition and criminalization of cannabis rest on the premise that cannabis is a dangerous drug without value and is associated with several adverse health, psychological and social effects. Tetrahydrocannabinol (THC), a main compound in cannabis has been shown[17] to have psychoactive properties, which negatively affects cognitive, behavioral and psychomotor functions. Such impairment impacts the user's ability to drive or operate machinery leading to an increase incidence of accidents. Other concerns include the high risk of dependence[18] and psychotic symptoms such as anxiety, panic attacks, delusions

[17] L. D. Chait and J. Pierri, "Effects of smoked marijuana on human performance: a critical review." In *Marijuana/Cannabinoids*, pp. 387-424. CRC Press, 2019.

[18] Robert S. Stephens, Roger A. Roffman, and Edith E. Simpson. "Adult marijuana users seeking treatment." *Journal of consulting and clinical psychology* 61, no. 6 (1993): 1100.

and hallucination among users[19]. Cannabis use has also been associated with increased antisocial behaviour especially in children and teens resulting in higher dropout rates and job instability in adulthood[20].

The growing body of research on this topic has challenged many of the above arguments. Proponents of decriminalization and legalization argue that cannabis has valuable medical[21] properties with low acute toxicity thus invalidating its classification as a dangerous drug of no value. Moreover, studies[22] have found that the incidence of impairment and dependence[23] from cannabis are similar to that experienced from alcohol use and therefore this argument should not be used in favour of prohibition and criminalization. Rather, the same regulatory treatment given to alcohol should also apply to cannabis use. Further research[24] has found that many of the reported adverse consequences of cannabis use are correlated to dosage of use (THC content), prior medical history of the user, chronic or acute use and other underlying social issues such as poverty, which may be compounded by cannabis use.

While the debate on the health effects of cannabis is ongoing, there is consensus in the literature that prohibition and criminalization policies have not delivered on the intended outcomes and come at high enforcement, economic and social costs. Prohibition and criminalization have been found to create a conducive environment for cartels to operate and

[19] Gurbakhsh S. Chopra and James W. Smith. "Psychotic reactions following cannabis use in East Indians." *Archives of General Psychiatry* 30, no. 1 (1974): 24-27.

[20] Michael D. Newcomb and Peter M. Bentler. *Consequences of adolescent drug use: Impact on the lives of young adults*. Sage Publications, Inc, 1988.

[21] Joan L. Kramer, "Medical marijuana for cancer." *CA: a cancer journal for clinicians 65*, no. 2 (2015): 109-122.

[22] W. Hall, N. Solowij, and J. Lemon. "The health and psychological effects of cannabis use. National Drug Strategy Monograph." (1994).

[23] James C. Anthony, Lynn A. Warner and Ronald C. Kessler. "Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: basic findings from the National Comorbidity Survey." (1997).

[24] Hall, W., N. Solowij and J. Lemon. "The health and psychological effects of cannabis use. National Drug Strategy Monograph." (1994).

have led to an increase in drug related crimes.[25] Criminalization has also led to high incarceration rates especially among marginalized groups.[26]

Given these unfavorable outcomes, several studies have concluded that alternative regulatory frameworks (ranging from decriminalization on one end of the spectrum to full legalization of cannabis on the other) redound to greater socio-economic benefits compared to the status quo. A more regulated approach allows for greater economic opportunities and value added from the medical and industrial uses of cannabis. Furthermore, a regulated cannabis industry can generate additional government revenue from taxes, licenses and fees[27] and allow for the reallocation of public resources towards improved social services and the prevention and prosecution of serious crimes[28].

4.0 REVIEW OF CURRENT LANDSCAPE IN SAINT LUCIA

4.1 LEGAL FRAMEWORK

Cannabis and other related products (Cannabis resin, Cannabinol and Cannabinol derivatives) are classified[29] as controlled drugs under The Drugs (Prevention of Misuse) Act, Chapter 3.02 of the revised laws of Saint Lucia (2008). As a control drug, the Act prohibits and makes unlawful the possession, cultivation, production, supply, importation and exportation of cannabis. The contravention of these provisions is an offense that carries penalties ranging from three (3) years in prison or a fine of $100,000 on summary conviction and up to fourteen (14) years in prison and a fine of $200,000 on indictment.

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[25] Andrew J. Resignato, "Violent crime: a function of drug use or drug enforcement?" Applied Economics 32, no. 6 (2000): 681-688.

[26] Harry G. Levine, "Global drug prohibition: its uses and crises."

[27] Jacobi, Liana, and Michelle Sovinsky. "Marijuana on main street? Estimating demand in markets with limited access." *American Economic Review 106*, no. 8 (2016): 2009-45.

[28] Adda, Jérôme, Brendon McConnell, and Imran Rasul. "Crime and the depenalization of cannabis possession: Evidence from a policing experiment." *Journal of Political Economy 122*, no. 5 (2014): 1130-1202.

[29] See Part 1 (Class A Drugs), Schedule 2 of The Drugs (Prevention of Misuse) Act, Chapter 3.02 of the revised laws of Saint Lucia (2008)

Section 8(4) of the Act, makes it unlawful for a person to be in possession of more than 15 grams of cannabis or Cannabis resin. Possession of quantities greater than these stipulated amounts may be presumed to be drug trafficking unless the contrary is proved, with the burden of proof on the accused. According to section 25(1) of the Act, a person who commits the offense of drug trafficking faces a fine of $100,000 and imprisonment of a term of five (5) to ten (10) years on summary conviction and imprisonment for life on indictment.

The existing laws governing the use of cannabis in Saint Lucia and the Caribbean have been described as draconian and disproportionate to the offence[30]. Often times, the people arrested for the possession of cannabis are typically from low income and marginalized groups and are imprisoned and criminalized because they are unable pay the high related fines. Moreover, the existing legal framework does not support Government's policies to establish a cannabis industry. Initiatives towards the decriminalization and or legalization of cannabis requires a reclassification of cannabis in the existing legislation.

Table 2: Summary of Provisions and Penalties for Offense Under the Act

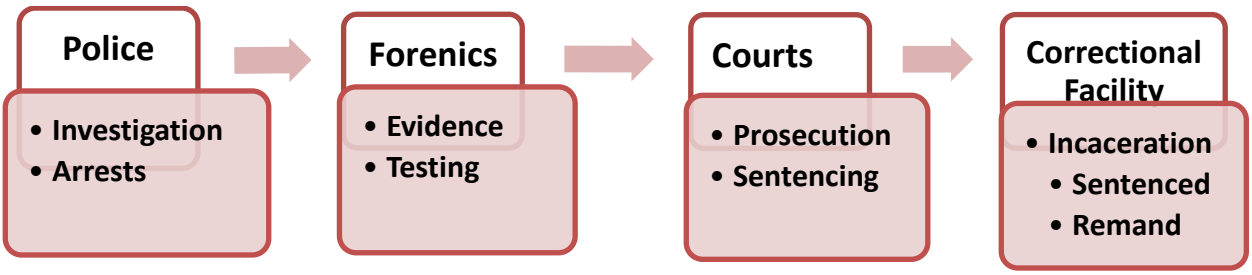
Section	Provision	Penalties for Offense
Section 5(1)	a) Prohibition of importation of controlled drug b) Prohibition of exportation of controlled drugs	a) Summary- 3 Years or $100,000 b) On Indictment-14 Years **and** $200,000
Section 6(1)	a) Produce a controlled drug b) Supply or offer to supply controlled drugs to another	
Section 8(1)	Possession of a controlled drug	a) Summary- 3 Years or $100,000 b) On Indictment-7 Years or $200,000
Section 8(3)	It shall not be lawful for a person to be in possession of a controlled drug with intent to supply to another	a) Summary- 3 Years and/or $100,000 b) On Indictment-14 Years and/ or $200,000
Section 9	It shall not be lawful for a person to cultivate any plant of the genus Cannabis	

[30] CARICOM 2018 *Report, pg. 21-22*

4.2 ENFORCEMENT

In Saint Lucia, the Royal Police Force is at the forefront in the prevention, investigation and prosecution of cannabis related crimes and offenses. When a cannabis related offense is committed or reported, the offending party may be arrested and charged following investigation by the police. The Forensic Lab is responsible for drug testing and providing evidence to the Prosecution Unit in support of the case. Most cannabis related cases are tried within the First and Second District Courts; however high profile cases are tried at the level of the High Court. Following trial, the suspect maybe released if found innocent or if found guilty, sentenced to the Bordelais Correctional Facility (BCF).

Figure 2: Enforcement Framework



4.3 CANNABIS USE

Despite the existing laws prohibiting the use and possession of cannabis, as wells as the above law enforcement framework, the annual prevalence of cannabis use in Saint Lucia in 2010 was estimated at 8.9[31]. This means that almost 9 percent of the general population between the ages 15-64 used cannabis at least once in 2010. This number is high, relative to other countries in the Caribbean for the same year. The annual prevalence in 2010 in Trinidad,

[31]United Nations Office on Drugs and Crime, accessed 12 December, 2019, https://dataunodc.un.org/drugs/prevalence_table-2017

Guyana and Jamaica was estimated at 4.03 percent, 4.04 percent and 7.21percent respectively.

Table 3: Prevalence of Marijuana Use Among Secondary School Students (%)

Indicators	Saint Lucia	St. Vincent	Jamaica	Trinidad	Average
Prevalence:					
Life-Time	**28.8**	26.4	21.1	16.6	**20.6**
Past Year	**17.2**	19.4	11.9	10.7	**13.7**
Past Month	**10.7**	14	6.3	6.2	**8.8**
Past Year Use by Age:					
Male	**22.7**	24.8	14.5	13.8	**17.5**
Female	**11.8**	15.3	10.1	8.0	**10.3**
Past Year Use by Age					
14 or less	**10.6**	12.3	5.4	6.0	**7.5**
15-16	**19.9**	20.8	16.5	13.2	**16.1**
17+	**25.5**	30.4	12.2	12.5	**19.8**

Data Source: Inter-American Drug Abuse Control Commission. Student's Drug Use Report *(2016)*

Furthermore, according to the 2016 Student's Drug Use study[32] conducted in thirteen (13) Caribbean countries, Saint Lucia recorded the third highest lifetime prevalence of cannabis use at 28.8 percent among secondary school students. The past year and past month prevalence were 17.2 percent and 10.7 percent respectively. The past year prevalence among males (22.7 percent) was almost twice the prevalence among females (11.8 percent), indicating that young men had a higher incidence of cannabis use compared to young women. The age of first use in Saint Lucia was thirteen (13) years, with the highest past year

[32] "A report on students' drug use in 13 Caribbean Countries: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St. *Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, prepared by* Inter-American Drug Abuse Control Commission (2016).

*Data Source for Figures 2-4: Inter-American Drug Abuse Control Commission. Student's Drug Use Report (2016)

prevalence (25 percent) among students seventeen (17) years and over. In all the reported indicators, the prevalence of cannabis use in Saint Lucia was higher than the group average.

The survey results also revealed a positive relationship between ease of access and prevalence of use. In Saint Lucia, 49.6 percent of the students surveyed reported that cannabis was easy to access. The past year prevalence of those who reported cannabis was easy to access was 30.6 percent. Twelve (12) percent of students reported that cannabis was hard to access and the past year prevalence of cannabis use among that group was 7.2 percent.

Figure 3: Saint Lucia: Ease of Access and Past Year Prevalence (%)

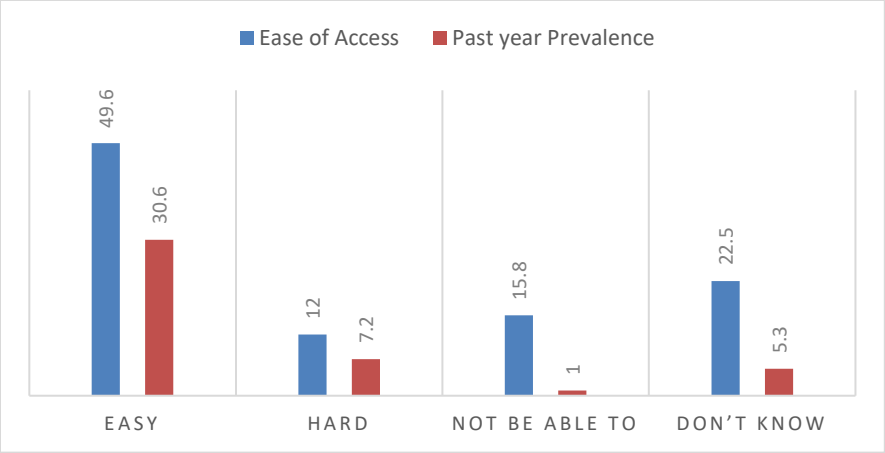
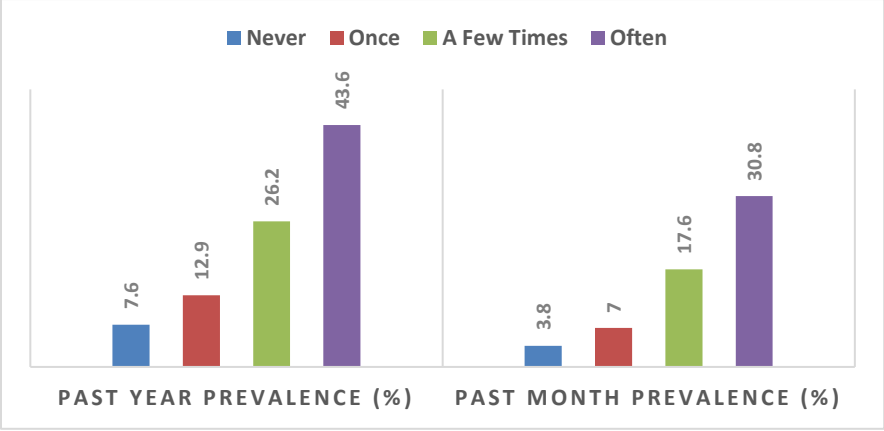


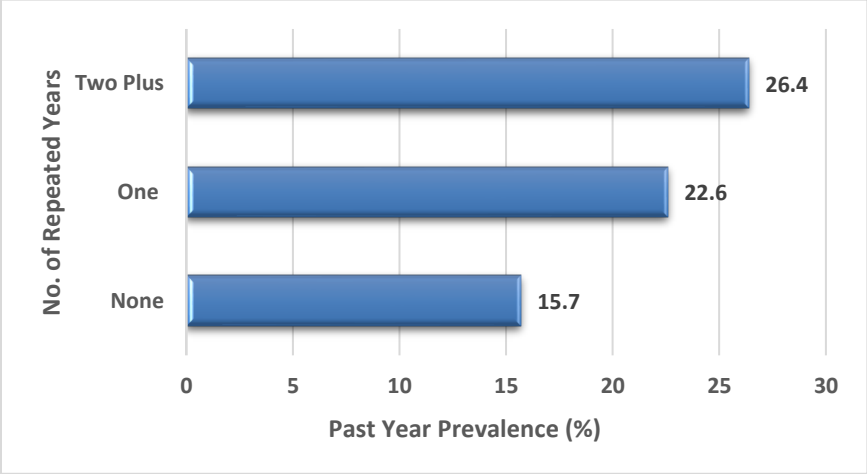
Figure 4: Saint Lucia: Prevalence (%) and Frequency of Behavioral Problems



A positive correlation was also found between past year prevalence and reported behavioral problems. A past year prevalence of 43. 6 percent was associated with students that "often"

displayed behavioral problems. Past month prevalence rates also exhibited a similar trend but at a lower rate compared to past year prevalence. Additionally, a higher rate of past year prevalence was reported for students repeating more than two years of school.

Figure 5: Saint Lucia: Past Year Prevalence (%) and No. of Repeated Years



It is important to note that while the data captures the correlation between the two variables, further investigation needs to be undertaken to prove causality. Cannabis use may be symptomatic of deeper underlying social and psychological issues such as poverty, poor family dynamics and low self-esteem.

4.4 HEALTH AND SOCIAL EFFECTS OF CANNABIS USE

Mental Health

Some studies[33] have associated cannabis use with a higher risk of dependency, psychosis and schizophrenia. A review of data from the National Mental Wellness Centre in Saint Lucia, revealed that for the period 2016-2018, an average of 7.5 percent of all admission were for mental conditions and disorders related to cannabis use. Men accounted for 90 percent of all cannabis related admissions during the period supporting the previous assertion of increased incidence of cannabis use in men.

[33] See studies referenced in footnotes 11 and 12

* Data Source for Figures 5-8: Saint Lucia National Mental Wellness Centre

Figure 6: No. of Admissions at the National Mental Wellness Centre (2016-2018)

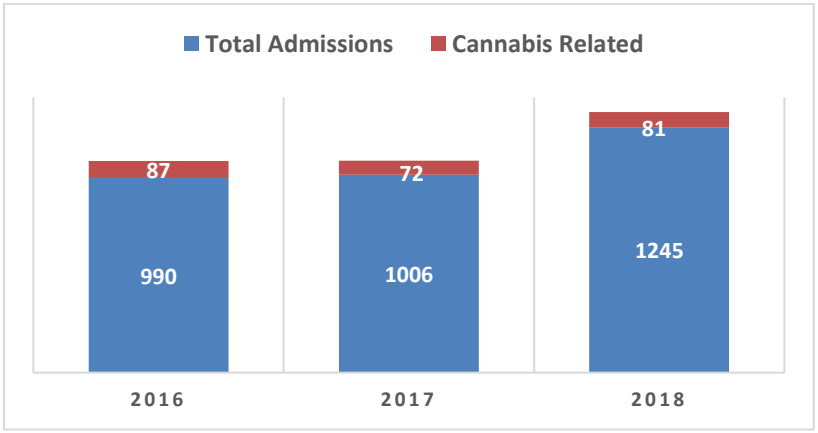


Figure 7: No. of Cannabis related Admissions by Gender (2016-2018)

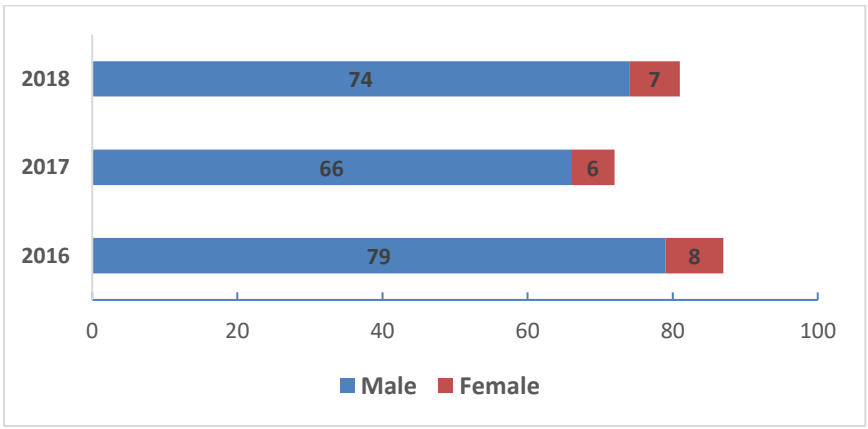
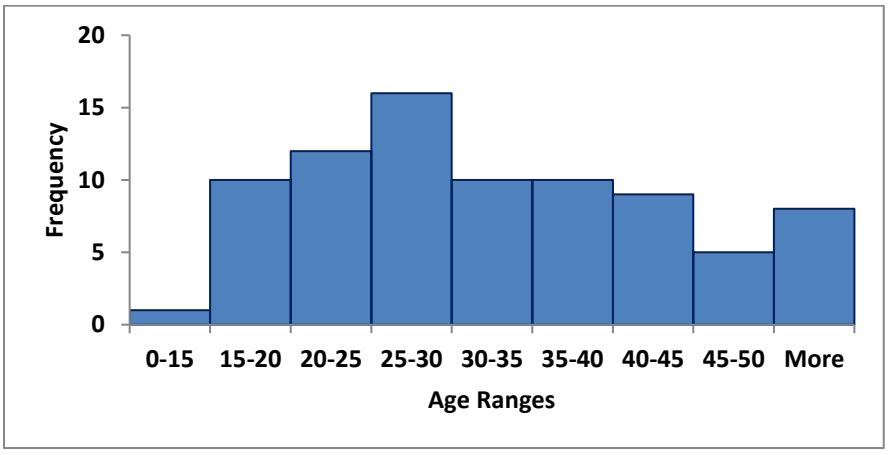
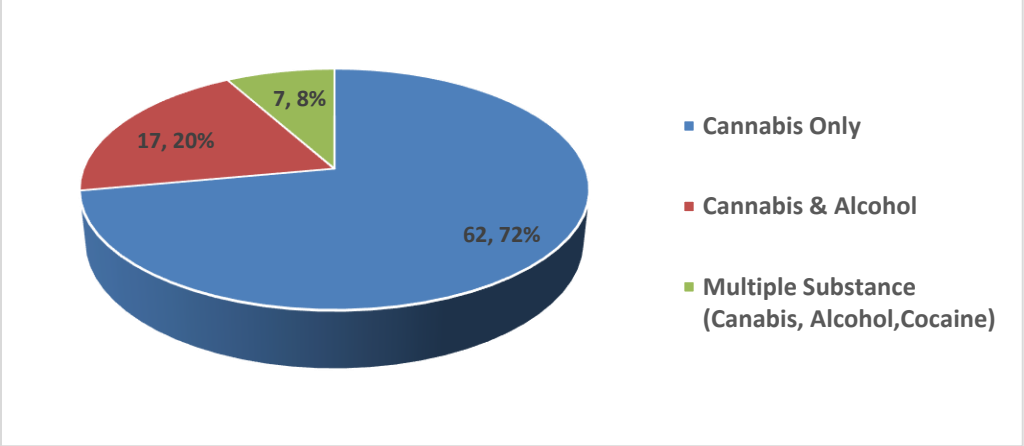


Figure 8: Distribution of Cannabis related Admissions by Age (2018)



In 2018, 60.5 percent of all persons admitted for cannabis related conditions fell between the ages of 15-35 years. Seventy-two (72) percent of the diagnosed cannabis related mental conditions and disorders were associated with cannabis use only, 20 percent with cannabis and alcohol use and 8 percent with multiple substance use.

