

A Regulated Cannabis Industry for Jamaica

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Steven Davenport and Bryce Pardo

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The following people were responsible for interviewing participants, documenting their on-site observations, researching countless laws, regulations, and reports and tirelessly editing this report. Without their work, the preferences and realities of Jamaica's cannabis stakeholders and others could not have been captured in this report.

Interviewers and Analysts:

Steven Davenport
Bryce Pardo

Authors:

Steven Davenport
Bryce Pardo

External Reviewers:

Jonathan Caulkins
Victoria Greenfield
Beau Kilmer
Jill Lamoureux
David Lampach
Peter Reuter
Luigi Zamarra
Samantha Walsh

Editorial Review/Advisors:

Mark A.R. Kleiman
Lowry Heussler

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EXECUTIVE SUMMARY

In April 2015, the Government of Jamaica amended the Dangerous Drugs Act (DDA), to decriminalize cannabis possession, legalize home cultivation for medicinal and spiritual and sacramental use, and create a new, licensed industry for medical cannabis and hemp.

The Amendment makes many changes to the existing drug laws, but most importantly it:

- decriminalizes possession of up to two ounces of cannabis while prohibiting non-authorized public consumption, imposing a modest fine that carries no criminal record;
- allows cannabis to be used by individuals for religious, medical, scientific and therapeutic purposes, effectively permitting anyone to cultivate up to five plants by automatically classifying any grow operation with five or fewer plants as medical or therapeutic;
- establishes a regulated and licensed cannabis industry (under the auspices of the Cannabis Licensing Authority) to produce and distribute the drug for medical, therapeutic and scientific purposes.

The Cannabis Licensing Authority (CLA) has been tasked under the amendment to draft and enforce regulations governing the licensed production, processing and distribution of cannabis for medical and industrial purposes. To that end, the Ministry of Industry, Investment and Commerce hired BOTEK Analysis to conduct research and make recommendations regarding regulations for medical cannabis and industrial hemp to help promote Jamaican economic development, investment, and local job growth while protecting public health and safety.

The analysis and recommendations in this document should not be seen as exhaustive, nor as a “to do” list that could immediately be translated into effective regulation. They express our current views, based on experience elsewhere and our

fieldwork in Jamaica. Inevitably, there are some areas where the Government of Jamaica has more relevant expertise and experience – for instance, regarding the capacities of certain agencies or intricacies of Jamaican law and regulations. There are also areas without a “right” answer, which require Jamaican policymakers to make decisions and act according to subjective values or political judgments. For all these reasons and others, the Cannabis Licensing Authority may well find valid reasons to disagree with these recommendations and implement different policies.

This report is intended to guide the Cannabis Licensing Authority and other relevant agencies and ministries as they conceptualize, discuss, and eventually manifest in law a policy for creating a licensed industry in medical cannabis and industrial hemp. We have sought to offer as much detail regarding procedure and implementation as possible.

However, not every policy component or idea can be fleshed out with complete details, especially where the Cannabis Licensing Authority has several options at stake and has yet to commit to a single policy direction; in those cases, it will necessarily be up to the Cannabis Licensing Authority to sort out the fine details regarding the implementation of that decision.

GOALS & DIRECTIONS

Ultimately, Jamaica should not copy rules from other jurisdictions; rather it should craft policies according to local goals, needs, and capacities, just as other jurisdictions have. No one has enough experience with legal cannabis to establish anything resembling the ideal model, if ever such a thing exists.

The people we talked with expect the new licensed industry in medical cannabis and industrial hemp to serve many functions, but

principally they want it to bring a substantial positive economic impact to the island, particularly via exports and increases in tourism. In considering regulations on the industry, Jamaican policymakers should attend to the effects of proposed policies on those goals, without losing sight of important public-health and public-safety considerations.

However, the anticipated economic impact of the new industry should not be exaggerated or oversold. Predicting the size of new markets is always difficult, and any estimates will necessarily carry a degree of uncertainty, but that problem is compounded with the cannabis industry given the complex and rapidly changing legal and economic environment. There are significant obstacles to fostering a thriving export trade in cannabis products: few countries allow imports of medical cannabis, and even then, those markets are limited in size and often require extensive political lobbying and impressive demonstrations of product quality before they can be opened. Even if Jamaica's cannabis industry were to one day grow to a very large size, it might take years or even decades to develop. If expectations are not carefully managed, even a quite successful implementation might be seen by the public as a disappointment and a failure.