Figure 9: Mental Conditions and Related Substance Use (2018)



Of the 'Cannabis Only' cases in 2018, twenty-six (26) were admitted for Cannabis Induced Psychosis, twenty-five (25) for Schizophrenia and Cannabis Abuse and eleven (11) for Cannabis Use Disorder[34]. This data suggests that cannabis use may be associated with higher rates of mental disorders, however the direction of causality cannot be ascertain from this information only. It may be a case that people with a history of mental disorders are more prone to cannabis use. As such, further research and analysis is required for a conclusion.

Table 4: Related Diagnoses by Type of Substance Use (2018)

Diagnoses	Cannabis Only	Cannabis & Alcohol	Multiple Drugs (Cannabis, Alcohol, Cocaine)
Substance Use Disorder	11	6	3

[34] Cannabis Dependency Syndrome and Cannabis Abuse were reclassified as Cannabis Use Disorder under the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DMS-5)

Schizophrenia and Substance Abuse	25	7	2
Drug induced Psychosis	26	4	2
Total	**62**	**17**	**7**

Data Source: Saint Lucia National Mental Wellness Centre

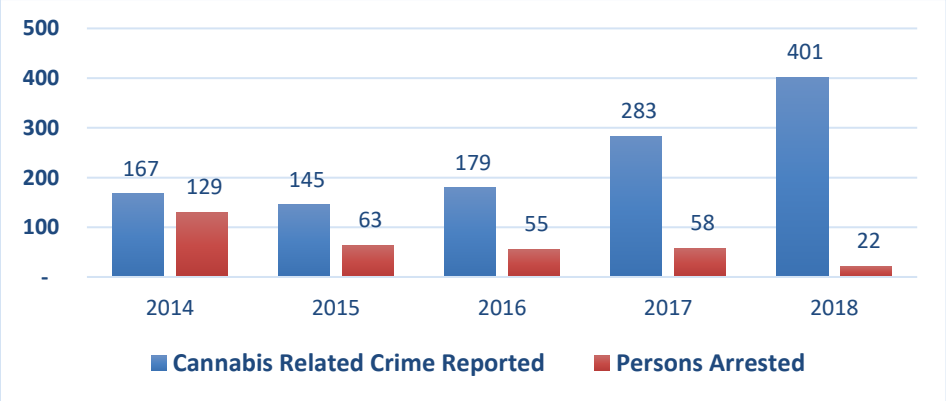
4.4 IMPACT OF PROHIBITION AND CRIMINALIZATION

Cannabis Related Offences and Arrests

According to data from the Saint Lucia Royal Police Force, over the last five (5) years, the number of cannabis related crime reported[35] has increased by 140 percent, from 167 crimes in 2014 to 401 in 2018. However, the number of arrests have declined steadily from 129 persons arrested in 2014 to 22 in 2018, with men accounting for 90 percent of all arrest.

Of the cannabis related crimes reported in 2018, 61 percent of those were for Unlawful Possession of Cannabis, whereas 24 percent were for Intent to Supply. No drug trafficking arrests were reported in 2018.

Figure 10: Cannabis Related Crime- Reports and Arrests



[35] The figures for Crime reported reflects crimes reported, investigated and found not to be false

* Data Source for Figures 9-12 and Table 4: Saint Lucia Royal Police Force and Central Statistics Office

Figure 11: Cannabis Related Arrests by Gender

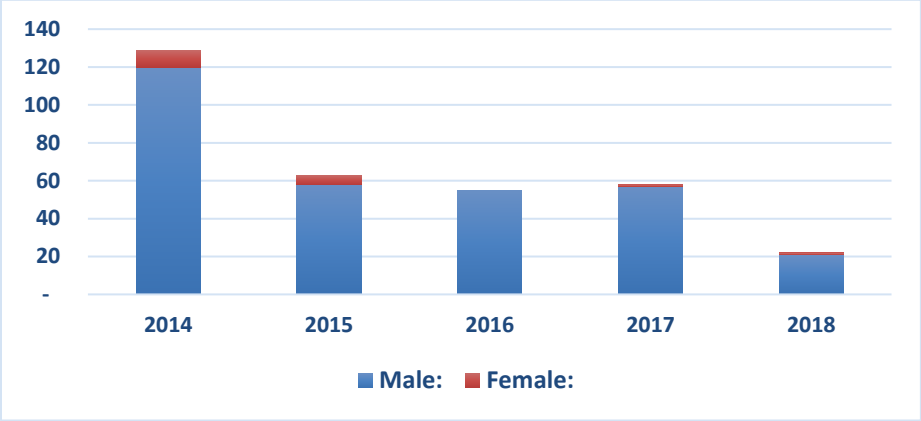
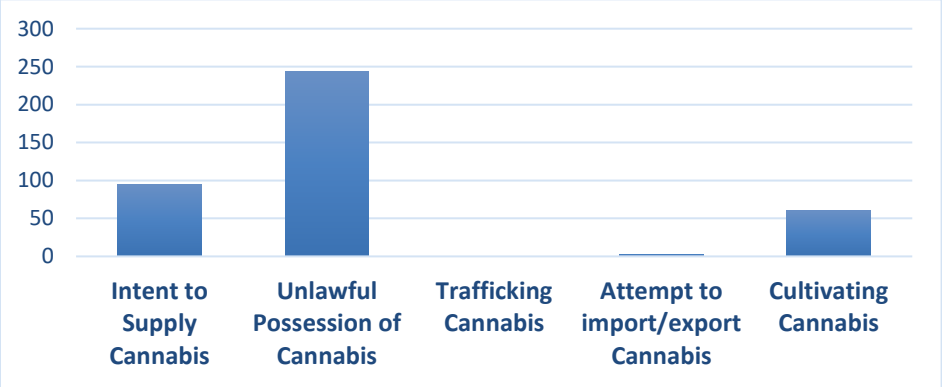


Figure 12: Cannabis Related Crimes by Type of Offense (2018)

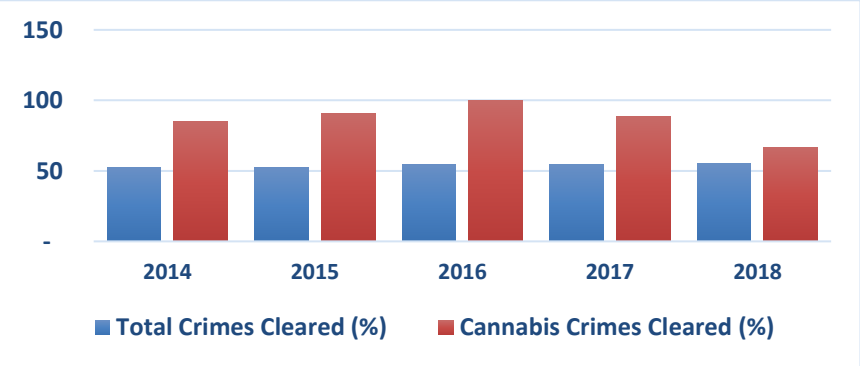


It must be noted however, that during the periods 2014-2017, on average, cannabis accounted for only 1 percent of total crime for the period but 10 percent of total arrests. Furthermore, 86 percent of all cannabis crimes reported were detected meaning that the matter was investigated and persons were arrested, however only an average of 54 percent of total crimes reported were detected. This could indicate that more police resources are being spent on cannabis related crimes compared to other crimes. In that case, decriminalization of cannabis could lead to a reallocation of resources towards resolving more serious crimes.

Table 5: Cannabis Related Crime and Total Crime

Ratios	2014	2015	2016	2017	2018
Cannabis Related Crime/Total Crime (%)	0.8	0.8	1.0	1.5	2.1
Cannabis Related Arrests/Total Arrests (%)	11.4	11.3	10.1	6.0	1.6

Figure 13: Total Crimes Cleared Compared to Cannabis Related Crimes



Prison Population

As of October 2019, a total of 500 inmates were held in custody at the Bordelais Correctional Facility (BCF). Two (2) percent of the prison population were female, while ninety-eight (98) percent were male. One hundred and seventy-four (174) prisoners have been sentenced while the remaining three hundred and twenty-six (326) were on remand awaiting trial and sentencing.

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*Data Source for Figures 13-19: Bordelais Correctional Facility (BCF)

Figure 14: Distribution of Total Prison Population by Gender (Number)

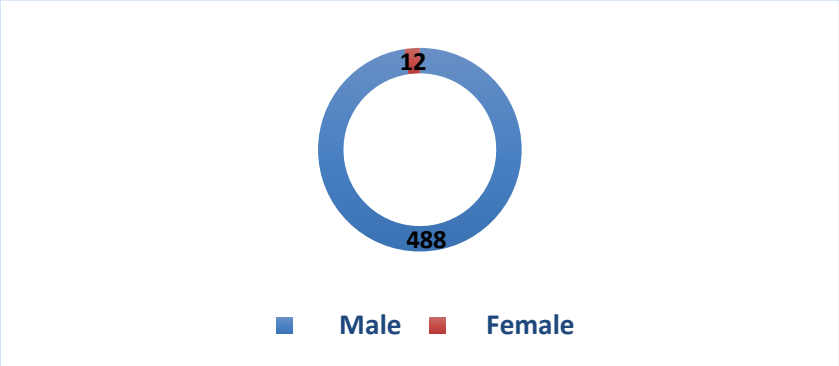


Figure 15: Total Prison Population Sentenced and on Remand (%)

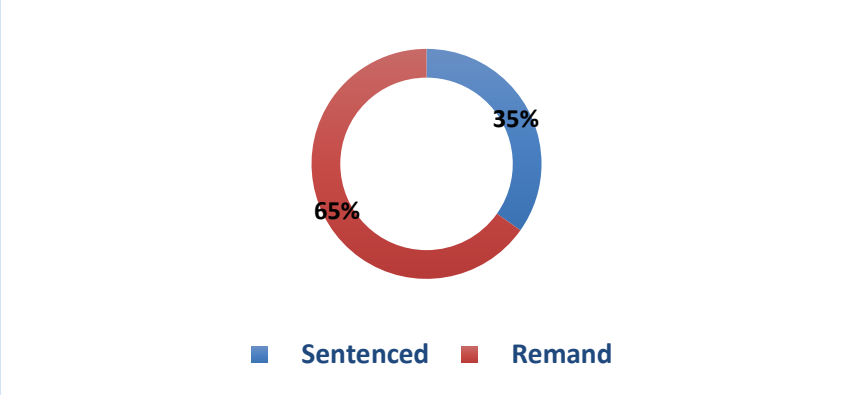
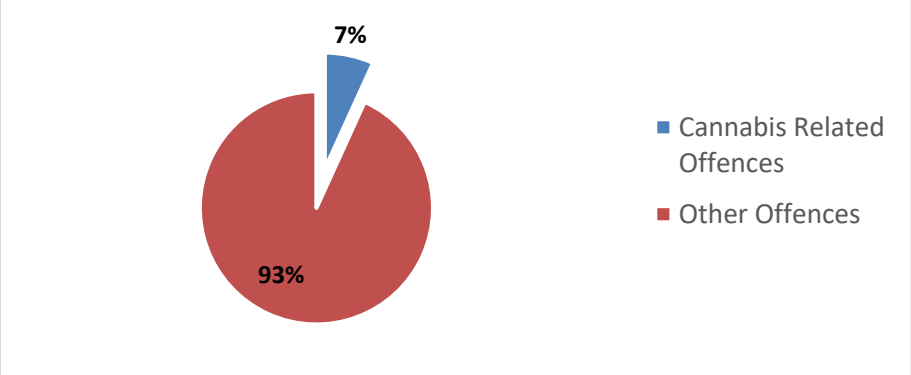


Figure 16: Inmates in Custody By Related Offences (%)

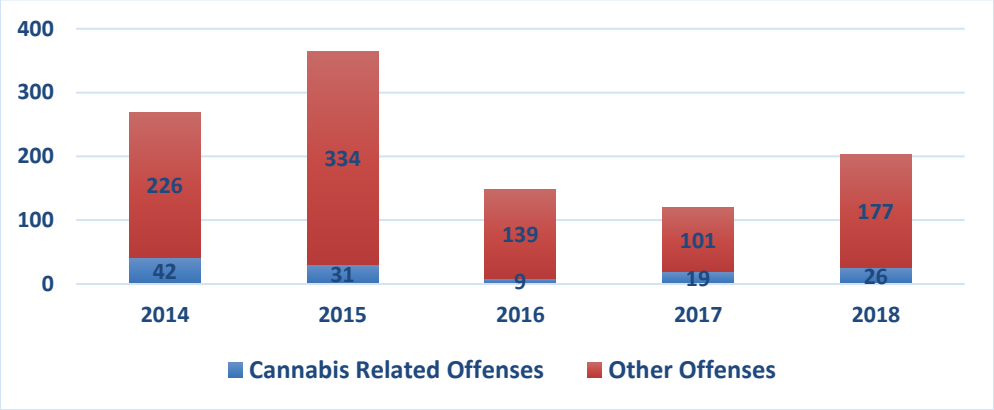


Of the total prison population as at October 2019, 7 percent or thirty-nine (39) inmates were in custody for cannabis related offences. Of those thirty-nine (39) inmates, only seven (7) have been sentenced, while thirty-two (32) were on remand awaiting trial.

Prison Admissions

On average, 12 percent of prison admissions for the period, 2014-2018 were for cannabis related offences.

Figure 17: No. of Annual Prison Admissions (2014-2018)

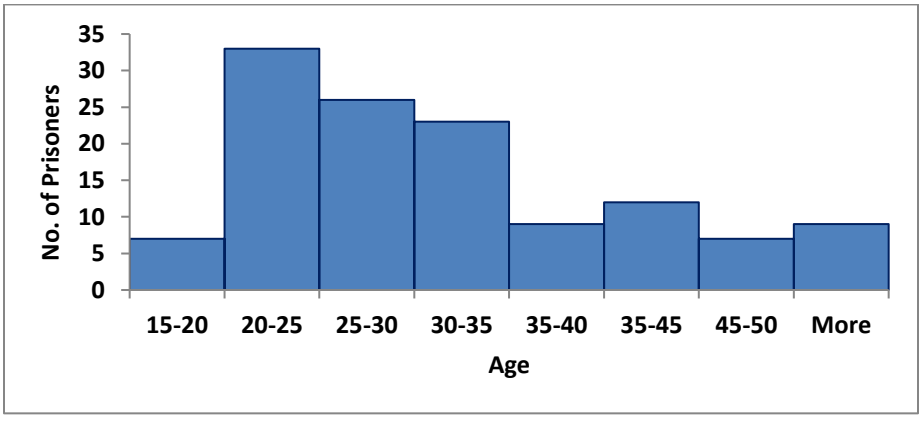


Prisoner's Profile

Age

The majority of the prisoners admitted at the BCF for cannabis related offenses during the period 2014-2018 fell between the ages of 20-35 years, revealing that the youth accounted for the majority of cannabis related incarcerations.

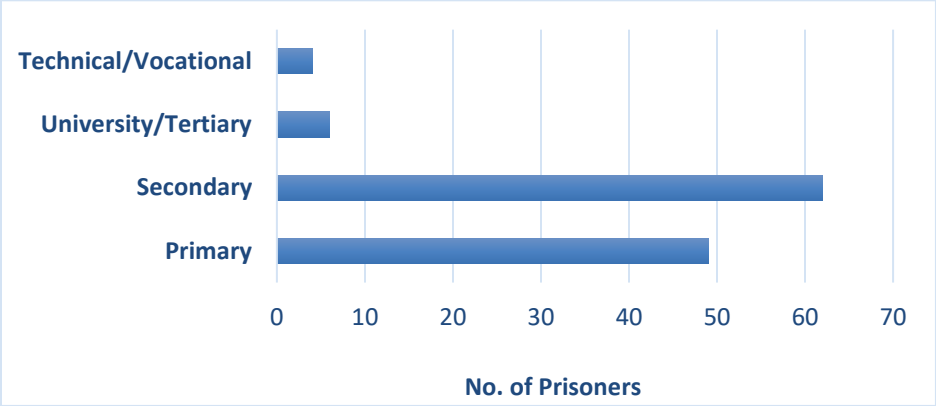
Figure 18: Age Distribution of Prisoners Admitted for Cannabis Related Offences (2014-2018)



Education

Of the prisoner's admitted at BCF for cannabis offenses during the period 2014-2018, 41 percent had primary level education, 51 percent secondary level, 5 percent tertiary and the remaining 3 percent, technical/vocational education.

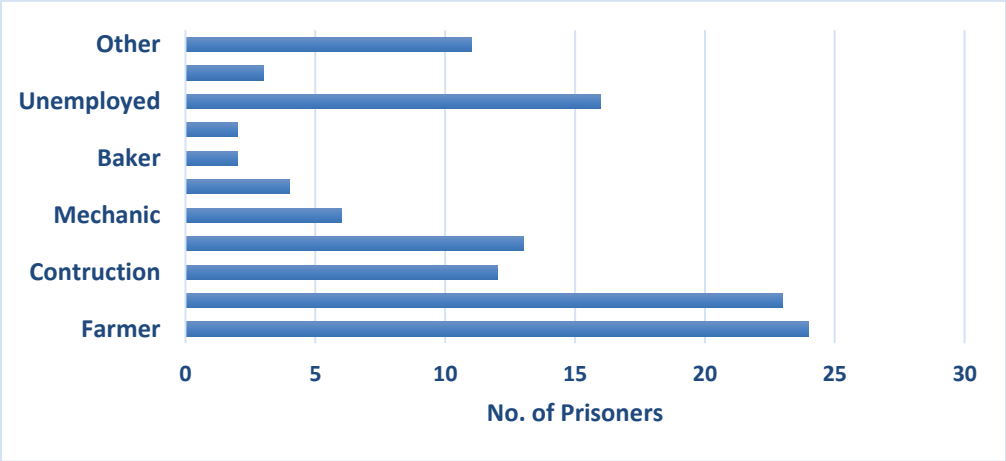
Figure 19: Educational Profile of Prisoners Admitted for Cannabis Related Offences (2014-2018)



Occupational Profile

A review of the occupational profile of the prisoners incarcerated for cannabis offences revealed, 51 percent, worked as fishermen, farmers or laborers, 10 percent reported a skilled or technical occupation (electricians, mechanics and carpenters) while 13 percent reported being unemployed.

Figure 20: Occupation of Prisoners Admitted for Cannabis Related Offences (2014-2018)



Prison Sentences for Cannabis Related Offenses

The data indicated that prison sentences for cannabis related crimes and offenses were not consistent across the board. Possession of Cannabis could carry a sentence from a fine of $100,000 or 2 years to a sentence of only 30 days. This variation in sentences could be due to factors such as, the quantity of cannabis in possession of the offender or whether this was a repeated offence. In 2019, sentencing guidelines[36] were issued by the Eastern Caribbean Supreme Court (ECSC) to allow for consistent and just sentencing for drug related offenses across the courts in the Eastern Caribbean.

Table 6: Variation in Sentences[37] for Cannabis Related Offences (2014-2018)

Possession	Cultivation	Intent to Supply	Export or Import
▪ $100,000 or 2 years ▪ $70,000 or 3 years ▪ $30,000 or 12 months ▪ $10,000 or 24 months ▪ $10,000 or 12 months ▪ $2,800 or 11 months ▪ $750 or 6 months ▪ $250 or 1 month ▪ 30 days	▪ $10,000 or 2 years ▪ $3,000 or 3 months ▪ $2,500 or 8 months ▪ $1,000 or 4 months ▪ $400 or 50 days ▪ $500 or 6 weeks	▪ $50,000 or 2 years ▪ 4 years ▪ $15,000 or 6 months ▪ $3,000 or 6 months ▪ 6 months ▪ 30 days ▪ 1 Week	▪ 4 years ▪ $26,000 or 318 days ▪ $10,000 or 9 months ▪ $4,500 or 9 months

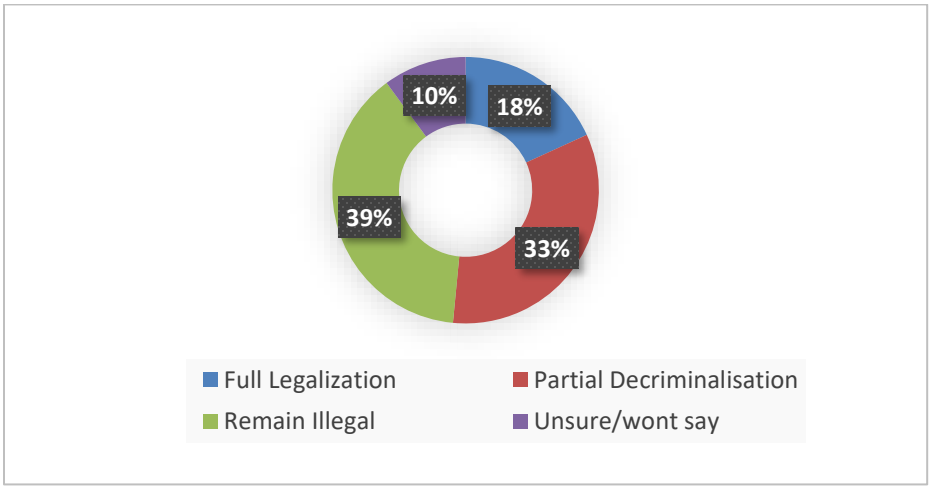
[36] https://www.eccourts.org/wp-content/uploads/2019/09/7-Drugs-sentences-SAC-guideline-proposed-final-09.09.19.pdf

[37] Table 5 was collated using data from BCF on inmates who were sentenced for cannabis related offences for the period (2014-2018).

4.5 PUBLIC OPINION ON CANNABIS DECRIMINALIZATION

According to the results of a 2017 survey conducted in Saint Lucia by the Caribbean Development Research Services (CADRES)[38], 56 percent of respondents supported an alternative to the existing illegal treatment of cannabis. Of those, 33 percent supported partial decriminalization while 18 percent were in favour of full legalization of cannabis. For the remaining 48 percent of respondents, 38 percent supported cannabis remaining illegal.

Figure 21: Public Opinion on Cannabis Decriminalization in Saint Lucia



Males represented 21 percent, while female 15 percent of the respondents in support of full legalization. A marginally higher proportion of female (34 percent) were in favour of legalization for medial and religious purposes compared to 32 percent of men. Those in favour of cannabis remaining illegal were evenly split between male and female at 38 percent.

When distributed by age, support for full legalization was highest among the group18-30 years at 29 percent and lowest (10 percent) among 51 years and over. Accordingly, the group 51 years and over were the majority (52 percent) in favour of cannabis remaining illegal.

[38] *Public Opinion on Marijuana Decriminalisation in St Lucia*, prepared by Caribbean Development Research Services (CADRES) (2017).

5.0 ALTERNATIVE REGULATORY MODELS

The high fiscal, economic and social costs of the existing regime of prohibition and criminalization have motivated many countries to explore alternative legislative and regulatory frameworks for governing the use, production and sale of cannabis. Some countries have decriminalized small quantities of cannabis for personal use while others have legalized cannabis for medical use only. Two date, only Canada, Uruguay and some US States have fully legalized the personal use, production and sale of cannabis. This section presents an overview of the three (3) regulatory models under consideration.

Model 1: Decriminalization of Cannabis use only

Under this regulatory model, possession of cannabis remains illegal but small amounts of cannabis for personal use is no longer considered a criminal offence. Offenders do not face the possibility of arrest or incarceration but are rather subject to a civil or administrative sanction, such as a fine, mandatory treatment assessment and confiscation. However, the possession of more than the minimum amounts, the production, and sale of cannabis remains a crime. The definition of the minimum quantities and implementation design may differ across countries.

Table 7: Selected Country Cases of Cannabis Decriminalization

Country	Effective Date	Personal Possession Quantity	Home Cultivation	Minimum Age	Penalty
Jamaica	2015	2 ounces (56.6 grams)	5 plants	18	Administrative fine of J$500
Portugal	2001	25 grams	Prohibited	NA	Referred to a panel of psychologist, social worker and legal advisor for appropriate treatment
Antigua and Barbuda	2018	15 grams	4 Plants	18	Administrative fine similar to traffic ticket

Source: UN Drug Report (2017, 2019)

In Jamaica, legislation was passed in 2015, where the possession of 2 ounces or 56.6 grams of cannabis for personal use was no longer subject to arrest, charges or court appearance but rather the issuance of an administrative fine of J$500. Additionally, the use of cannabis for medical and religious purposes is now regulated in Jamaica. In Antigua, the personal allowable quantities are lower than in Jamaica and Portugal and reflects what currently exists in Saint Lucia's legislation. In Portugal, offenders are referred to an expert panel for treatment.

Model 2: Full Legalization of Cannabis Use within a Competitive Market Framework

In this case, the possession, production and sale of cannabis is fully legalized. The selling price of cannabis and quantity produced and sold are determined by market dynamics. Nonetheless, the industry faces regulation by the government with respect to personal quantity restrictions, minimum age requirements, taxes and licensing arrangements. Several US States including Colorado, Washington State and California have legalized the non-medical use of cannabis, however the regulatory provisions are not uniform across all States.

Table 8: Selected Country Cases of Cannabis Legalization (Market Based)

State	Effective Date	Personal Possession Quantity	Home Cultivation	Min. Age	Tax	Average Retail Price (after tax)
Colorado	December 2012: Personal possession, consumption, cultivation January 2014: Retail Sales	28.5 grams	6 plants, 3 of which can be flowering	21	-15% excise tax on cultivation -8% retail sales tax -2.9 % State sales tax -3.5% local sales tax	$14.60/ gram

Washington State	December 2012: Personal possession, consumption, cultivation July2014: Retail Sales	28.5 grams	Not Allowed	21	-25 % at each stage (production, processing, retail July 2015: -37% Sales Tax	Medium quality $11.15/ gram
California	2018	1 ounce flower 8 gram concentrate	6 Plants away from view	21	-15% excise on retail -$9.25 per dry weight ounce on flower after harvest -$2.75 drug weight ounces on leaves	$21.20/ gram

Source: UN Drug Report (2019)

Model 3: Full Legalization of Cannabis Use with State Control

Model 3 is similar to model 2 in that the use, production and sale of cannabis is legalized, however in this model the Government controls the supply side of the industry. The Government controls prices and quantity by placing restrictions on quantity cultivated, produced and sold. This regulatory model is currently used in the Canadian provinces and Uruguay.

Table 9: Selected Country Cases of Cannabis Legalization (State Control)

State	Effective Date	Personal Possession Quantity	Home Cultivation	Min. Age	Tax	Average Retail Price (after tax)
Uruguay	August 2014: Personal cultivation October, 2014: Grower's club 2017: pharmacy sales	40 grams per month	6 plants in flower	18	No Tax at present	200 pesos per 5 gram (approx. US$1.4 per gram
Canada	October 2018	30 grams or equivalent	Up to 4 plants are permitted in most provinces except in Manitoba and Quebec where home growing is not permitted	19	-Flower: $0.75/gram -Trim: 0.22/gram -Seed: $0.75/seed *with some variation across provinces	Varies across province -Alberta: $9.24 /gram -Manitoba: $12/gram -Ontario: $7.95-$13.25/ gram

Source: UN Drug Report (2019)

It is important to note that even in the cases where cannabis is legalized whether under market or State control, some common restrictions have been implemented to regulate the use of cannabis and safeguard against the adverse effects. In most cases smoking is prohibited in public places or places where smoking tobacco is prohibited. In other cases, smoking is illegal everywhere except in private property. There are also restrictions on advertising and promotion of cannabis. In the case of Canada and Uruguay the maximum THC content have

been regulated, however in most of the US States where cannabis has been legalized maximum THC limits were not initially set.

6.0 ECONOMIC ASSESSMENT

This section provides an economic assessment of the impact of the proposed regulatory models on selected indicators drawing from economic theory and empirical evidence from country studies.

6.1 ECONOMIC THEORETICAL MODEL

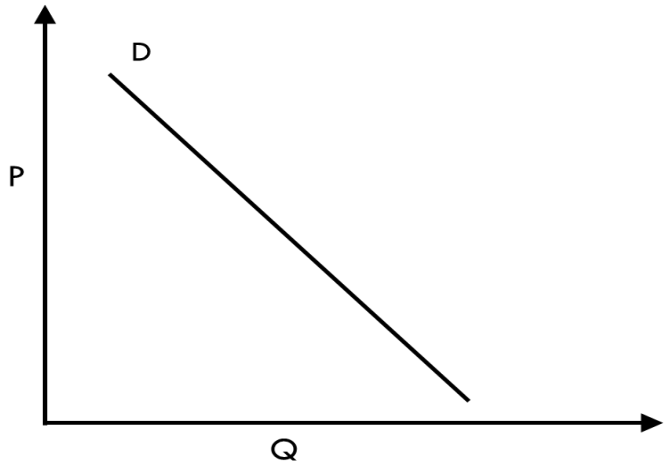
One of the main arguments opposing the decriminalization and or legalization of cannabis is the expected increase in the prevalence of use especially among the youth. The expected price and consumption effects from changes in policy may be assessed within a simple theoretical-based economic model. Using static analysis, the effects under the various regulatory models (after all market adjustments) can be compared.

Theory of Competitive Markets

Demand

The quantity of a good demanded by Buyers at different price levels can be represented by a demand curve (D). There is an inverse relationship between prices and quantity demanded. This means that as the price (P) of the good increases the quantity (Q) demanded decreases.

Figure 22: Demand Curve



The slope of the demand curve is determine by the price elasticity of demand for the good. The price elasticity of demand (ε_d) is a measure of the responsiveness of the quantity demanded to small changes in price.

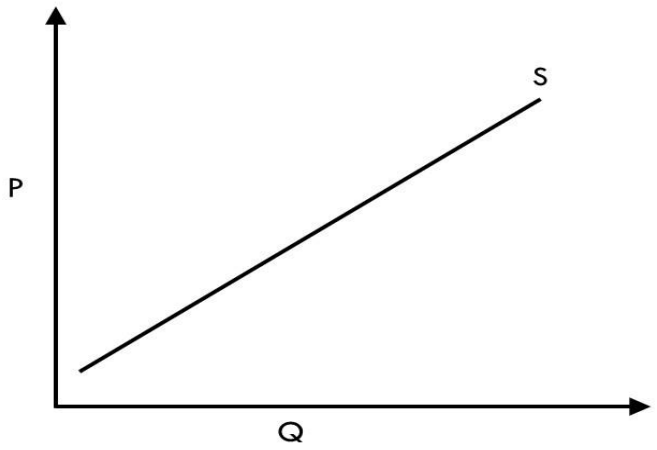
$$\varepsilon_d = \frac{\Delta Q}{\Delta P} * \frac{P}{Q}$$

Where, Δ represents the change in the variables. If the price elasticity is more than |1|, then the good is elastic which means that small changes in prices are met by large changes in quantity. If price elasticity is less than |1|, then the good is inelastic and quantity is not very responsive to changes in prices.

Supply

On the Seller's side of the market, the supply curve (S) tells us how much of the good the Seller is willing to supply at various prices. If the Seller is willing to supply greater quantities of the good at higher prices, then the supply curve will be upward sloping.

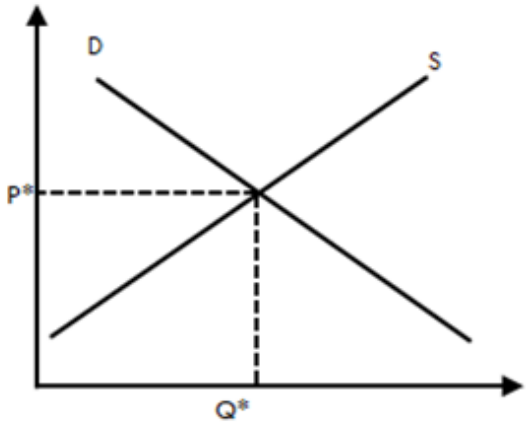
Figure 23: Supply Curve



If we assume that Sellers seek to maximize profit, then a Seller will only supply the product if its market price covers the costs of production and other indirect costs. The costs of production (C_p) includes the price of inputs such as material, labour, capital and other direct expenses.

Market Equilibrium

Figure 24: Graphical Representation of Market Equilibrium



Equilibrium in the market is the price and quantity at which both buyers and sellers are satisfied. At equilibrium, no reallocation is possible that will improve the outcome for some without making it worse for others. If the price is above the equilibrium price then the quantity supplied is greater than the quantity demanded. Sellers will have an incentive to lower prices to sell the excess goods. This puts downward pressure on prices until the price reaches the equilibrium price. If price is below equilibrium then the quantity demanded is higher than the quantity supplied, giving Sellers an incentive to raise prices until the equilibrium price is reached.

Estimated Price and Consumption Effects

Using the theoretical framework above, the expected price and quantity of cannabis can be estimated under the different regulation models. The results of the analysis may vary according to the assumptions made about:

1. The type of market in which the goods are traded, whether perfectly competitive, monopolistic or oligopolistic markets.
2. Assumptions of the price elasticity of demand and supply of the goods.

The analysis below draws on the methodology employed by Becker et al. (2004) [39] on the economic theory of illegal goods. Similarly, it was assumed that the supply of cannabis is traded in a perfectly competitive market with constant unit costs (the costs of producing an additional unit does not vary with the level of production). In perfectly competitive markets, there are many buyers and sellers and no individual seller or buyer has market power to control price. Furthermore, since there are no barriers to entry, any increase in price above marginal cost will draw additional sellers into the market, thus increasing supply. Given market dynamics, at equilibrium the Seller's price is equal to marginal costs. As such, to simplify the analysis, it was assumed the supply for cannabis is perfectly elastic.

Model 0: Prohibition and Criminalization

Under prohibition and criminalization both buying, producing and selling cannabis is illegal. Given the addictive nature of cannabis, it was assumed that the demand curve is realtively inelastic so small changes in prices may not lead to large changes in demand. The final price to the buyer (P_b) is the seller's price (P_s) plus the additional premium associated with the risk to the buyer (r_b) of purchasing an illegal product. This includes the risk of personal stigma, arrest, imprisonment and fines.[40]

$$P_{b0} = P_{s0} + r_b$$

When the supply of cannabis is illegal then other indirect costs will be incurred due to the risks (r_s) faced by the seller of producing, distributing and selling the product within an illegal market. These include the risks of product seizures, arrests, fines and imprisonment. The price charged by the supplier (P_{s0}) includes an additional markup over production costs to compensate for these associated risks.

$$P_{s0} = (C_p) + (r_{s0})$$

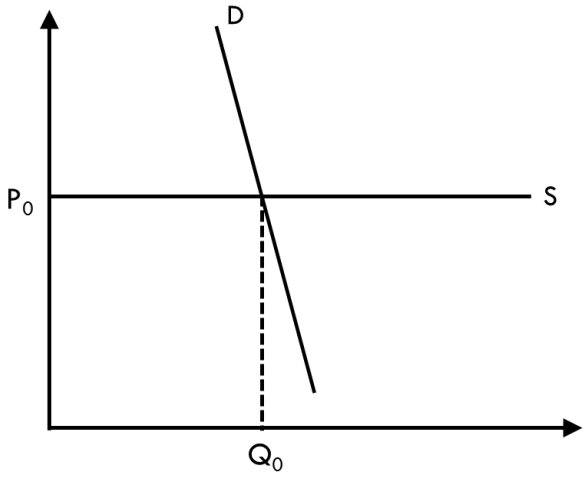
When cannabis is illegal, the total price to the buyer, (P_{bo}) is higher than the price charged by the seller price (P_{so}). Therefore, the equilibrium quantity (Q_0) under criminalization is less

[39] Gary S. Becker, Kevin M. Murphy, and Michael Grossman. The economic theory of illegal goods: The case of drugs. No. w10976. *National Bureau of Economic Research*, 2004.

[40] Buyers may face other risks such as health and psychological risk. However, these were kept constant to simplify the analysis and only the risks associated with consuming an illegal product were considered.

than what would have been demanded if the price faced by the Buyer did not include the risk premium.

Figure 25: Price and Quantity under Prohibition and Criminalization (Model 0)



Model 1: Decriminalization Only

Under a model of decriminalization, (based on the implementation design) the buyer no longer faces the risk of arrest and imprisonment for small quantities of cannabis but rather may face the payment of a fine. This eliminates the risk premium[41] to the Buyer. However, under a policy of decriminalization, the supply of cannabis is still illegal, hence the Seller's price remains unchanged. Therefore the final price to the Buyer is now;

$$P_{b1} = P_{s1}$$

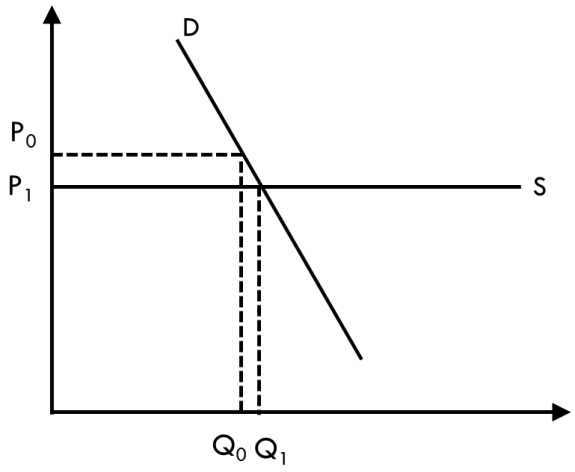
Where $r_b = 0$ and $P_{s1} = P_{s0}$

$$P_{b1} < P_{b0}$$

[41] The Buyer may still have to pay fines, however to simplify the analysis, only the criminalization risk is considered.

Given that the final price to the Buyer under decriminalization (P_{b1}) is lower than the price under criminalization (P_{b0}), the equilibrium quantity demanded under decriminalization is expected to increase to (Q_1) from (Q_0) under criminalization.