Further, Jamaican policymakers will have to balance two competing goals: satisfying international obligations and refraining from over-regulating. Satisfying international obligations requires certain levels of oversight and monitoring over licensed actors – but that, if done to excess, might lead to an overly complex set of rules that are difficult to comply with and difficult to enforce. That risks both raising the prices of medical cannabis to uneconomical levels and fostering a culture of non-compliance and corruption.

Further, though the DDA Amendment clearly legalizes only medical cannabis, there remains significant leeway as to how strictly

the regulations will emphasize the “medical” component. Medical cannabis regimes are not the same everywhere. Some are more medical than others. Some are more protective of public health and the prevention of harmful cannabis use, making it expensive to produce cannabis and difficult to access it. Other systems of threadbare regulations intended to minimize friction along the supply chain and between seller and prospective buyer.

Perhaps the best route to recommend to Jamaica would be to market to tourists but only in safe and relatively uncontroversial ways. Export markets are worth exploring, but may yield scant return.

ISSUING AND ALLOCATING LICENSES

Another set of questions pertains to how Jamaica should license firms to produce, process, and sell cannabis, including to whom they should issue licenses, by which method, and which rules should apply.

There is a clear popular desire for the new industry to be widely accessible and inclusive of small entrepreneurs. But the supply of licenses will necessarily be scarce compared to the demand, given the substantial numbers of Jamaicans already involved in the production of illicit cannabis for export and the relatively small size of the domestic market that the DDA Amendment legalizes and regulates. From a political standpoint, the general public and potential applicants need to understand the constraints on the number of licenses.

Allocations should be fair and effective, perhaps using some combination of qualifying requirements for eligibility, lotteries, auctions, and specific allocations set to different parishes. (Each of these has advantages and disadvantages: lotteries may be fair but nonetheless perceived as “rigged”; auctions are helpful to taxpayers, who reap the benefits, but for the same reason disliked by industry participants.)

Cultivation licenses should be offered in at least two tiers. Further, some protections should be afforded to smaller producers, who face inherent disadvantages relative to larger firms. Doing so would be essential to satisfying political expectations and to maintaining artisanal varieties.

Because trust in government is scarce, perhaps especially on the issue of cannabis, it will be critical to issue licenses in as fair and transparent a way as possible, while reserving a reasonable share of licenses for traditional growers.

FOCUS ON SHORT-TERM SUCCESS AND PHASING IN POLICY

Establishing a regime for medical cannabis cannot be done in one fell swoop, but rather with multiple iterations of detailed regulations, enacted over the course of years. The set of policies advisable in the short run may not reflect the eventual matured policy.

There exists inherent uncertainty in the “right” number of licenses to allocate. But it is always easier to issue more licenses when there are too few than to revoke licenses if there are too many. So it is advisable to “start low and go slow”.

Edibles and concentrates might be ruled out during the early stages, while other wrinkles in the licensing system are ironed out. There are limits on the availability of the government to monitor and control licensee behavior, and also on the skills and practices of firms, as well as users’ behaviors.

Finally, those changes to the regulatory regime should be made according to an established, consistent, and transparent process to avoid the appearance as well as the reality of corrupt influence and to help anticipate and adjust to future policy changes.

BUILD A STRONG REGULATORY BODY

Implementation is critical. Even a poor set of

rules, when implemented effectively, can lead to better outcomes than a perfectly-designed regulation that suffers from bad implementation.

The creation of a licensed medical cannabis industry requires a strong regulatory authority to write and enforce rules and to monitor and control behavior of licensees. It would perhaps be simplest to give that authority to an existing agency, which has already assembled competent staff, operating procedures, and funding. Currently, however, there does not appear to be any agency in the Jamaican government that is clearly willing and able to add to its existing duties a responsibility to monitor cannabis licensees and enforce the accompanying rules.

Instead, the Cannabis Licensing Authority will likely have to scale up its operations. Currently without a single paid employee, it will have to hire a range of staff. In the short run, there will be needed people to write its initial policies, to communicate with the public, to coordinate with external agencies, and to solicit and evaluate applications for licenses and issue them to winning entities. In the medium term, it will need a host of field agents and auditors to monitor the behavior of licensed firms, conduct inspections and investigations into malfeasance, and issue sanctions when rules are broken. That will require not just hiring staff, but also training and the purchase, renting, or sharing of required equipment such as automobiles, office space, and testing equipment.