Figure 26: Price and Quantity Under Decriminalization (Model 1) Vs Model 0



Model 2: Full Legalization (Competitive Markets)

In this model the use, production and sale of cannabis is legal and is produced and sold in a competitive market framework. In this scenario, both the Buyer and Seller no longer face the risk premium[42] associated with prohibition and criminalization.

$$(r_{b0}) = (r_{s0}) = 0$$

Therefore, the costs to the Seller under legalization will fall compared to the two previous scenarios, so the new selling price (P_{s2}) will be;

$$P_{s2} = C_p$$

Therefore $P_{s2} < P_{s1}$

The price to the Buyer under legalization is even lower than under decriminalization as the Seller's price has also decreased.

[42] The seller and buyer may still face regulatory costs such as licenses or taxes depending on how the regulation is implemented.

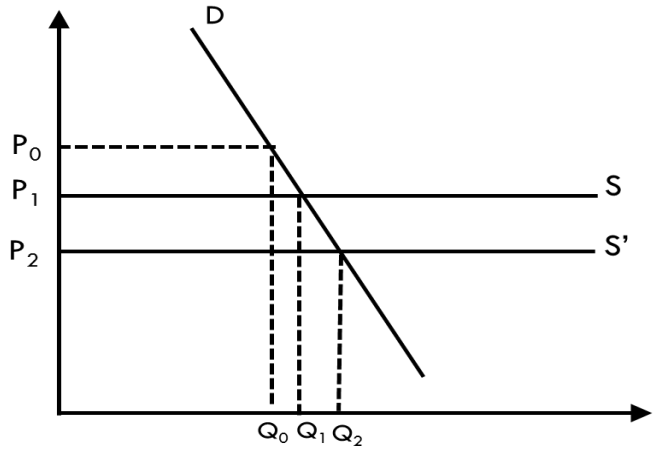
$$P_{b2} = P_{s2}$$

So, $P_{b2} < P_{b1} < P_{b0}$

With a fall in the price to both the Buyer and Seller, the quantity demanded under Model 2, (Q_2) is even greater than under both Model 0 (Q_0) and Model 1, (Q_1).

So, $Q_0 < Q_1 < Q_2$

Figure 27: Price and Quantity Under Full Legalization (Competitive Markets) (Model 2) Compared to Model 1 and Model 0



Model 3: Full Legalization (State Control)

Model 3 this similar to Model 2 with respect to the analysis of risk and prices. However, an important distinction is that the production, distribution and sale of cannabis would be controlled by the State. As a monopoly in the market, the government has the power to set prices or control quantities supplied. Similar to Model 2, legalization will lead to lower prices for both the Buyer and the Seller and therefore the equilibrium quantity will be higher than under prohibition and criminalization (Model 0). Nonetheless, given its market power the Government can control consumption by placing restrictions on quantity supplied, thereby raising prices or indirectly increasing the price to the consumer by taxing consumption.

In summary, drawing from the theoretical models above, an increase in consumption is projected under all three regulatory models. However, the impact on prevalence is lower

under decriminalization (Model 1) compared to full legalization in competitive markets (Model 2). The case of legalization with State control (Model 3), the Government may put restrictions on the quantity supplied and or the price level to mitigate the expected increase in prevalence of use.

Effect on the Black Market

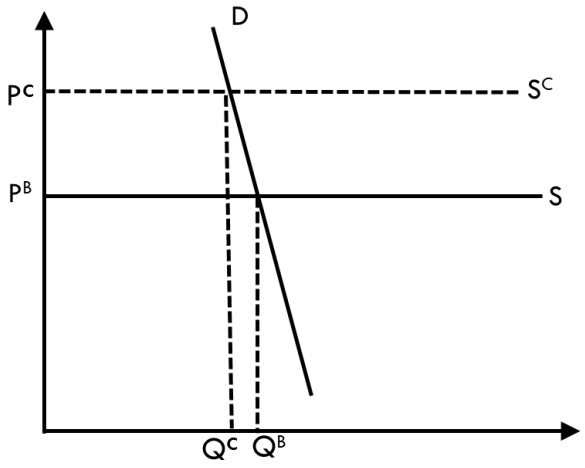
One of the Governments' objectives with the legalization of cannabis is to reduce the size of the black market and associated crime through cartel operations and gang violence. The size of the black market is conditional on the variance in the price in the legal market and the price offered by Sellers in the illegal market. Drawing on the theoretical framework above, the price set by a Seller in the Black Market will be a function of the cost of production and the risk premium of selling in the illegal market. If the price set by the Government P^C, is higher than the price offered by the Seller in the black market P^B, then Buyers will have an incentive to purchase cannabis in the black market if the final price to the Buyer is lower in the illegal market then in the legal market. The final price to the buyer P^F, in the illegal market is the black market price plus the risk associated with an illegal purchase.

Condition for Purchase in the Black Market:

$$P^C > P^R = \mathrm{P}^B + r_b$$

At P^C, the quantity supplied is restricted to Q^C, however at the black market price consumers demand quantity Q^B. Buyers will purchase the quantity (Q^M- Q^C) from the illegal black market.

Figure 28: Impact of Price Control



Sellers are profit maximizers and are not willing to provide a good if the selling price of the good falls below the related costs. To control the size of the black market, the government must ensure that the legal price is lower than the price Sellers are willing to offer in the illegal market.

$$P^C < P^B where\ P^B = (C_p) + (r_b)$$

If Government set prices below the price offered in the black market, this will have the effect of reducing or eliminating the black market at the cost of an increase in the quantity demanded by the consumer.

The analysis is similar for estimating the effect of taxes. A tax has the effect of raising the price for the Buyer, whether it is levied on the Seller or Buyer. A tax on the Seller has the effect of raising the Seller's cost of production. Given the relative inelasticity of demand for cannabis, this cost will be passed on to the Buyer through higher prices. Similarly, if the tax is levied on the Buyer, it artificially raises the price above the market price. If the legal price after tax is higher than the illegal price, then consumers will have an incentive to evade the tax and purchase in the black market.

Therefore, in setting prices and taxes Government must balance the social and fiscal objectives of curbing the consumption of cannabis and raising revenue with the corresponding effects on the size of the black market.

6.2 DECRIMINALIZATION AND LEGALIZATION: COUNTRY EXPERIENCES

The 2018 CARICOM report presented a literature review of country experiences under the various regulatory models[43]. The report examined the impact on selected variables such as prevalence, prices, accidents, crime, enforcement costs and government revenue. The implementation of the different models positively affected some variables and had negative effects on others. An overview and discussion of the results is presented below.

[43] Model 2 in the above table is referred to as Model 3 in this report and Model 3 in the table is Model 2 in this report.

Table 10: Summary of Legalization and Decriminalization Experiences

Summary of Legalization and Decriminalization Experiences			
Area of Impact	Impact		
	Model 1	Model 2	Model 3
Price	No significant impact on price.	↑ US$1 per gram in 2013 to US$1.30 per gram in July 2017 to US$1.40 per gram in January 2018. (URY)	↓8.9% within one year of legalization: Flowed marijuana (CO). ↓7.4% per year until 2020 is predicted (CO). ↓72% within one year of legalization (WA). ↑25% from its 2015 low of US$8 (WA).
Arrests/Fines/ Referrals	↑ 10% points each, in year 1 and year 2 after decimalization: Referrals for cannabis possession. (PRT).	↓20%: drug related crimes since legalization (2018 report) (URY) ↑drug related crimes increased from 538 in 2014 to 739 in 2015 to 1233 in 2016. (URY)	↑63% between 2012 and 2015: marijuana-related incidence (WA). ↓ 30 percent between 2013-2014: marijuana charges (CO).
	↑ by 53% and 48% in year 1 and year 2 of decriminalization: cannabis expiations (AUS).		
	↓ 60 percent: Drug related-arrests (PRT)		

Summary of Legalization and Decriminalization Experiences			
Area of Impact	Impact		
	Model 1	Model 2	Model 3
Adult Prevalence	↑ 0.03% points, over the first 6 years of decriminalization (PRT) ↑ 10 % points (14-40) over 20 years (AUS).	↑ 7.5% in by the second year of legalization: Habitual users (URY). ↑ 16.7% between 2001 and 2014: marijuana smoking prevalence (URY).	↑ 2.58% points between 2012 and 2014 (WA). ↑4.52% points between 2011 and 2014 (CO).
Youth Prevalence	↑ 5.69% points (16-18 years) in the first 4 years of decriminalization (PRT).	↑8.6 % points between 2001 and 2014, 1 year after legalization (URY).	↑ 9.45% (12-17 years) in 2012 to 10.06% in 2014 (WA). ↑ 10.57% (12-17 years) in 2012 to 12.56% in 2014 (CO).
Vehicular Accidents/ Fatalities	↑ 190 percent: the number of fatal accidents where the driver tested positive for marijuana. (Various US States).	↓ 4.51% between 2011 and 2015, 2 years after legalization: Vehicular accidents (URY). ↓ 5.11%, 1 year after legalization: Traffic fatalities (URY).	↑ 105%, from 10.8% in 2013 to 22.19% in 2014, the year of legalization: proportion of traffic fatalities where driver tested positive for recent marijuana use (WA). ↑ 300% from 2% in 2013 to 8% in 2014: proportion of traffic fatalities where driver tested positive for recent marijuana use (CO).

Summary of Legalization and Decriminalization Experiences			
Area of Impact	Impact		
	Model 1	Model 2	Model 3
Black Market		• 60% of marijuana consumed was bought in the black market in 2014, 1 year after legalization (URY).	• The black market makes up between 35 and 50 percent of the total marijuana market (WA). • And about 30 percent in Colorado. • In Oregon, large quantities of legal marijuana are funneled out of the state through the black market.
Gov't Revenues	↓ 1.9%: law enforcement expenditure (MA).	• Marijuana activity fees: US$128,192 in 2016. Projected to reach US$665,412 by 2019 (URY). • Estimated license fees of US$1.3 million between 2017-2019 (URY).	• US$102.3 million (2014/2014) and US$156.7 million (2015/2016): revenues collected from sale and excise taxes (CO). • US$65.7 million (2015, US$189.2(2016) US$319.1(2017): tax revenues collected (WA).
Cost of Implementation/ Enforcements		• Cost of running IRCCA was US$650,000 in 2016 and estimated to grow to US$1.2 million by 2020 (URY).	US$ 5.1 million (2014/2015), US$ 8.06 million (CO) US$34 million, US$42 million in 2016 and 2017, resp. (WA) .

Source: Waiting to Exhale -Safeguarding Our Future Through Responsible Socio-Legal Policy on Marijuana; Report of the CARICOM Regional Commission (2018)

Prevalence of Use

Model 1: Decriminalization Only

The impact of decriminalization on cannabis use varies according to the measure of use examined. According to the CARICOM report, life time prevalence[44] of cannabis use among adults ages 15-64 in Portugal increased marginally by 0.03 percentage points over the first six (6) years of decriminalization; from 3.3 percent in 2001 to 3.6 percent in 2007. For student's ages 16-18 years, lifetime prevalence increased from 9.5 percent in 1999 to 19 percent in 2003. However regular use of cannabis between 2001 and 2007 remained stable. In Australia, there was a 10 percentage point increase in the lifetime prevalence of persons ages 14-40 from 40 percent in 1985 to 50 percent in 2007. However, past year prevalence[45] fell from 19.9 percent in 1998 to 10 percent in 2016. The evidence indicates that while lifetime prevalence rose after decriminalization, regular use decreases or remains stable over time. This rise in lifetime prevalence maybe associated with an increase in experimentation after the policy change.

Model 2: Legalization (Competitive Markets)

In Colorado, overall prevalence of use in the general population rose by 4.5 percentage points from 10.4 percent (2011-2012) to 14.9 percent (2013-2014). Among students ages 12-17 years, use increased by 2 percentage points from 10.6 (2011-2012) to 12.6 (2013-2014). The increases in use in Washington State were lower compared to Colorado, with an increase in adult and student (ages 12-17) usage of 2.6 and 0.6 percentage points respectively.

Model 3: Legalization (State Control)

Some estimates indicated that the prevalence of use in Uruguay rose by 16 percent during the period 2001 and 2014. However according to The National Drug Council's National Household Survey, past year prevalence rose by 7.9 percentage points from 1.4 percent in 2001 to 9.3 percent in 2014 while past month prevalence increased from 1.4 percent to 6.5

[44] Life-time prevalence refers to the percentage of the population that have used Cannabis at least once in their lifetime.

[45] Past year prevalence refers to the percentage of the population that have used Cannabis at least once in the past year.

percent (5.1 percentage point increase) over the same period. The past year prevalence for student increased by 8.6 percentage points from 8.4 percent in 2003 to 17 percent in 2014.

Prices

Model 1: Decriminalization Only

Studies[46] revealed that there were no significant increases in price in Portugal following decriminalization.

Model 2: Legalization (Competitive Markets)

Prices in Washington State, dropped by 72 percent from US$29 per gram in August 2014 to US$8 in July 2015. Prices rose to US$10 in June 2016 but remained significantly lower than the price point in 2014. It was reported[47] that prices in Colorado fell by 8.9 percent within one year of legalization.

Model 3: Legalization (State Control)

The Government sets the price of cannabis in Uruguay. In 2003, retail prices were first set at US$1 and have since increased to US$1.40 per gram as of January 2018.

Crime/Arrest/Fines/Referrals

Model 1: Decriminalization Only

According to an article from the Jamaican Gleaner[48], data from the courts revealed that since decriminalization, arrests for Marijuana possession in Jamaica dropped by 14,000 arrests and cases reaching the courts decreased by 3,096 cases or 90 percent.

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[46] Marysia Ogrodnik, Pierre Kopp, Xavier Bongaerts, and Juan M. Tecco. "An economic analysis of different cannabis decriminalization scenarios." *Psychiatr Danub* 27, no. Suppl 1(2015):S309-14.

[47] Miles Light, Adam Orens, Jacob Rowberry, and Clinton W. Saloga. "The economic impact of marijuana legalization in Colorado." Marijuana Policy Group (2016): 25.

[48] The Gleaner, 26 January 2016; http://jamaica-gleaner.com/article/news/20160126/14000-fewer-persons-arrested-ganjachanges-changes-law-bunting

Drug[49] related arrests in Portugal fell by 60 percent following discrimination. However, cannabis possession referrals rose from 47 percent of total drug referrals in 2001 to 67 percent in 2003 but declined to 65 percent in 2005. The number of cannabis related administrative sanctions also increased from 52 percent in 2001 to 60 percent in 2002. These seemed to be driven by the rising trend in cannabis offenses and convictions that preceded the decriminalization policy suggesting that other factors other than decriminalization may be driving cannabis use and related sanctions.

Model 2: Legalization (Competitive Markets)

Studies[50] show that total number of charges for marijuana possession, distribution, and cultivation in Colorado fell by 80.1 percent from 10,236 in 2010 to 2036 in 2014. Accordingly, the number of individual court cases for possession, distribution and cultivation dropped by 84 percent from 9,749 in 2010 to 1,537 in 2014. Furthermore, a study[51] on the effects of Marijuana legalization on neighborhood crime in Denver Colorado, revealed that an additional Marijuana dispensary in the neighborhood led to a reduction of 17 crimes per month per 10,000 residents, which computes to a 19 percent decline relative to the average crime rate over the sample period.

Model 3: Legalization (State Control)

In Uruguay, an article[52] claimed that drug related crime decreased by 20 percent since legalization, while another[53] reported that drug related crimes have been on an increasing

[49] All legalized drugs

[50] Gettman J. Colorado Marijuana Arrests After Amendment 64 [Internet]. New York; 2015. Available from: http://www.drugpolicy.org/sites/default/files/Colorado_Marijuana_Arrests_After_Amendment_64.pdf

[51] Jeffrey Brinkman and David Mok-Lamme. "Not in my backyard? not so fast. the effect of marijuana legalization on neighborhood crime." *Regional Science and Urban Economics 78* (2019): 103460.

[52] Crime Rate Drops but Uruguay Struggles with Illicit Sale of Cannabis to Tourists | News | teleSUR English [Internet]. 2018. [cited 2018 May 17]. Available from: https://www.telesurtv.net/english/news/Crime-Rate-Drops-but-Uruguay-Struggles-with-Illicit-Sale-of-Cannabis-to-Tourists-20180113-0015.html

[53] G. Ramsey "Getting Regulation Right": Assessing Uruguay's Historic Cannabis Initiative. Washington DC, 2016.

trend from 2014 to 2015. According to the reports most of the crime were gang related which is correlated to the high level of organized crime and black market activity that still existed in Uruguay on year after decriminalization.

Drug Related Accidents

Model 2: Legalization (Competitive Markets)

In Washington State, the proportion of traffic fatalities where the driver tested positive for recent cannabis use have increased from 10.8 percent in 2013 to 22.19 percent in 2014. In Colorado, that percentage moved from 14.8 percent in 2013 to 21 percent in 2015, while the number of cannabis-related traffic deaths climbed from 55 deaths in 2013 to 125 in 2016.

Model 3: Legalization (State Control)

National Road Safety Unit in Uruguay adopted a "zero-tolerance" policy for driving under the influence of cannabis in 2014. Drivers faced the penalty of having their licenses suspended for six (6) months to one (1) year on the first offense, and for two (2) years or revocation after the second offense. Since then, the number of traffic accidents fell by 4.51 percent from 24,400 in 2011 to 23,300 in 2015. The number of vehicle accidents fatalities also declined by 5.11percent from 567 in 2013 to 538 deaths in 2014.[54]

Black Market Operations

Model 2: Legalization (Competitive Markets)

The black market accounted for 35 to 50 percent of the total market for cannabis in Washington State and 30 percent in Colorado in 2015. The share of the black market is contingent on the alignment of the legal price of cannabis with the illegal price.

Model 3: Legalization (State Control)

It was reported that 60 percent of marijuana consumed in Uruguay one year after legalization was bought on the black market.

[54] Ibid.,22

Government Revenue

Model 2: Legalization (Competitive Markets)

According to the Department of Revenue in the State of Colorado, Government revenue from marijuana taxes, licenses, and fees have grown from US$130.4 million in 2015 to $US 302.5 million in 2019.

Model 3: Legalization (State Control)

According to official projections, the revenue from fees from the Institute for the Regulation and Control of Cannabis (IRCCA) in Uruguay is expected to climb annually, from an estimated US$138,192 in 2016 to US$656,412 in 2019[55]. Statistics Canada[56] reported that the Canadian Government collect C$186 million from taxes during the first five and a half months following cannabis legalization.

Cost of Implementation

Model 2: Legalization (Competitive Markets)

The Marijuana industry in Colorado is regulated by the Marijuana Enforcement Division (MED). The operating costs of the division was US$8.06 in 2015 fiscal year was estimated at US$ 15.8 million[57] in fiscal year 2019.

Model 3: Legalization (State Control)

The 5 year projected budget for the IRCCA is expected to grow from about $US 650,000 in 2016 to US$1.2 million in 2020[58].

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[55] Ibid.,11

[56] https://www150.statcan.gc.ca › daily-quotidien

[57] Financial Impact of Legalizing and Regulating Cannabis for Adult Use. Marijuana Policy Project. 2019. (access on 10 January, 2020) https://www.mpp.org/issues/legalization/financial-information-on-states-with-adult-use-legalization/

[58] G. Ramsey, "Getting Regulation Right"

7.0 COUNTRY ASSESSMENT

7.1 METHODOLOGY AND DATA

In this section, the three (3) regulatory model options will be assessed within a Cost Benefit Analysis (CBA) framework using country level data to derive the optimal regulatory model in the case of Saint Lucia. The CBA will be evaluated at a macro-economic level, meaning that the costs and benefits will be aggregated for the economy as a whole rather than at the individual level. The country assessment for Saint Lucia will cover the categories of costs and benefits listed in Table 10. The costs and benefits listed below are not exhaustive but based on the availability of data.