This presumes that the CLA can secure a consistent and sufficient source of revenue. In the long term, it seems possible that CLA operations can be funded through the collection of fees and taxes collected in the new industry — particularly if medical cannabis tourists are charged a substantial fee and a substantial portion of those revenues are directed to the CLA. That is a big if. Pegging CLA funding to the revenues raised in the new industry will ensure that regulatory capacity scales up along

with industry size, and further that the agency responsible for issuing permits and collecting fees and taxes is incentivized to ensure compliance. In the short run, until fees and taxes come on line, the CLA will need up-front funding.

The CLA will also need to be afforded sufficient time to do its job properly and fairly. This has been troublesome in other jurisdictions, including Washington State, where regulators underestimated the number of license applications and so arguably under-hired associated staff and fell months behind its intended timelines. Likewise, Colorado's Marijuana Enforcement Division suffered from shortages of manpower and resources, letting some bad actors fall through the cracks.

But the CLA cannot do all this alone, and so it will be critical to consistently coordinate with partner agencies. In particular, the Ministry of Health has a large role, but other counterpart agencies such as the Bureau of Standards should be consulted and involved at some point in the supply chain.

THROUGHOUT, MANAGE EXPECTATIONS & MAINTAIN CLEAR COMMUNICATIONS

A final important point is that many residents of Jamaica have high hopes for the legalization

of medical cannabis. Many see this industry as an opportunity for those who have been historically underserved or unjustly punished to get comeuppance, and for the "little man" to solidify a place as a licit and tax-paying business owner. Many expect the industry to bring a large economic windfall to the island, via exports of Jamaican cannabis or the development of Jamaican pharmacological and/or medicinal products. These expectations are dangerously high, but nonetheless common, having been encouraged both by statements to the press made by entrepreneurs and advocates and remarks made by government officials.

Those high expectations are both a tool to be used to the benefit of the CLA and an important source of risk and danger. They can be marshalled as rhetorical arguments for the CLA to command sufficient funding, be allowed sufficient discretion, and solicit compromises from partner agencies.

But they should also be walked down. If actors perceive a license to produce cannabis as an automatic ticket to fortune, they will press ever harder for those licenses to be issued immediately, in large quantities, and to specific actors. Downplaying the possible economic benefits might make the public more patient and reasonable.

INTRODUCTION

CURRENT POLITICAL AND POLICY ENVIRONMENT

In April 2015, the Government of Jamaica amended its drug law, the Dangerous Drugs Act (DDA), to decriminalize cannabis possession, legalize home cultivation of up to five plants for medicinal and sacramental use, and create a new, licensed industry for medical cannabis and hemp.

This is a major change in policy. In Jamaica, the unauthorized production, distribution and use of cannabis have been criminally prohibited for nearly a century. Convictions for violating these prohibitions sometimes carried severe penalties: according to earlier statutes, simple possession could warrant years in prison. Recently, however, some magistrates in the Jamaican criminal justice system have started to find innovative ways to reduce such harsh punishments. Now, under the 2015 Amendment to the DDA, possession of up to two ounces is not a criminally prosecutable offense. Individuals found to possess less than two ounces without authorization can be ticketed.

Jamaica produces a substantial amount of illicit cannabis. The bulk of that product has been exported to markets in the United States, United Kingdom, Central America and neighboring Caribbean islands. A fraction has remained on the island, for use by Jamaican residents and tourists.

Events take place in the context of policies and activities elsewhere. Since the post-World War II era there has been a near-global prohibition on cannabis, which, outside the Netherlands, only recently began to be relaxed in certain jurisdictions. Cannabis control policies have undergone several waves of liberalization, moving away from the criminal penalties dictated by the international drug control framework. Changes in the United States

were first limited to reducing sanctions for possession, but later included medical access to cannabis in certain states. In some countries in Europe, new policies allowed access to cannabis for non-medical purposes, but only with restrictions on that access. Perhaps the best-known European cases are the Dutch *coffeeshops* and Spanish *cannabis clubs*. However, these policies are limited in their design, in the Netherlands to sales of 5 grams or less, in Spain to non-commercial trade within closed groups of individuals.