Table 11: Categories of Cost and Benefits

Category	Costs	Benefits
Fiscal	• Enforcement Costs: Police, Forensics, Courts, Prisons • Implementation Costs	• Government Revenue: Taxes, Licenses, Fees and Fines
Social	• Health and Treatment Costs: Mental Health Costs	
Economic	• Employment and Wage Loss due to Incarceration	• Increase in Employment and Wages • Value Added

The analysis will consider the marginal costs and benefits from implementing the specific model. The Net Benefit (NB) will be calculated as the sum of the benefits (b) minus the sum of the costs (c)

$$NB = \sum(b) - \sum(c)$$

The models will be ranked according to their NB with the preferred option being the model with the highest NB. Model 1 (M_1) is preferred to Model 2(M_2) if and only if;

$$NB_{M_1} > NB_{M_2}$$

Calculations and estimations will be made based upon a recommended regulatory framework and implementation design. The proxy variables, estimation formulas and assumptions used in the calculations will be presented in the Appendix. Costs and benefits will be evaluated in (EC) dollar amounts to allow comparison and ranking across the different models.

Costs and benefit calculations will utilize the latest available data collected from government and other agencies. Where the required data does not exist, estimates will be made using the results from country case studies and or drawing from economic theory.

7.2 REGULATORY FRAMEWORK

Drawing on the cannabis frameworks presented in the Saint Lucia Social and Economic Lab Report[59] (with some amendments), the suggested regulatory parameters for models of decriminalization and regulations are presented in Table 11. Under decriminalization, individuals 18 years and older will no longer face criminal penalties for possession of up to 30 grams of cannabis and home cultivation of up to 6 cannabis plants. However, commercial production, distribution and sale will still be prohibited.

The second option is a model of legalization where the minimum age, personal possession quantity and home cultivation restrictions are the same as under decriminalization, however possession within the set limits will now be legal and not subject to a fine. A Cannabis Statutory Body (CSB) would regulate the production, distribution and sale of cannabis through licenses and provide guidelines for the maximum THC content and other restrictions.

Table 12: Proposed Regulatory Framework for Decriminalization and Regulation of Cannabis in Saint Lucia

Parameters	Decriminalization	Legalization
Regulatory Authority	Ministry of Health	Cannabis Statutory Body
Minimum Age	18	18

[59] Saint Lucia Social and Economic Lab Report- Agriculture Key Results Are, prepared by PEMANDU (2019).

*Revised from 5 plants to 6 plants following consultation with the Cannabis Commission

**Author's suggestion

Personal Possession Quantity	30 grams	30 grams
Home Cultivation	6* organically grown plants per household within perimeter of residential area	6* organically grown plants per household within perimeter of residential area
Fine	EC$100**	Not Applicable
Interpersonal Sharing	30 grams	30 grams
Retail Transaction Limit	Prohibited	30 grams per person
Retail Pricing Structure	Prohibited	To be Determined by Cannabis Statutory Body/ Market
Average retail price per gram after tax	Prohibited	To be Determined by Cannabis Statutory Body/Market
Maximum THC Content	Not Applicable	Subject to Use -Retail for Personal Use: Maximum15% -Commercial Use: Varies
Commercial Production	Prohibited	Licensed Producers
Commercial Distribution	Prohibited	Licensed
Restrictions on Edibles	Prohibited	None
Drugged Driving	Prohibited and Strict Enforcement Policy	Prohibited and Strict Enforcement Policy
Public Smoking	Prohibited	Prohibited
Advertising	Prohibited	Prohibited
Taxation	Prohibited	Tax rates are determined by the Government

Implementation Design

In the proposed implementation design for the legalization models, it was assumed that the cannabis industry would be operated within three economic sectors: agriculture (cultivation), manufacturing (production) and retail. The farmers would produce and cultivate the cannabis plants. The cleaned and dried cannabis[60] would then be sold to the cooperative. The cooperative would monitor demand and supply and would be the sole intermediary between the farmers and the wholesale and retail market. The cooperative would provide technical

[60] The farmer or the cooperative may be responsible for cleaning and drying.

guidance to the farmers on what cannabis strains to produce and ensure good agricultural practices for sustainability.

The regulatory framework may be designed in several ways, however the following three options were considered in this assessment. The first option (Option 1) would represent regulation under competitive markets (Model 2). Under Option 1, the Government/State would only be responsible for regulating the industry, issuing licenses and collecting taxes. The cooperative would be owned by the farmers and privately operated, similar to the structure and operation of a Credit Union or other agricultural cooperative. ***The cooperative would have the exclusive rights to distribute and sell cannabis. The price of cannabis under this model is determined by the market.***

Under the second option (Option 2), which mimics Model 3 (State Control), a CSB would be responsible for regulating all industry activities such as licensing, enforcement and taxation. **Additionally, *the CBS would own and operate the cooperative. The price of cannabis would be determined by the CSB*.**

A third option (Option 3) may be a hybrid between Option 1 and Option 2. In this option, similar to option 2, the CSB would be responsible only for regulating industry activities such as licensing, enforcement and taxation. However, similar to Option 1, the farmers would sell to the cooperative, which would be owned by the farmers and privately operated. Under Option 3, the price may be determined by the market or by the CSB.

Figure 29: Implementation Design: Option 1

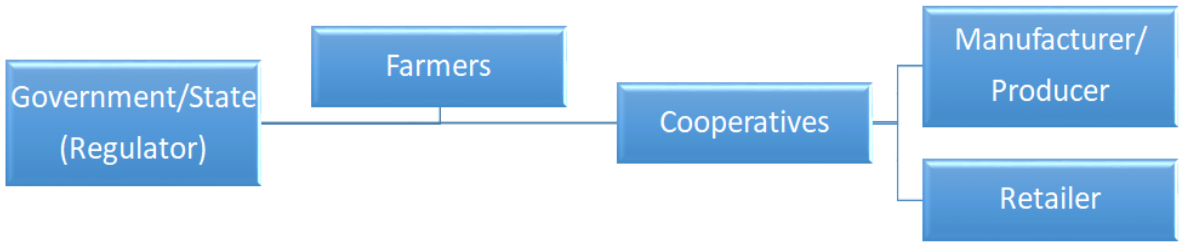


Figure 30: Design Implementation: Option 2

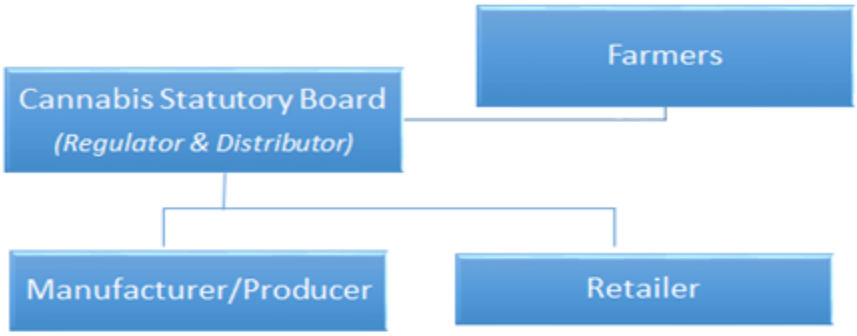


Figure 31: Implementation Design: Option 3

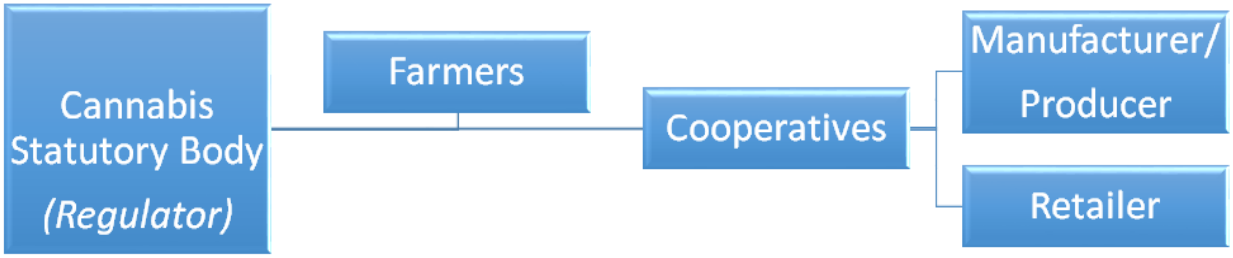


Table 13: Regulatory Models- Implementation Design Framework

	Option 1: Competitive Market (Model 2)	Option 2: State Control (Model 3)	Option 3: Quasi State
Regulatory Authority	**1. Cannabis Regulatory and Enforcement Division within A related Ministry**: - Issue licenses similar to alcohol licenses - Enforce Regulations **2. Inland Revenue Department** - Tax Administration	**1. Cannabis Statutory Body (CSB)** - Regulates all industry activities - Issues Industry guidelines - Issues Licenses - Enforce Regulations - Collects Taxes - ***Operates Cooperative***	**1.Cannabis Statutory Body (CSB)** - Regulates all industry activities - Issues Industry guidelines - Issues Licenses - Enforce Regulations - Collects Taxes
Cultivation	Licensed Farmers	Licensed Farmers	Licensed Farmers

Cooperative	- Farmers Sell to a licensed Cooperative - Cooperatives are a private companies partly owned by the farmers - Sells wholesale to manufacturers and retailers	- Farmers sells to Cooperative - Cooperative is owned and operated by the Cannabis Statutory Body - Act as a single interface for all Cannabis related transactions	- Farmers Sell to a licensed Cooperative - Cooperatives are a private companies partly owned by the farmers - Sells wholesale to manufacturers and retailers
Prices	Derived by the Market	Fixed by CSB	Fixed by CSB or Market

Revenue

The Government would collect revenue from across the value chain. The farmers would pay annual license fees and farm gate duties on cannabis supplied to the cooperative. The manufacturer would pay an annual license fee, corporate income tax and excise duties on the export of cannabis and cannabis by-products such as CBD oil. The consumer would pay VAT and or a Cannabis Sales Tax on commercial sales and employees would pay Personal Income Tax on wages and salaries. Some suggested tax rates are presented in Table 13. In choosing tax rates, the government should ensure that the tax burden on the cannabis sector is not excessive as to encourage black market operations. While both VAT and a Cannabis Sales Tax is suggested the government may choose to implement only one of those options or both.

Table 14: Proposed Taxes and Rates

	Farm gate Duties	Corporate Tax	Personal Income Tax	Annual License Fees	Excise Duties	VAT	Cannabis Sales Tax
Rates	EC$50[61]/kg of cleaned and dried Cannabis leaf	Current rate of 30% of Profits	Current Rates specified by the Income Tax Act	• Farmer:$500/acre • Retailer: $1,000/annum • Cooperative: $2,000/annum • Manufacturer: $5,000/annum	EC$3.49[62] per litre of CBD oil	12.5%	15%
Tax Burden	Farmer	Manufacturer	Employees	• Farmer • Retailers • Manufacturer	Manufacturer	Domestic Consumer (Locals and Tourists	Domestic Consumer (Locals and Tourists

7.3 COST BENEFIT ANALYSIS (CBA)

A. Costs

In this section, the costs incurred under the various regulatory models will be estimated. These include enforcement costs, health and treatment costs and implementation costs.

Enforcement Costs

Model 0: Prohibition and Criminalization

[61] Proposed by Author. Revised downwards from $100 kg proposed in the PEMANDU Agriculture Lab Reports

[62] Excise duty similar to what is paid on rum

One the largest cost areas under prohibition and criminalization is the costs of enforcement. In this study, enforcement costs is defined as policing costs for crime detection[63], costs of forensics services for evidence testing, the court costs for prosecution and sentencing and the prisons costs for incarceration. Using the selected proxy variables and estimation formulas,[64] the total annual estimated cost of enforcement in St. Lucia was about $2.42 million. This comprised of an annual cost for Policing of $1.13 million, Courts $0.733 million, Forensics $0.568 million and Prisons $0.654 million.

Table 15: Annual Enforcement Costs under Prohibition and Criminalization

Enforcement Costs	Total
Police Detection Cost for Cannabis Offences	$1,128,908
Court Related Costs	$73,302
Forensics Costs	$567,802
Prison Costs for Cannabis related Offenders	$654,170
Total Enforcement Costs	**$2,424,181**

Model 1: Decriminalization Only

In estimating enforcement costs under Model 1, it was assumed that police detection costs would increase due to an expected increase in the prevalence of cannabis use. Nevertheless, other enforcement costs such as court, forensics and prison costs were projected to decline, as they would only apply to other cannabis related charges other than Unlawful Possession.

In 2018, Unlawful Possession offences detected stood at 142 cases, accounting for about 53 percent of all cannabis related crimes. Assuming a 2 percentage point increase in the usage of cannabis if decriminalized, then the number of Unlawful Possession offences is estimated[65]

[63] Crime Detection is defined as crimes investigated where persons have been arrested or charged

[64] Proxy variables and estimation formulas are detailed in Tables 24-25 in the Appendix

[65] See Table 26 in the Appendix for estimation and assumptions.

to increase to 179. Hence, the total number[66] of cannabis related offences detected rises to 305, thereby increasing Police Costs to $1.28 million. The total estimated enforcement cost under Model 1 is estimated at $1.91 million, which represents a 21 percent decline in enforcement costs compared to Model 0.

Table 16: Enforcement Cost under Model 1

Enforcement Costs	**Total**
Police Detection Cost for Cannabis Offences (*with projected increase in Unlawful Possession Offences)*	$1,283,436
Court Related Costs *(less Unlawful Possession Offences)*	$34,452
Forensics Costs (less Unlawful Possession *Offences*)	$289,483
Prison Costs for Cannabis related Offenders *(less Unlawful Possession Offences)*	$307,460
Total Enforcement Costs	**$1,914,830**

Legalization: Model 2 (Competitive Markets) and Model 3 (State Control)

Under legalization while persons would no longer be arrested or fined for the allowable personal quantities, there will be costs incurred in ensuring that the regulations are enforced. It would still be an offence to be found in possession of more than the allowable personal limits or cultivating or selling cannabis without a license. The expected enforcement costs under legalization was calculated similarly to decriminalization with adjustments in policing costs as possession of allowable quantities would no longer be fined. The annual enforcement costs was estimated at $0.627 million.

[66] Cannabis related offences other than Unlawful Possession remain illegal Under Model 1 and are assumed to remain unchanged at 2018 levels

Table 17: Enforcement Costs Under Model 2 and Model 3

Enforcement Costs	Total
Police Detection Cost for Cannabis Offences (*less Unlawful Possession Offenses)*	$101,096
Court Related Costs *(less Unlawful Possession Offences)*	$27,122
Forensics Costs (less Unlawful Possession *Offences*)	$256,337
Prison Costs for Cannabis related Offenders *(less Unlawful Possession Offences)*	$242,043
Total	**$626,598**

Health and Treatment Costs

Model 0: Prohibition and Criminalization

In 2018, 1245 patients[67] were admitted and treated at the National Mental Wellness Centre. Of this total, 81 patients were admitted for cannabis related mental disorders. The Government of Saint Lucia covers the total cost of admission and treatment at the National Mental Wellness Centre. The annual budget allocations for operational costs to the National Mental Wellness Centre in 2018 was $5.97 million. This amounts to a costs of $4,794 per patient treated. Accordingly, the total costs for treating patients for cannabis related mental disorders was estimated[68] at $0.388 million.

Models 1-3

In determining the projected mental health costs for cannabis related mental disorders, it was assumed that prevalence would increase by 2, 10 and 5 percentage points under Models 1, 2 and 3 respectively. These increases were projected based on the existing high prevalence rate in Saint Lucia coupled with expected increases predicted by the theoretical model and country experiences. Accordingly, the mental health costs were estimated[69] under Model 1 at

[67] Mental health was used as the proxy to estimate health and treatment costs in Saint Lucia.
[68] See Table 24 in the Appendix for Estimation Formula
[69] Details of the estimation assumptions and calculations found in Table 27 in the Appendix.

$0.486, Model 2 at $0.847 million and Model 3 at $0.623 million. Mental health costs were the highest under Model 2. The costs estimates are sensitive to the assumptions made on the prevalence of use under the different models.

Table 18: Summary of Assumptions and Estimated Costs Under Models 1-3

Models	Assumptions	Estimated Health Costs for Cannabis Related Mental Disorders
1	2 Percentage Increase In Prevalence	**$488,631**
2	10 Percent Increase in Prevalence	**$847,258**
3	5 Percent Increase in Prevalence	**$623,116**

Implementation Costs[70]

Model 2: Legalization (Competitive Markets)

Under the competitive market framework, it was assumed that the Government would be responsible for only licensing, tax administration and regulatory enforcement. These functions would be executed through an additional department or staff within an existing Ministry. This approach would incur an increase in only variable costs such as wages and salaries, supplies and materials and travel and would lead to costs savings through shared resources within the Ministry.

Wages and salaries under this Model was estimated at $0.497 million annually. Using information from the 2018 Estimates of Revenue and Expenditure for a similar sized department, variable cost such supplies and materials, travelling, training were estimated at $0.148 for a total annual costs of $0.645.

[70] Implementation Costs estimations only considered the administrative and regulatory costs to the Government. Costs to the private sector was not included in the calculations.

Model 3: Legalization (State Control)

The proposed implementation design for this Model recommends a Cannabis Statutory Body (CSB). Assuming similar cost as IRCC in Uruguay, the annual operational costs for the IRCC was projected at $1.2 million in 2020, which is equivalent to EC$3.24 million.

B. Benefits

There are a number of economic benefits that may be derived from the cannabis industry. These include employment generation and wages, increased government revenue and production value added.

Employment and Wages

Model 0: Prohibition and Criminalization

A policy of criminalization comes at a cost to the economy in the form of wages foregone and loss in productive capacity. As of October 2019, there were 39 inmates incarcerated for cannabis related offences at BCF, of which 76 percent were between the ages of 20-45, 49 percent had attained a secondary school education and 46 percent a primary education. Prior to incarceration 92 percent of these inmates were employed in the farming, fishing, construction and service industry.

The annual wages foregone due to incarceration for cannabis related offences was estimated[71] using the occupational and educational profile of the inmates at BCF as at October 2019, together with average wage information by economic sector from the 2018 Saint Lucia Labour Force Survey. According to the estimates, the potential wages and salaries lost annually due to incarceration for cannabis related offences was $0.837 million dollars (See Table 18 below).

[71] See Table 24 for estimation formula

*Figures 31-33 are based on inmates in prison for Cannabis related offences as of October 2019

Figure 32: Age Distribution of Inmates Incarcerated for Cannabis Related Offences

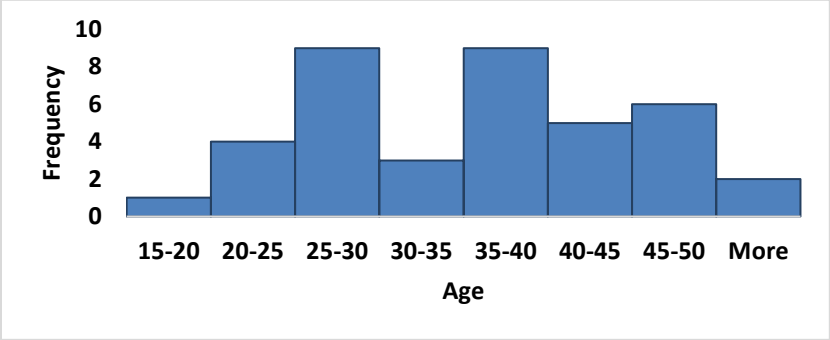


Figure 33: Educational Level of Inmates in Prison for Cannabis Related Offences

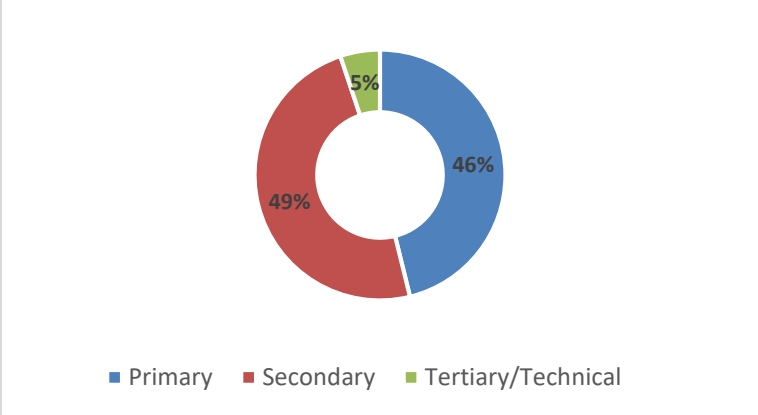


Figure 34: Occupational Profile of Inmates in Prison for Cannabis Related Offence

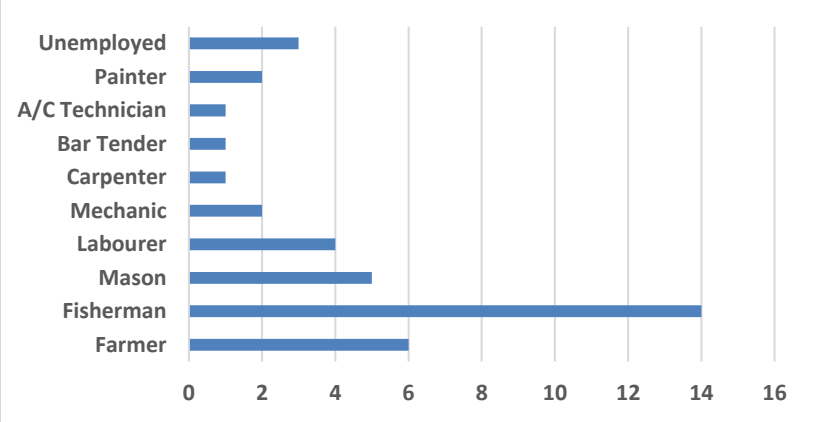


Table 19: Annual Wages Forgoned due to Incarceration

Occupation	No. of Prisoners	Annual Wages	Total
Farmer	6	$20,976	$125,856
Fisherman	14	$20,976	$293,663
Mason	5	$27,440	$137,199
Labourer	4	$20,976	$83,904
Mechanic	2	$31,650	$63,300
Carpenter	1	$27,440	$27,440
Bar Tender	1	$27,827	$27,827
A/C Technician	1	$23,189	$23,189
Painter	2	$27,440	$54,880
Unemployed	3	$0	$0
Total	**39**		**$837,258**

Model 1: Decriminalization Only

Of the inmates at BCF for cannabis related charges, 13 were incarcerated for possession only charges, 23 for possession with intent to supply and 3 for cultivation and possession charges. If the cannabis possession was no longer criminalized, then 13 of these inmates would no longer be in prison but part of the labour force. The value of their annual wages was estimated at $0.295 million.

Figure 35: Cannabis Related Charges

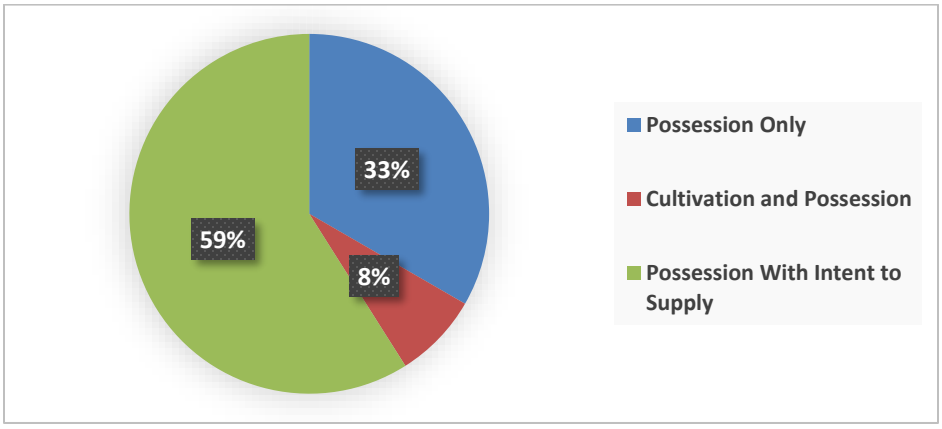


Table 20: Annual Potential Wages Under Decriminalization

Occupation	No. of Prisoners	Annual Wages	Total
Farmer	2	$20,976	$41,952
Fisherman	3	$20,976	$62,928
Mason	2	$27,440	$54,880
Labourer	1	$20,976	$20,976
Mechanic	1	$31,650	$31,650
Carpenter	1	$27,440	$27,440
Bar Tender	1	$27,827	$27,827
Painter	1	$27,440	$27,440
Unemployed	1	0	$0
Total	**13**		**$295,092**

Model 2: Legalization (Competitive Markets)

Unlike decriminalization, legalization offers the added benefit of generating employment from the cannabis industry. The estimates for employment and wages would be based on the implementation design used. Under Option 1, a Cannabis Regulatory and Enforcement Division within a related government ministry would be responsible for regulating the industry, while the Inland Revenue Department would administer taxation. The cooperative would be privately operated and be responsible for all cannabis sales. According to the assumptions and organizational structure outlined in Table 28, an estimated 2,032 jobs could be created and $45.9 million generated from the cannabis industry in wages and salaries under Model 2 (Option 1).

Model 3: Legalization (State Control)

Using the structure outlined in Table 29, it was estimated that 2,039 jobs could be created and $46.2 million earned from wages and salaries under Model 3 (Option 2). Model 3 provides seven (7) more jobs than Model 2 and $0.288 million higher benefits in wages and salaries because of the establishment of the Cannabis Statutory Body. Another key difference between the two legalization models is that under Model 3, the cooperative would be operated by the CSB, while under Model 2 it would be privately operated.

Option 3: Legalization (Quasi State)

Under the Option 3, the total benefits accruing from employment and wages would be the same as under Option 2, however the wage costs borne by the CSB would be lower as the cooperative would be privately operated.

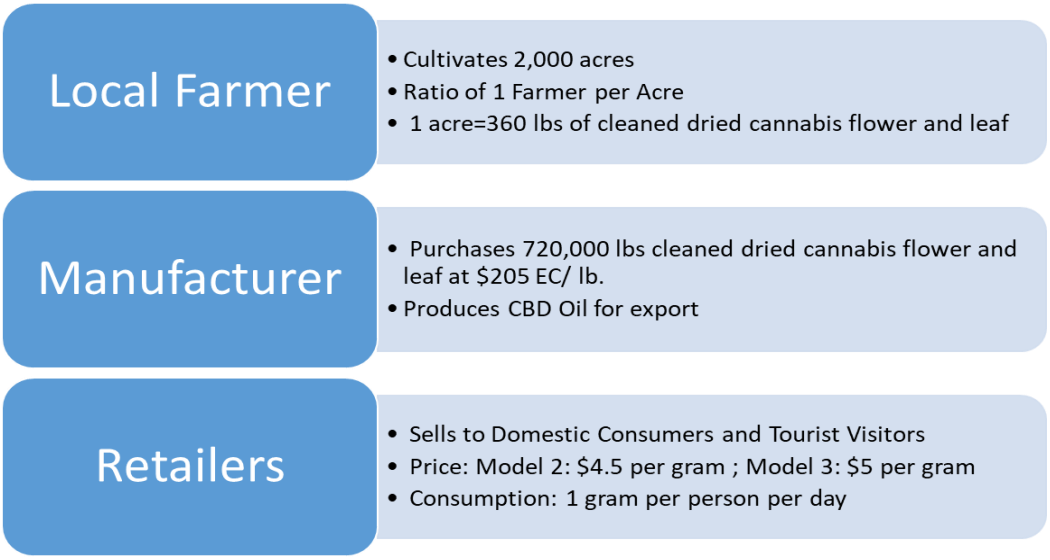
Government Revenue

A. Revenue from Fees, Licenses and Taxes (Excise, Sales, VAT)

Model 1: Decriminalization only

Under Model 1, possession of cannabis within the recommended limits is would now be subject to a fine. Using the previous stated assumptions, the number of unlawful possession offences was estimated to increase to 179 if prevalence increased by 2 percentage points. If fees were levied at $100 the total estimated revenue under Model 1 would be $17,900.

Figure 36: Implementation Design and Assumptions



The revenue estimates under the legalization models were derived based on the details of an investor proposal presented in the PEMANDU Agriculture Lab Report together with additional assumptions by the author. These are outlined in Figure 35 above and in Table 30 and 31 in the Appendix.

Model 2: Legalization (Competitive Markets)

The total annual revenue generated under Model 2 was estimated at $82.2 million, with corporation tax as the largest contributor to revenue at $47.6 million. Farm gate taxes were the next largest source of revenue at $16.8 million annually. The Cannabis Sales Tax and VAT generated $6.7 million and $5.6 million respectively.

Model 3: Legalization (State Control)

Revenue collections under Model 3 was estimated at about $80.0 million, 3 percent lower than the revenue collected under Model 2. Corporation tax would be the same under this model, while the farm gate tax is projected to raise $16.6 million. The Cannabis Sales Tax and VAT are expected to raise $5.5 million and $4.6 million respectively. The variance in total revenue between the two Models was $2.2 million. The differences in revenue under Model 2 and Model 3 is attributable to the differences in the price of cannabis and prevalence of use assumed under each model. A price of $4.50 was assumed under Model 2 to capture the expectation of lower prices in competitive markets while it was assumed that under Model 3, the Government would set a price of $5.00.

Table 21: Revenue Collection Under Model 2 and Model 3

Taxes	Model 2	Model 3	Variance
Farm Gate Tax	$16,822,800	$16,665,750	$157,050
License Fees	$1,012,000	$1,005,000	$7,000
Excise Tax	$4,559,148	$4,559,148	$0
Corporate Tax	$47,616,312	$47,616,312	$0
Cannabis Sales Tax	$6,661,417	$5,534,334	$1,127,083
VAT	$5,551,181	$4,611,945	$939,236
Total	**$82,222,857**	**$79,992,488**	**$2,230,369**

B. Personal Income Tax

In addition to revenue generated from licenses and taxes on goods, taxes would also be collected on personal income over $18,400 per annum received by resident or non-resident

individuals who earn income in Saint. Lucia, whether those income sources are located in or out of St. Lucia. The current applicable income tax rates in Saint Lucia are listed in Table 21[72].

Table 22: Personal Income Tax Rates in Saint Lucia

Band	Taxable Income In Excess of Personal Allowance	Tax Rate (on Excess)
1	$0-$10,000	10%
2	$10,001-20,000	15%
3	$20,001-$30,000	20%
4	Above $30,000	30%

Model 2: Legalization (Competitive Markets)

Using the estimates of employment and wages from Table 28, and the applicable income tax rates above, the annual taxes on personal income generated under Model 2 were estimated at $0.772 million. Details of the calculations can be found in Table 32 in the Appendix.

Model 3: Legalization (State Control)

Estimated annual personal income tax collected under Model 3 was $0.797. The personal income tax collections under Model 3 were three (3) percent higher than under Model 2 because the total amount for wages and salaries were higher under Model 3. Details of the calculations can be found in Table 33 in the Appendix.

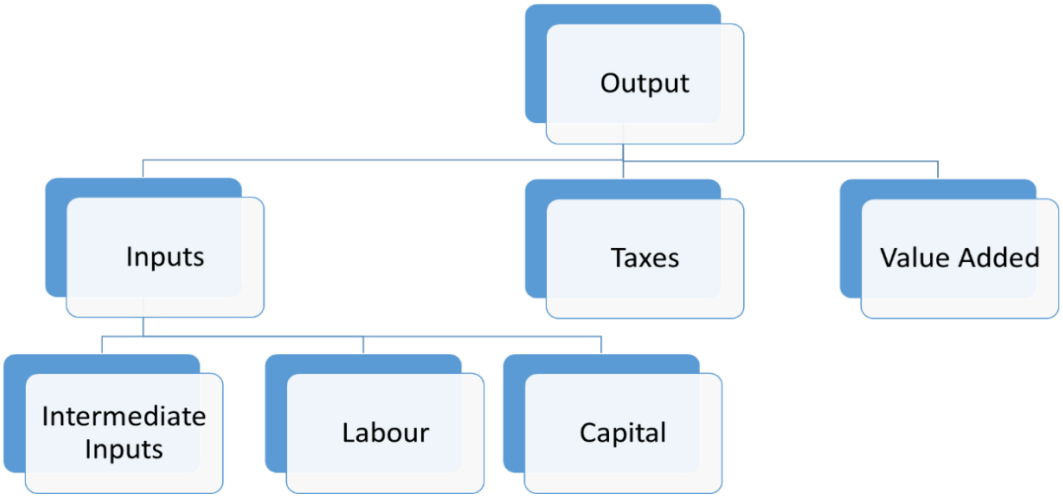
Value Added

Using the production method and guidelines from SNA 2008, the value added derived from the cannabis industry was estimated for each economic sector. Value added for each sector was calculated as follows:

$$\boldsymbol{Value\ Added = Value\ of\ Outputs - Value\ of\ Inputs - Taxes}$$

[72] Source: Inland Revenue Department http://irdstlucia.gov.lc/

Figure 37: Distribution of Production Output



In the estimating value added it was assumed that labour was the only production input in the agricultural sector. Inputs in manufacturing included intermediate inputs such as dried cannabis leaves and flowers, labour and capital and in the retail sector; intermediate inputs and labour.

Model 2: Legalization (Competitive Markets)

In calculating value added, the annual total value of output was first estimated. According to the assumptions and calculations in Table 34, total value of output under Model 2 was estimated at $725.5 million, of which the manufacturing sector contributed the highest share at $529.0 million. Agriculture and Retail accounted for $152.1 million and $44.4 million respectively. To derive total annual value added, intermediate inputs and taxes were deducted from total value of output and was estimated at $426.9 million. (See Table 36 for details of calculations). Value added in the manufacturing sector was the highest at $308.3 million.

Model 3: Legalization (State Control)

The value of output under Model 3 was estimated at $716.6 million, $8.9 million less than under Model 2. Value added was projected at $421.6 million under that Model. The variance in value added under Model 2 and 3 can be attributed to the assumptions surrounding the prevalence of use and the price of cannabis under the two Models. Details of calculations and assumptions are outlined in Table 36 in the Appendix.

SUMMARY OF RESULTS OF COST BENEFIT ANALSIS

Table 23: Summary of CBA Results

(Cost)/ Benefits	Model O	Model 1	Model 2	Model 3
Cost	**($2,812,476)**	**($2,403,461)**	**($2,119,209)**	**($4,489,714)**
Enforcement Costs	($2,424,181)	($1,914,830)	($626,598)	($626,598)
Implementation Costs	$0	$0	($645,353)	($3,240,000)
Health and Treatment Cost	($388,295)	($488,631)	($847,258)	($623,116)
Benefits	**(837,258)**	**312,992**	**555,762,593**	**548,619,023**
Employment and Wages	**($837,258)**	**$29592**	**$45,894,504**	**$46,182,159**
Government Revenue	**$0**	**$17,900**	**$82,994,799**	**$80,789,398**
License Fees and Taxes on Goods	$0	$17,900	$82,222,857	$79,992,488
Taxes on Income	$0	$0	$771,941	$796,910
Value Added	**$0**	**$0**	**$426,873,291**	**$421,647,466**
Net Benefit/(Costs)	**($3,649,734)**	**($2,090,469)**	**$553,643,384**	**$544,129,309**

The results of the costs benefit analysis indicated that the existing legal framework of prohibition and criminalization (Model 0) had the lowest net benefit, at an annual cost of $3.6 million. The largest cost area was enforcement costs, which accounted for 66 percent of net costs. While the net benefit of decriminalization was 43 percent higher than the present regime, it stills presented net costs to the economy of $2.1 million as it does not offer the added benefits of employment and revenue generation and value added that come with the options of legalization.

The total net benefits under Model 2 and Model 3 were $553.6 million and $544.1 million respectively. Value added was the largest contributor and represented about 77 percent of total benefits. The estimates of revenues were also significant under the both Models, with an annual total of $83.0 million raised under Model 2 and $80.8 million under Model 3.

Of the three models, Model 2 offered the highest net benefit of $553.6 million, but also came at the highest health and treatment costs of 0.847 million. The total costs under Model 2 was

$2.1 million, however the added benefits to the economy from employment, wages and revenue and value added significantly exceeded those costs. Model 3, had the second highest net benefit of $544.1 million, however it was associated with the highest costs levels driven by sizeable implementation costs.

Although, these estimates do not cover all related costs and benefits, they do provide an indication of the impact of each regulatory model on the economy. The estimates of cost and benefits are subject to the underlying assumptions driving the results. These estimates are subject to change if the underlying assumptions change. In choosing the optimal model, government must weigh the impact of the health and social costs against the economic benefits of growth in employment and revenue. However, the potential gain under legalization far exceeds the costs and provides additional resources to address current socio-economic challenges such as poverty and crime.

7.4 MACRO ECONOMIC IMPACT ASSESSMENT

The Saint Lucian economy currently faces a myriad of macro-economic challenges. These include; low economic growth, high unemployment especially among the youth, low revenue base, high fiscal deficits, small export base and large trade deficits. The results of costs benefit analysis confirm that the establishment of a cannabis industry, (whether under Model 2 or Model 3) offers significant economic benefits to Saint Lucia.

Table 24: Macro Economic Impact Summary

Macro-Economic Variables	Indicators	Model 0	Model 2	Model 3
GDP	Gross Value Added at Basic Prices (2018)	$4,369,261,773		
	Value Added from Cannabis Industry		$426,873,291	$421,647,466
	Gross Value Added at Basic Prices With Cannabis Industry		***$4,796,135,064***	***$4,790,909,239***
	Increase in Gross Value Added (%)		***9.8***	***9.7***
Unemployment	Unemployed Labour Force (2018)	20,589		
	Unemployment Rate (%) (2018)	20.2		
	Employment from Cannabis Industry		2032	2039
	Unemployment with Cannabis Industry		***18,557***	***18,550***
	Unemployment Rate (%) with Cannabis Industry		***18.19***	***18.19***
Fiscal Balance	Total Revenue (2018/19)	$1,202,233,700		
	Revenue from Cannabis Industry		$82,994,799	$80,789,398
	Total Revenue with Cannabis Industry		***$1,285,228,499***	***$1,283,023,098***
	Increase in Revenue with Cannabis Industry		***6.9***	***6.7***
	Overall Fiscal Balance (2018)	($57,335,890)		
	Overall Fiscal Balance (%) of GDP	-1.1		
	Overall Fiscal Balance with Cannabis Industry		***$25,658,909***	***$23,453,508***
	Overall Fiscal Balance (%) of GDP with Cannabis Industry		***0.5***	***0.45***
External Trade Balance	Total Exports (2018)	$168,029,812		
	External Trade Balance	($1,397,351,037)		
	External Trade Balance (% of GDP)	-27.4		
	Exports from Cannabis Industry		***$529,070,130***	***$529,070,130***
	Total Exports with Cannabis Industry		***$697,099,942***	***$697,099,942***
	Increase in Exports		***314.9***	***314.9***
	External Trade Balance with Cannabis Industry		***($868,280,907)***	***($868,280,907)***
	External Trade Balance with Cannabis Industry (% of GDP)		***-17***	***-17***

Data Sources: Central Statistics Office, 2018 Economic and Social Review and Author Estimates

Impact on GDP

Nominal Gross Value Added (GVA) stood at $4,369 million in 2018. The cannabis industry could contribute value added of $426.9 million (under Model 2). This would spur economic growth and increase the size of the economy by about 9.8 percent.

Impact on Unemployment

According to data from the Central Statistics Office, the total number of people unemployed in Saint Lucia in 2018 stood at 20,589, which represents an unemployment rate of 20.2 percent. Out of these, 9,823 were unemployed youth. Model 2 and Model could create 2,032 and 2,039 jobs respectively, which would reduce the unemployment rate to 18.2 percent all things being equal.

Impact on the Fiscal Balance

The overall fiscal deficit reported in 2018 was $57.3 million, the equivalent of 1.1 percent of GDP. Model 2 has the potential to generate total additional revenue of total of $83.0 million. This would increase current revenue intake by 6.9 percent and generate a fiscal surplus of $25 Million or 0.5 percent of GDP. Under Model 3, total of $80.8 million in revenue can be generated, for a fiscal surplus of $23.5 million or 0.45 percent of GDP.