Since the 1970s, the Dutch policy has been characterized as de facto legalization of retail sale, but not of production or wholesale trade. Cannabis retail and use is permitted for practical purposes under certain guidelines, but remains illegal as required by international conventions. Within a licensed *coffeeshop*, individuals 18 and older are allowed to acquire, possess and use a personal amount of cannabis (limited to 5 grams). Advertising is restricted. Furthermore, cultivation, processing, and wholesale is strictly prohibited and enforced as per national law. This paradox has been called the “backdoor problem,” where cannabis is virtually legal for purchase at retail when one steps through the front door of the *coffeeshop*, but illegal when the wholesale transaction occurs at the back door. This policy, while contradictory, has been successful in maintaining high prices and separating the so-called “soft” and “hard” drug markets.

The Spanish *cannabis club* is another oft-cited European example. *Cannabis clubs* owe their origin to a series of Spanish Supreme Court rulings, which since 2002 have created a legal gray area for cannabis cultivation and non-commercial distribution. It has even been argued that this activity may be permitted under international law, per Article 3, paragraph 2 of

the United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, which stipulates that the criminalization of cultivation and possession for personal consumption of substances are “subject to constitutional principles and the basic concepts of [a country’s] legal system.” It has been argued under Spanish law and jurisprudence that the private use of a drug or the collective cultivation of cannabis for personal use should not be punished.

Although no national regulations are in place to govern these clubs, the court rulings give some delineation of what is and is not legal. Members of *cannabis clubs* are allowed to grow cannabis for themselves and other members, and also to use cannabis on club premises. Membership is supposed to be limited to a certain number of registered, paying adults; however, each club may establish its own criteria for membership, prices, and procedures. Members are not allowed to sell or share with non-members.

Though the Spanish model is messy, it is not without advantages. Perhaps the best that can be said about the policy is that it effectively allows cannabis use while also restricting increases in supply, price competition, and commercialization—each of which would risk triggering increases in cannabis use and abuse.

These are two leading examples of innovative policy reforms, but they are essentially policies concerning the absence of state action. The Netherlands refrains from enforcing drug trafficking laws against *coffeeshops*, however local restrictions and ordinances still apply; Spain refrains from enforcing its laws against *cannabis clubs*.

However, policymakers who are charged with actually *regulating* cannabis activity—such as the Cannabis Licensing Authority (CLA)—face a very different task. Regulation requires putting into place both a set of rules and a well-designed system for issuing licenses, identifying and

punishing violations, and evolving that system in response to changing circumstances. The track record of regulating cannabis production and distribution is uneven. Consider California, which in 1996 became the first US state to legalize cannabis for medical purposes. Though many local jurisdictions now have in place regulations governing some or all of the cannabis trade, the state did not put in place any formal regulatory structure for several years thereafter, and when it did, that system largely failed to confine production and distribution to genuine medical use, to prevent exports across state borders, to collect meaningful taxes, or to deal effectively with local siting issues raised by its thousands of medical dispensaries.

Furthermore, the objectives and expectations surrounding Jamaica’s actions are very different from those elsewhere. The Netherlands sought primarily to separate its soft and hard drug markets; for it, drug tourism is a problem to be minimized, whereas some in Jamaica view drug tourism as a principal upside feature of its legal reform. Uruguay’s reform was motivated primarily by hopes of de-escalating violence surrounding its domestic drug markets; that has not been a predominant theme in the discourse in Jamaica. The motivations in the United States are diverse, but primarily pertain to individual and civil rights, mixing a libertarian notion of personal freedom and a reaction against racial disparities in enforcement of the old cannabis laws, coupled with a sense that too much money was being wasted on drug enforcement, and that cannabis profits should be directed to state coffers rather than criminal actors. Others saw a financial benefit in legitimizing and taxing the production and trade of cannabis. Again, those are not the predominant themes in Jamaica, where there is much more attention to the economic development aspects of the legalization.

Importantly in this regard, in the Netherlands, Spain, Uruguay and the United States, the

cannabis policy reforms were primarily domestic endeavors. Jamaica's context is inherently more international, inasmuch as Jamaica is a major cannabis exporter (at least in per capita terms) and considerations of access, use, and tax collections from international tourists are a prominent consideration. And Jamaica should understand that its actions will be viewed through that lens.

Colorado, Washington, and Uruguay are at the forefront of cannabis liberalization. The three go beyond earlier cases by legitimizing the production, distribution, and use of cannabis for adults for non-medical purposes. Their successes and failures will be a source of great information for researchers and policymakers. Jamaica should learn from them.