Impact on External Trade Balance

Traditionally Saint Lucia has run trade deficits as the value imports far outweigh that of exports. In 2018, total exports were valued at $168.0 million for a trade deficit of $1,397. 4 million or 27.4 percent of GDP. If it is assumed that the CBD oil produced by the manufacturer is all exported, then this would expand exports by 315 percent and reduce the trade deficit to 17 percent of GDP.

8.0 CONCLUSION

The results of the economic analysis revealed that in Saint Lucia, despite legislation that classifies cannabis as an illegal substance, the prevalence of use in the general population and especially among students is higher than the regional average, with prevalence significantly higher for males than females. The number of cannabis related crime as a percentage of total crime is on an increasing trend and comes at higher police, court and prison related costs to the State. Also of concern is the higher incidence of behavioral problems, repeated school grades and drug related mental disorders associated with cannabis use especially among the youth.

This indicates that the current legal framework is ineffective at curtailing use and there are other factors driving the underlying trends. Given the high enforcement, economic and social costs associated with the existing regime, Saint Lucia, together with other CARICOM

countries, are exploring alternative regulatory options. These include models of decriminalization (Model 1), legalizations within a competitive market framework (Model 2) and legalization with state control (Model 3). This study evaluated the costs and benefits on the various models to identify the optimal regulatory framework for implementation in Saint Lucia.

The first part of the analysis investigated the impact of the proposed models on consumption and prices within an economic theoretical framework. According to the results, the impact on consumption was the largest under Model 2 and the lowest under Model 1. Accordingly, prices were lower under Model 2 and higher under Model 1. Under Model 3, the Government can mitigate expected increase in consumption through price control or quantity restrictions. This objective may also be achieved through taxes on cannabis consumption. However, state control in the market may lead to an artificial inflation in prices, which may provide an incentive for consumers to purchase from the illegal market. Therefore, the Government must set prices and or taxes at an optimal level that minimizes the social costs of increased use especially among young people, while curtailing black market operations and the related negative effects on crime.

The evidence from country studies supported the results predicted by the theoretical model of an increase in consumption following decriminalization and legalization. However, there was no clear evidence that the increase in consumption was lower under decriminalization as compared to legalization. The experience with prices were also in line with the theoretical model. Decriminalization led to no significant change in prices because under this model supply would still be illegal. Therefore, there would be no change in the cost of production of the Seller, which heavily influences market prices. The dynamics of supply and demand led to significant decline in prices in US States where cannabis have been legalized.

The empirical data also seem to support the expectation that decriminalization and legalization would result in a lower number of cannabis related arrests and cases before the courts, however the impact on crime is still uncertain. Concerning the effect on vehicular accidents, a number of US States reported an increase in cannabis related traffic fatalities following legalization, however Uruguay reported a decline in accidents stemming from their strict policies and penalties for driving under the influence.

The results of the costs benefit analysis estimated annual total cost to the Saint Lucian economy from prohibition and criminalization at $3.6 million, of which annual enforcement

costs were $2.4 million. If cannabis were legalized, this amount would be better reallocated to fight more serious crimes. The net benefits from decriminalization were 43 percent higher than the present regime, with a 21 percent reduction in enforcement costs. However, this model does not provide the significant added economic benefits of employment, revenue generation and value added realized under legalization.

The study shows that the legalization models offer significantly higher benefits than the status quo and decriminalization. The results of the CBA found that Model 2 yielded the highest net benefit at $53.6 million with value added, employment and wages and revenue generating $426.9 million, $45.9 million and $83.0 million respectively. While the net benefits under Model 2 was the highest, it was also associated with the highest social and health costs of $0.847 million. According to the results of the theoretical model and country studies, Model 2 also comes with higher prevalence of use and higher incidence of drug related accidents. However, the significant amount of revenue generated from this model can allow for the implementation of social programs to prevent and mitigate the adverse health and social effects of cannabis use.

The potential benefits from the legalization of cannabis for industry is especially significant given the context of the current macro-economic and fiscal environment in Saint Lucia. Legalization provides an opportunity to grow the economy by about 9.8 percent and reduce the unemployment rate from 20.2 percent in 2018 to 18.2 percent. It also allows the government to expand revenue collection by 6.9 percent and improve the fiscal balance from an overall deficit to a surplus of $25 million. This allows more fiscal space to reduce the current high levels of public debt and to address socio-economic challenges such as poverty and crime. The establishment of a cannabis industry also allows Saint Lucia to expand its export potential and reduce its trade deficit for greater macro-economic stability on its external accounts.

As Saint Lucia advances a cannabis reform agenda, the implications for international conventions must be considered. The design of the regulatory should also be guided by evidence and framed within the country specific context. Data collection systems must be established to track processes and outcomes to inform policy formulation. In the case of Saint Lucia, the incidence of cannabis use is higher in males and in marginalized populations. These underlying socio-economic factors must be considered in the design.

Additionally, in choosing an optimal model, the Government must balance competing policy objectives as there are trade-offs to all the model options. Higher prices may lead to more government revenue but at the cost of increased black market activity and crime, while lower prices may lead to higher prevalence of use, higher social costs but lower black market activity. However, regardless of the legalization model chosen, the regulatory framework should include the guidelines recommended in 2018 CARICOM report to minimize the adverse social effects. These include age limits to prohibit cannabis use among children and young people; public education programs to raise awareness of the associated risk of cannabis use; restrictions on public smoking; restrictions on advertising; limits of allowable THC content in products; and the introduction of drug driving regulations.

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APPENDIX

Table 25: Proxy Variables and Estimation Formulas

Costs/Benefits Proxy Variables	Data Variables	Estimation Formula	Data Sources
1. Enforcement			
Police (P)	Total No. of Crimes Detected (A)	**P= (C/A)*B**	Royal Police Force, 2018
	Total No. of Cannabis Related Crime Detected (B)		Royal Police Force, 2018
	Total Operational Cost of Police Services (C)		Estimates of Revenue and Expenditure (2018)
Courts (C)	Total No. of Crime Cases Processed Annually by District Courts (D)	**C=(F/D)*E**	Estimates of Revenue and Expenditure (2016)
	Total No. of Cannabis Related Cases Processed by the District Courts (E)		Authors Calculation
	Total Operational Costs of District Courts (F)		Estimates of Revenue and Expenditure (2016)
Forensics (F)	1. Total No. of Cases Processed Annually (G)	**F=(I/G)*H**	Estimates of Revenue and Expenditure (2016)
	2. Total No. of drug related cases Processed (H)		Estimates of Revenue and Expenditure (2016)
	3. Total Operational Costs of Lab(I)		Estimates of Revenue and Expenditure (2016)
Prison (Pr)	Total Prison Population (J)	**Pr= L/J*K**	Bordelais Correctional Facility
	Total No. of Prisoners for Cannabis related Offences (K)		Bordelais Correctional Facility
	Total Prison Operational Costs (L)		Estimates of Revenue and Expenditure (2018)
2. Health and Treatment Costs			
Mental Health (H)	Total No. of Patients Admitted (A)		National Mental Wellness Centre
	No. of Patients Admitted for Cannabis related mental disorders (B)		National Mental Wellness Centre
	Total Operational Costs of Mental Wellness Centre (C)	**H= (C/A)*B**	Estimates of Revenue and Expenditure (2018)
3. Employment and Wages			
Loss Wages due to Incarceration (WL)	No. of Prisoners for Cannabis related Offences		Bordelais Correctional Facility
	Employment Profile	Average Wage by Sector* No. of Prisoners employed by in Sector	Bordelais Correctional Facility
	Wages by Economic Sector		2018 Labour Force Survey

Table 26: Estimation of Enforcement Costs Under Model 0 (Status Quo)

Cost/Benefits Proxy Variables	Total
A. Police Costs	
Total No. of Crimes Detected	10767
Total No. of Cannabis Related Crime Detected	268
Total Operational Cost of Police Services	$45,354,288
Total Police Cost for Cannabis Offences	**$1,128,908**
B. Court Related Costs	
Total No. of Crime Cases Processed Annually by District Courts* (2016)	1164
Total No. of Cannabis Related Cases Processed by the District Court**	23
Total Operational Costs of District Courts (2016)	$3,665,077
Total Court Related Costs	**$73,302**
C. Forensics Services	
Total No. of Cases Processed Annually (2016)	128
Total No. of Cannabis drug related cases Processed (2016)	118
Total No. of Cannabis related Cases Processed*	97
Total Operational Costs of Lab (2016)	$751,515
Total Forensics Costs For Cannabis Related Cases	**$567,802**
D. Prison Costs	
Total Prison Population	500
Total No. of Prisoners for Cannabis related Offences	34
Total Prison Operational Costs	$9,620,140
Prison Costs for Cannabis Offenders	**$654,170**
Total Administrative and Enforcement Costs	**$2,424,181**

*Most Cannabis related cases are processed by the First or Second District Courts

**Author Estimates based on ratio of Cannabis Related Arrests to Total Arrests

***Author Estimates of the ratio of Cannabis related offences to Total Drug Related Offences

Table 27: Estimation of Unlawful Possession Offences Under Model 1

Methodology and Assumptions	Values
Estimated Prevalence Rate in General population ages 15-64	8.9%*
No. of Unlawful Possession Crimes Detected at assuming Prevalence Rate of 8.9%	142
2018 Population (15-64)**	128,831
Estimated Prevalence in Selected Population at rate of 8.9%	11,466
Ratio: Unlawful Possession Offences / Prevalence in Selected Population (%)	1.24%
Assume 2 Percentage Point Increase In Prevalence	10.90%
2018 Population (20 and above)***	132,368
Estimated Prevalence in Selected Population at rate of 10.9%	14,428
Estimated Number of Unlawful Offences Detected Applying Current Ratio	**179**

*Source: 2010 estimate in UN Drug Report Database

** 2018 Labour Force Survey, Central Statistics Office

*** The age defined in the regulation was 18 years however the age groups in the Labour Force Survey are categorized in 5 year intervals

Table 28: Mental Health and Treatment Cost Estimates Under Models 1-3

		Assumptions		
Model	**Variables**	**Details**	**Values**	**Total**
1	1. Price per Patient Admitted	Assume price per patient remains the same		$4,794
	2. Estimated No. of Cannabis Related Admissions	Cannabis Related Admissions at Prevalence Rate of 8.9 percent	81	
		2018 Population (15-64)	128,831	
		Estimated Prevalence in Population (15-64) at rate of 8.9%	11,466	
		Ratio: Cannabis Related Admissions / Prevalence in selected Population (%)	0.71%	
		Assume 2 Percentage Point Increase In Prevalence	10.9%	
		2018 Population (20 and above)	132,368	
		Estimated Prevalence in Selected Population at rate of 10.9%	14,428	
		Estimated No. of Cannabis Related Case at Prevalence Rate of 10.9%	102	
	Total Health and Treatment Costs (Model 1)			**$488,631**
2	1. Price per Patient Admitted	Assume price per patient remains the same		$4,794
		Assume 10 percentage point increase in prevalence	18.90%	
		Estimated Prevalence in Selected Population at rate of 18.9%	25,018	

	2. Estimated No. of Cannabis Related Admissions	Estimated No. of Cannabis Related Case at Prevalence Rate of 18.9%	177	
	Total Health and Treatment Costs (Model 2)			**$847,258**
3	Price per Patient Admitted	Assuming price per patient remains the same		$4,794
	Estimated No. of Cannabis Related Admissions	Assume 5 percentage point increase in prevalence	13.90%	
		Estimated Prevalence in Selected Population at rate of 13.9%	18,399	
		Estimated No. of Cannabis Related Case at Prevalence Rate of 13.9%	130	
	Total Health and Treatment Costs (Model 3)			**$623,116**

Table 29: Employment and Wages Estimates Under Model 2

Value Chain	Employees	No. of Employees	Annual Wages	Total	Assumptions/ Comments
Cultivation	Farmers	2000	$22,140	$44,280,000	1 acre per farmer
					1 acre=360lbs of dry flowers and leaf
					Price=$205 per pound
					Total Annual Earnings : 73,800
					Assume Wages is 30% of Total Earning
Cooperative	Manager	1	$96,000	$96,000	1 Cooperative
	Sale Clerk	2	$22,918	$45,836	
	Admin Clerk	1	$24,910	$24,910	
Manufacturing	General Manager	1	$126,750	$126,750	Earning based on Private Sector Salary Estimates
	Plant Manager	1	$97,248	$97,248	
	Machine Operators	2	$54,000	$108,000	
	Technicians	2	$75,392	$150,784	
	Labourers	4	$16,119	$64,475	1 Firm
	Sales and Marketing Manager	1	$90,000	$90,000	
	Human Resource and Admin Manager	1	$84,000	$84,000	
	Accountant	1	$84,000	$84,000	
	Clerks	4	$24,910	$99,640	
Retail	Sale Clerks	2	$22,918	$45,836	5 Retailers
Enforcement:					
Cannabis Regulatory and Enforcement Division	Executive/Managerial	2	$75,747	$151,495	Earning based on Public Service Salary Data
	Technical	3	$55,787	$167,361	
	Admin Support	1	$26,968	$26,968	

Tax Administration:					
IRD Department	Tax Officers	2	$55,788	$111,576	
	Tax Inspectors	1	$39,625	$39,625	
Total		**2032**		**$45,894,504**	

Table 30: Employment and Earning Estimates Under Model 3

Value Chain	Employees	No. of Employees	Annual Wages	Total	Assumptions/ Comments
Cultivation	Farmers	2000	$22,140	$44,280,000	1 acre per farmer
					1 acre=360lbs of dry flowers and leaf
					Price=$205 per pound
					Total Annual Earnings: 73,800
					Assume Wages is 30% of Total Earning
Manufacturing	General Manager	1	$126,750	$126,750	Earning based on Private Sector Salary Estimates
	Plant Manager	1	$97,248	$97,248	
	Machine Operators	2	$54,000	$108,000	
	Technicians	2	$75,392	$150,784	
	Labourers	4	$16,119	$64,476	1 Manufacturing Firm
	Sales and Marketing Manager	1	$90,000	$90,000	
	Human Resource and Admin Manager	1	$84,000	$84,000	

	Accountant	1	$84,000	$84,000	
	Clerks	4	$24,910	$99,640	
Retail	Sale Clerks	2	$22,918	$45,836	5 Retailers
Statutory Body	General Manager	1	$103,194	$103,194	
	Human Resource and Admin Manager	1	$63,772	$63,772	
	Accountant	1	$63,772	$63,772	
	Regulations Supervisor	1	$71,755	$71,755	
	Regulators	3	$54,163	$162,489	
	Taxation Supervisor	1	$71,755	$71,755	
	Tax Officers	2	$54,163	$108,326	
	Clerks	3	$26,969	$80,907	
	Admin Support	3	$19,570	$58,710	
Cooperative	Manager	1	$96,000	$96,000	1 Cooperative
	Sale Clerk	2	$22,918	$45,836	
	Admin Clerk	1	$24,910	$24,910	
Total		**2039**		**$46,182,160**	

Table 31: Revenue Estimates for Licenses and Taxes Under Model 2

Tax Category	Rate	Total	Assumptions	Source
Farm Gate Tax	$50 per Kg	**$16,822,800**	**Cannabis Production:** **1. Manufacturing**=720,000lbs/326,587 kg **2. Retail** =9,869 kg **Total=336,456 kg** (See below for demand estimates for Local and Tourist markets in grams. Grams were converted to Kg)	Lab Report
License Fees			1 Farmer per acre	Lab Report
Farmers	$500 per acre per Annum	**$1,000,000**	2000 farmers	Lab Report
Retailers	$1,000 per annum	**$5,000**	5 Retailers	Author
Manufacturer	$5,000 per annum	**$5,000**	1 Manufacturer	Author
Cooperatives	$2,000 per annum	**$2,000**	1 Cooperative	Author
Excise Tax	$3.49/ litre		1 gram of dried flowers and leaf produces about 4ml of CBD oil	Cannabinoid Information Platform
		$4,559,148	720,000lbs=326,586,506 grams of cleaned and dried flowers and leaf , which produces 1,306,346 litres of CBD oil	Author's Calculation
Corporate Tax	30% of Profit		Expected Revenue: $ 529,070,130	Based on Sales (See Table 34)
		$47,616,312	Estimated gross profit margin: 30 percent =$158,721,039	Benchmarked on Average Gross Profit Margin for CBD Unlimited
Cannabis Sales Tax	15%			
Domestic Market		**$6,163,810**	Increase in prevalence by 10 percentage points due to legalization= 18.9%	Author
			2018 Population (20 and above) =132,368 people	Central Statistics Office
			Estimate of Usage at rate of 18.9%=25,018 people	
			Usage: 1 gram per person per day	
			Annual Demand= 9,131,570 grams	
			Expenditure: $4.5/gram	Lab Report
Tourist Market		**$497,607**	Total Visitors (2018): 1,228,662	2018 Social and Economic Review
			Usage: 5% Visitors (61,433)	Lab Report
			Expenditure: US$20 per visitor	
			Annual Demand=737,196 grams	Lab Report
VAT	12.50%			
Local Market		**$5,136,508**	Same As above	
Tourist Market		**$414,673**		
Total		**$82,222,857**		

Table 32: Revenue Estimates for Licenses and Taxes Under Model 3

Tax Category	Rate	Total	Assumptions	Source
Farm Gate Tax			**Cannabis Production:**	
			Manufacturing=720,000lbs/326,587 kg	
			Retail =6,728 kg	
	$50 per Kg	**$16,665,750**	Total=333,315 kg	
			(See below for demand estimates for Local and Tourist markets in grams. Grams were converted to Kg)	
License Fees			1 Farmer per acre	Lab Report
Farmers	$500 per acre per Annum	**$1,000,000**	2000 farmers	Lab Report
Manufacturer	$5,000 per annum	**$5,000**	1 Manufacturer	Author
Excise Tax	$3.49 litre	**$4,559,148**	1 gram of dried flowers and leaf produces about 4ml of CBD oil	Cannabinoid Information Platform
			720,000lbs=326,586,506 grams of cleaned and dried flowers and leaf , which produces 1,306,346 litres of CBD oil	
Corporate Tax	30% of Profit	**$47,616,312**	Expected Revenue: $ 529,070,130	Based on Sales (See Table 35)
			Estimated gross profit margin: 30 percent =$158,721,039	Benchmarked on Average Gross Profit Margin for CBD Unlimited
Cannabis Sales Tax	15%			
Local Market		**$5,036,726**	Increase in prevalence by 5 percentage points due to legalization= 13.9%	Author
			2018 Population (20 and above) =132,368 people	Central Statistics Office
			Estimate of Usage at rate of 13.9%=18,399 people	
			Usage: 1 gram per person per day	
			Annual Demand=6,715,635 grams	
			Expenditure: $5 per gram	Lab Report
Tourist Market		**$497,608**	Total Visitors (2018): 1,228,662	2018 Social and Economic Review
			Estimated Usage: 5% Visitors (61,433)	Lab Report
			Expenditure: US$20 per Visitor	
			Annual Demand= 12,287 grams	Lab Report
VAT	12.50%			
Local Market		**$4,197,272**	Same As Above	
Tourist Market		**$414,673**	Same As Above	
Total		**$79,992,488**		

Table 33: Revenue Estimates for Personal Income Tax Under Model 2

Value Chain	Employees	No. of Employees	Annual Wages	Taxable Income After Deductible	Tax Collection Band 1 (10%)	Taxes Collection Band 2 (15%)	Taxes Collected Band 3 (20%)	Taxes Collected Band 4 (30%)	Taxes Collected/ Person	Total Annual Taxes
Cultivation	Farmers	2,000	$22,140	$3,740	$374	$0	$0	$0	$374	$748,000
Cooperative	Manager	1	$96,000	$77,600	$1,000	$1,500	$2,000	$14,280	$18,780	$18,780
	Sale Clerk	2	$22,918	$4,518	$452	$0	$0	$0	$452	$904
	Admin Clerk	1	$24,910	$6,510	$651	$0	$0	$0	$651	$651
Manufacturing	General Manager	1	$126,750	$108,350	$1,000	$1,500	$2,000	$23,505	$28,005	$28,005
	Plant Manager	1	$97,248	$78,848	$1,000	$1,500	$2,000	$14,654	$19,154	$19,154
	Machine Operators	2	$54,000	$35,600	$1,000	$1,500	$2,000	$1,680	$6,180	$12,360
	Technicians	2	$75,392	$56,992	$1,000	$1,500	$2,000	$8,098	$12,598	$25,195
	Labourers	4	$16,119	$0	$0	$0			$0	$0
	Sales and Marketing Manager	1	$90,000	$71,600	$1,000	$1,500	$2,000	$12,480	$16,980	$16,980
	Human Resource and Admin Manager	1	$84,000	$65,600	$1,000	$1,500	$2,000	$10,680	$15,180	$15,180
	Accountant	1	$84,000	$65,600	$1,000	$1,500	$2,000	$10,680	$15,180	$15,180
	Clerks	4	$24,910	$6,510	$651	$0	$0	$0	$651	$2,604
Retail	Sale Clerks	2	$22,918	$4,518	$452	$0	$0	$0	$452	$904
Enforcement:										
Cannabis Regulatory and Enforcement Division	Executive/Managerial	2	$75,747	$57,347	$1,000	$1,500	$2,000	$8,204	$12,704	$25,408
	Technical	3	$55,787	$37,387	$1,000	$1,500	$2,000	$2,216	$6,716	$20,148
	Admin Support	1	$26,968	$8,568	$857	$0	$0		$857	$857
Tax Administration:										
IRD Department	Tax Officers	2	$55,788	$37,388	$1,000	$1,500	$2,000	$2,216	$6,716	$13,433
	Tax Inspectors	1	$39,625	$21,225	$1,000	$184	$0	$0	$1,184	$1,184
Total										**$964,927**
Less Provision for Allowances (20%)										**$771,941**

Table 34: Revenue Estimates for Personal Income Tax Under Model 3

Value Chain	Employees	No. of Employees	Annual Wages	Taxable Income After Deductible	Tax Collection Band 1 (10%)	Taxes Collection Band 2 (15%)	Taxes Collected Band 3 (20%)	Taxes Collected Band 4 (30%)	Taxes Collected/ Person	Total Annual Taxes
Cultivation	Farmers	2,000	$22,140	$3,740	$374	$0	$0	$0	$374	$748,000
Manufacturing	General Manager	1	$126,750	$108,350	$1,000	$1,500	$2,000	$23,505	$28,005	$28,005
	Plant Manager	1	$97,248	$78,848	$1,000	$1,500	$2,000	$14,654	$19,154	$19,154
	Machine Operators	2	$54,000	$35,600	$1,000	$1,500	$2,000	$1,680	$6,180	$12,360
	Technicians	2	$75,392	$56,992	$1,000	$1,500	$2,000	$8,098	$12,598	$25,195
	Labourers	4	$16,119	$0	$0	$0			$0	$0
	Sales and Marketing Manager	1	$90,000	$71,600	$1,000	$1,500	$2,000	$12,480	$16,980	$16,980
	Human Resource and Admin Manager	1	$84,000	$65,600	$1,000	$1,500	$2,000	$10,680	$15,180	$15,180
	Accountant	1	$84,000	$65,600	$1,000	$1,500	$2,000	$10,680	$15,180	$15,180
	Clerks	4	$24,910	$6,510	$651	$0	$0	$0	$651	$2,604
Retail	Sale Clerks	2	$22,918	$4,518	$452	$0	$0	$0	$452	$904
Statutory Body	General Manager	1	$103,194	$84,794	$1,000	$1,500	$2,000	$16,438	$20,938	$20,938
	Human Resource and Admin Manager	1	$63,772	$45,372	$1,000	$1,500	$2,000	$4,612	$9,112	$9,112
	Accountant	1	$63,772	$45,372	$1,000	$1,500	$2,000	$4,612	$9,112	$9,112
	Regulations Supervisor	1	$71,755	$53,355	$1,000	$1,500	$2,000	$7,007	$11,507	$11,507
	Regulators	3	$54,163	$35,763	$1,000	$1,500	$2,000	$1,729	$6,229	$18,687
	Taxation Supervisor	1	$71,755	$53,355	$1,000	$1,500	$2,000	$7,007	$11,507	$11,507
	Tax Officers	2	$54,163	$35,763	$1,000	$1,500		$1,729	$4,229	$8,458
	Clerks	3	$26,969	$8,569	$857	$0	$0	$0	$857	$2,571
	Admin Support	3	$19,570	$1,170	$117	$0	$0	$0	$117	$351
Cooperative	Manager	1	$96,000	$77,600	$1,000	$1,500	$2,000	$14,280	$18,780	$18,780
	Sale Clerk	2	$22,918	$4,518	$452	$0	$0	$0	$452	$904
	Admin Clerk	1	$24,910	$6,510	$651	$0	$0	$0	$651	$651
Total										**$996,137**
Less Provision for Allowances (20%)										**$796,910**

Table 35: Calculation of Value of Output Per Sector Under Model 2

Sector	Price	Volume	Unit	Total	Assumptions/ Notes
Agriculture	$205	741,757	lbs.	$152,060,271	See Table 30 for Assumptions and Data Source
					Sells to Manufacturer:720,000 lbs.
					Sells to Retailers: 9,869 kg/21,757lbs (Demand from Locals and Tourist)
					Total lbs.=741,757lbs
Manufacturing	$405	1,306,346	Litre	$529,070,130	**CBD Oil Extraction Facility**
					The price of CBD Oil varies and are on average US$150/Litre=EC$405 (US$1=EC$2.7)
					https://naturalwellnesscbdoil.com/blog/average-cbd-oil-prices/
					See Table 30 for Volume Assumptions
Retail					
Local Market	$4.50	9,131,570	Grams	$41,092,065	Based on Demand. See Table 30 for details
Tourist Market	$54	61,433	Visitors	$3,317,382	Based on Demand. See Table 30 for details
Total				**$725,539,848**	

Table 36: Calculation of Value of Output Per Sector Under Model 3

Sector	Price	Volume	Unit	Total	Assumptions/ Notes
Agriculture	$205	734,833	lbs.	$150,640,765	Cannabis Production
					See Table 31 for assumptions and data source
					Sells to Manufacturer: 720,000lbs
					Sells to Retailers: 6,728 kg/14,833 lbs (Demand from Locals and Tourists)
					Total=734,833lbs
Manufacturing	$405	1,306,346	Litres	$529,070,130	CBD Oil Extraction Facility
					The price of CBD Oil varies and are on average US$150/Litre=EC$405 (US$1=EC$2.7)
					https://naturalwellnesscbdoil.com/blog/average-cbd-oil-prices/
					See Table 31 for Volume Assumptions
Cooperative					
Local Market	$5	6,715,635	Grams	$33,578,175	Based on Demand. See Table 31 for details
Tourist Market	$54	61,433	Visitors	$3,317,382	Based on Demand. See Table 31 for details
Total				**$716,606,452**	

Table 37: Value Added By Sector Under Model 2

Sector	Value of Output	Cost of Inputs	Taxes	Value Added	Assumptions
Agriculture	$152,060,271	$44,280,000	$16,822,800	**$90,957,471**	**Value of Output:** See Table 34
					Cost of Inputs= Wages and Salaries (See Table 28)
					Taxes: See Table 30
Manufacturer	$529,070,130	$168,604,897	$52,175,459	**$308,289,774**	**Value of Output**:See Table 34
					Cost of Inputs:
					1. Intermediate Inputs: 720,000lbs of Cannabis @$205/lb=$147,600,000
					2. Wages and Salaries= $904,897 See Table 28
					3.Capital Costs= $20.1 Million See Lab Report
					Taxes: See Table 30
					Excise Tax=$4,559,148
					Corporate Tax=$47,616,312
Retail	$44,409,447	$4,570,803	$12,212,598	**$27,626,046**	**Value of Output**- Table 34
					Cost of Inputs:
					1. Intermediate Inputs: 21, 757 lbs of cannabis @205/lb. lb.=$4,460,185
					2. Wages and Salaries= $212,582 (retail and cooperative) See Table 28,
					Taxes: Table 30
Total				**$426,873,291**	

Table 38: Value Added By Sector Under Model 3

Sector	Value of Output	Cost of Inputs	Taxes	Value Added	Assumptions
Agriculture	$150,640,765	$44,280,000	$16,665,750	**$89,695,015**	**Value of Output:**See Table 35
					Cost of Inputs= Wages and Salaries (See Table 29)
					Taxes: Table 31
Manufacturer	$529,070,130	$168,604,897	$52,175,459	**$308,289,774**	**Value of Output:**See Table 35
					Cost of Inputs:
					1. Intermediate Inputs: 720,000lbs of Cannabis @$205/lb=$147,600,000
					2. Wages and Salaries= $904,897 See Table 29
					3.Capital Costs= $20.1 Million See Lab Report
					Taxes: See Table 31
					Excise Tax=$4,559,148
					Corporate Tax=$47,616,312
Retail	$36,895,557	$3,086,601	$10,146,279	**$23,662,677**	**Value of Output:** Page 35
					Cost of input:
					1. Intermediate Inputs: 14,833lbs of Cannabis @$205/lb=$3,040,765
					2.Wages and Salaries= $45,836 *(* See Table 29)
					Taxes: Table 31
Total				**$421,647,466**	

TERMS OF REFERENCE

CONSULTANT FOR THE ECONOMIC ANALYSIS OF THE REGULATION OF THE CANNABIS INDUSTRY

SECTON 1: BACKGROUND

The Government of Saint Lucia is committed to regulating the laws on cannabis and to create a system with strict controls on the sale and production of cannabis. The government is equally committed to enable the country to produce and cultivate medicinal cannabis and to establish a cannabis industry which will provide relief for individuals suffering from a range of medical conditions and has the potential to positively impact rural livelihoods and communities. To this end, a Cannabis Commission was established by Cabinet on July 29, 2019 to review the laws on cannabis and make recommendations on a new legislative framework and the enabling environment, to guide the cannabis industry.

1.1 Main objectives of the Saint Lucia Commission for the Regulation of Cannabis:

5) Conduct rigorous enquiry into the social, health, economic and legal issues surrounding cannabis in Saint Lucia;
6) Engage governments, organizations, youth and experts in relevant fields with expertise in production, distribution and sales and seek their views on issues fundamental to a legislative and regulatory system for restricted access to cannabis;
7) Provide opportunities for all Saint Lucians to offer their views on key questions related to cannabis.

8) Recommend changes to the Drugs (Prevention of Misuse) Act Chapter 3.02 and other relevant legislation to create a regulated environment that minimizes harms and maximizes benefits associated with cannabis.

1.2 The Commission's Scope of Works is guided by the following:

Protect Saint Lucians by keeping cannabis out of the hands of children and youth.

9. Keep profits out of the hands of criminals, particularly gang-related.
10. Reduce the burdens on the police and the justice system associated with simple possession of cannabis offences.
11. Prevent Saint Lucians from entering the criminal justice system and receiving criminal records for simple possession of cannabis offences.
12. Protect public health and safety by strengthening laws and enforcement measures that deter and punish more serious cannabis offences particularly selling and distributing to children and youth, selling outside the regulatory framework and driving under the influence of cannabis.
13. Ensure Saint Lucians are well-informed and provide appropriate public health campaigns for youth in particular to understand the risks involved in cannabis use.
14. Establish a system of strict production, distribution and sales, taking a public health approach, with regulation of quality and safety, restriction of access and application of taxes with support for treatment, mental health and education programs.
15. Provide access to quality-controlled cannabis for medical and scientific purposes.

SECTION 2: OBJECTIVE

The overall objective of this consultancy is to undertake an economic analysis of the outcomes of various models of regulation of cannabis. The specific objective is to contribute toward the timely submission of the recommendation of the Cannabis Commission.

SECTION 3: SCOPE OF WORKS

Cognizant of the fact that costs, savings and potential revenues may be dependent on the model of regulation utilized, the consultant shall undertake the economic analysis with consideration for each model of regulation:

- Decriminalization of marijuana use only: In this model, the use/possession of large amounts, production, and sale of marijuana remain illegal. Possession of small amounts will no longer be considered a criminal offence and offenders will be fined, rather than face arrest/possible incarceration.
- Full legalization of marijuana production, sale and use, with state control: Here, the government controls the marijuana industry i.e. cultivation, processing, and sale of marijuana. The retail price of marijuana is set by the state, which has strict control of all levels of the supply chain.
- Full legalization of marijuana production, sale, and use within a competitive market framework: Under this model, the price and quantity are determined by the forces of demand and supply, under the free market system, with some regulations.

In the formulation of the recommendations, the consultant should utilize sources including, but not limited to, the following:

- The Saint Lucia Social and Economic Labs -Agriculture Key Results Area Report

- Report of the CARICOM Regional Commission on Marijuana 2018
- Reports from the other Consultants engaged by the Cannabis Commission

The consultant may also undertake research not specified in the, however, is deemed necessary.

The consultant is expected to, at minimum:

1) Examine incarceration patterns in St. Lucia as a result of cannabis including the percentage of the prison population incarcerated for cannabis related offences (of a non-violent nature).
2) Examine the economic benefits, costs and net benefits that may accrue as a result of a regulated cannabis industry in Saint Lucia. The analysis should indicate, based on empirical evidence, which model would result in the greatest economic benefit. Results of costs and benefits should be presented according to the three specific models. Evidence should be provided to compare the economic benefits of prohibition versus that of the three established models of regulation.

Specific categories of benefits should include, but not be limited to:

- Government revenues from cannabis related licence fees, taxes, charges.
- Employment and other relevant economic variables
- Averted costs
    - Police: cannabis related arrests for possession, cultivation and trafficking
    - Courts: costs incurred by the courts for cannabis related offences
    - Prison: incarceration of prisoners for cannabis related arrests

- Lost wages from cannabis related arrests and incarceration

Specific categories of costs should include, but not be limited to:

- Impact on health costs: Additional cost of marijuana abuse treatment requests

3) Analyse costs of implementation and enforcement of the specific model of regulation; and the impact on price of cannabis and the black market
4) Quantification of the introduction of industrial hemp as a commodity, differentiated from other forms of cannabis to a vibrant industry
5) Where a data is not readily available (for example, marijuana related accidents), the consultant is expected to recommend a methodology to capture the data.

SECTION 4: PROCEDURAL MATTERS

- The consultant shall report to the Chair of the Cannabis Commission, Mr. Michael Gordon, for the acceptance and approval of the deliverables and invoice payments
- The Secretariat of the Cannabis Commission (Invest Saint Lucia) shall provide logistical and administrative support and shall be responsible for the coordination of activities under this consultancy. All written communication should be directed to the secretariat

SECTION 5: DELIVERABLES AND PAYMENT SCHEUDLE

6.1 SCHEDULE

Deliverable	Deadline

Inception report presented to the Cannabis Commission detailing the methodology/approach for the completion of time frame and the assignment of duties	One week from start date: December 10, 2019
Draft report submitted to the Cannabis Commission detailing key findings	December 17, 2019
Final report submitted to the Cannabis Commission detailing key findings, incorporating comments and suggestions from the Cannabis Commission	December 20, 2019

PAYMENT

Deliverable	**Payment**
Inception report submitted to the Cannabis Commission detailing the methodology/approach for the completion of time frame and the assignment of duties	10%
Draft report to the Cannabis Commission detailing key findings,	40%

Present a final report to the Cannabis Commission detailing key findings, incorporating comments and suggestions from the Cannabis Commission	50%
TOTAL	**100%**

SECTION 7: DURATION

The overall duration of the consultancy will run from 10 December to 20 December, 2019.

Appendix 6

SLBS Recommendation to the Cannabis Commission

The Saint Lucia Bureau of Standards (SLBS) develops and promotes standards for the protection of the health and safety of consumers and the environment, as well as for industrial development in order to promote the enhancement of the economy of Saint Lucia.

On 22nd March 2019, SLBS established an Ad Hoc Mirror committee on Cannabis, leveraging our existing MOU with ASTM and taking part in the work of ASTM D37 Committee on Cannabis. The ASTM D37 Committee currently has established sub committees to address the following:

D37.01 Indoor and Outdoor Horticulture and Agriculture

D37.02 Quality Management Systems

D37.03 Laboratory

D37.04 Processing and Handling

D37.05 Security and Transportation

D37.06 Personnel Training, Assessment, Credentialing

D37.07 Industrial Hemp

D37.90 Executive

D37.91 Terminology

The committee brings together representatives of educational and research institutions, state and non-state actors with a wealth of knowledge and experience that will guide the participation in the ASTM committee and adoption of the appropriate standards.

The following list of completed ASTM International standards that are available for adoption as national Standards as of 5th November 2019: (the links provide more info on scope)

- D8229-19 Standard Guide for Corrective Action and Preventive Action (CAPA) for the Cannabis Industry
- D8250-19 Standard Practice for Applying a Hazard Analysis Critical Control Points (HACCP) System for Cannabis Consumable Products
- D8282-19 Standard Practice for Laboratory Test Method Validation and Method Development
- D8219-19 Standard Guide for Cleaning and Disinfection at a Cannabis Cultivation Center
- D8233-19 Standard Guide for Packaging and Labeling of Consumer Resin Cannabis Products for Sale to Adult Consumers, Legally Authorized Medical Users, and Caregivers in a Business-to-Consumer Retail Environment (Retailers)
- D8245-19 Standard Guide for Disposal of Resin-Containing Cannabis Raw Materials and Downstream Products
- D8196-18 Standard Practice for Determination of Water Activity (aw) in Cannabis Flower
- D8197-18 Standard Specification for Maintaining Acceptable Water Activity (aw) Range (0.55 to 0.65) for Dry Cannabis Flower

We are also following other standards projects which should be adopted soon (over next 3 years) by the ASTM and Saint Lucia through its Ad Hoc Technical Committee on Cannabis will contribute to the requirements. Those of particular interest to us include:

- WK68531 Preparation of Land for Outdoor Cannabis Cultivation for CBD Extraction
- WK62845 Practice for Standard Operating Procedures and Records for a Cannabis Quality System

- WK67367 Auditing and Self Inspection in the Cannabis Industry
- WK63913 Analytical Laboratory Operations Supporting the Cannabis Industry
- WK60319 Laboratory Test Method Validation and Method Development
- WK65013 Determination of Cannabinoid Concentration in Cannabis Using High Performance Liquid Chromatography
- WK67498 Determination of Cannabinoid Concentration in Cannabis Using Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)
- WK67823 Sensory Evaluation of Products Containing Cannabinoids
- WK69532 Real-Time Storage and Testing of Cannabis Plant Material for Smoking and Use by Date
- WK69533 Storing Cannabis Plant Material for Real-Time Testing of Stability and Use by Date
- WK69257 Security for Mobile Cannabis Extraction
- WK70308 Certification Programs for the Cannabis Industry
- WK70190 Certification Requirements for Vocations within the Cannabis Industry
- WK70326 Standard Classification for Oven Based - Dry Herb Vaporizers
- WK70327 Standard Classification for Atomizers - Oil Vaporizers
- WK70325 Standard Classification for Vegetation and Flowering Appliances
- WK60576 Standard for Terminology Relating to Cannabis

Standards for Cannabis cannot currently be adopted as Saint Lucia National Standards, as this product is still illegal for its cultivation, possession and trade. The approach suggested is for the complete regulation with the focus for the immediate framework for medical use.

SLBS recommends the regularization of the use of Cannabis with a full licensing regime similar to models employed in other Commonwealth countries (Jamaica, Saint Vincent & Grenadines and Canada) with monitoring at every point along the supply chain. The licensing

system should be similar to that which obtains for Alcohol, with licenses required to produce/manufacture, store, sell (wholesale and retail) and distribute.

The ASTM standards covers a wide range of possibilities and interdependencies within the sector. The standards are the starting point that can be referenced and used in any legislation developed for the industry. In the absence of any changes in the existing Legislation, SLBS will continue our work in contributing to ASTM International standards to allow for adoptions when needed.