Colorado and Washington passed initiatives legalizing the production, distribution, and possession of cannabis in 2012; Uruguay did the same via national legalization in 2013. In Colorado and Washington voters made the decision via popular initiative, while Uruguay changed its law through the legislative process.

Colorado and Washington (as well as Alaska and Oregon, which legalized cannabis for non-medical purposes in 2014) follow a licensed commercial model, which was advertised as a way to replicate the policies applied to alcohol in the United States. State regulators license the production, processing, and distribution of cannabis and establish certain rules governing who can use the substance and where. In Uruguay, the state has taken a different approach. Under the law, adult residents who want to obtain cannabis must register with the government and choose one of the three means of access: 1) growing a limited amount at home; 2) joining a cannabis social club; or 3) signing up to buy at licensed pharmacies (although the third option has not yet been implemented).

In Jamaica, policymakers will have to be sensitive both to international law and expectations and to

the factors that make the island nation different from Washington, Colorado, and Uruguay, or any other jurisdiction that has begun to regulate cannabis.

Although recreational cannabis remains illegal under international law, it is permitted to use cannabis for medical, scientific, and industrial purposes. In keeping with Section 9A(2)(b) of the Dangerous Drugs Act, as amended by the Amendment of 2015, Jamaica has unequivocally emphasized its international obligations with respect to the three foundational drug treaties: the Single Convention on Narcotic Drugs of 1961, the Convention on Psychotropic Substances of 1971, and the United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.

To grossly simplify, nations can adopt one of four stances with respect to these international treaties. The first is to comply with their letter and spirit; that is what most nations do with respect to most substances. The second is to issue a reservation upon signing the treaty; that is what the Netherlands has done with respect to low-level cannabis. The third is to withdraw and re-accede with a reservation, as Bolivia has done more recently with respect to coca. The fourth is to abide by the letter but not the spirit, saving face by presenting some argument for why its actions are not technically in violation, and depending on the absence of any meaningful enforcement mechanisms to shield the nation from being punished for actions that a dispassionate observer would view as falling short of international expectations.

However, the narrowness of that legality limits the options for Jamaican regulations.¹ If Jamaican policymakers want to maintain the appearance of complying with international law, then the island will have to make some good faith efforts to enforce those regulations, and perhaps—as

1. At least for as long as these conventions remain in place unmodified.

a show of goodwill—also make efforts to cut down on the already substantial export trade in black-market cannabis. The International Narcotics Control Board is eager to assess the facts on the ground in Jamaica to determine if the country is violating the conventions.

A final point of emphasis is that “medical cannabis” regimes are not all alike. Only some jurisdictions take the word “medical” seriously. For instance, in the Netherlands and some US states, such as New Jersey, patients seeking medical cannabis must meet strict requirements as to demonstrating their medical need and the types of products that qualify as medical cannabis; as a result, there are relatively few patients and the associated industry remains small and not lucratively profitable. On the other

end of the spectrum are certain western US states, such as California and Colorado, where physicians allowed to recommend medical cannabis do so at their own discretion, without any limitations. But only in those liberal states has the medical cannabis industry generated significant profits and had a large economic impact.

A variety of options remain for Jamaica. The CLA should learn from those who have taken a similar path, adopting and adapting good practices while avoiding pitfalls—for instance, by keeping “medical” cannabis truly medical, and by striking a balance in the complexity of regulations, somewhere between California’s free-for-all and Uruguay’s tight command-and-control system of government oversight.

GOALS

The goals of the Amendment to the DDA are broad, and sometimes varying from one perspective to another. In a speech to the Parliament in support of the bill on February 24, 2015, by Minister Hylton cited a range of goals focusing on economic outcomes. He proposed diversifying the economic base, making the country resistant to economic cycles and external shocks, increasing foreign exchange earnings, creating employment opportunities from agriculture to manufacturing, and improving the wellbeing of all persons involved, particularly the youth population.

This is a tall order, and it immediately raises sensitive issues concerning international law. Simply put, if Jamaica's new legal markets only serve Jamaican citizens, it will not have a macroeconomic impact commensurate with the Minister's rhetoric. Conversely, for the reforms to achieve the Minister's goals, it will necessitate sales to citizens of other countries, which may become problematic to international relations in a way that Uruguay's reforms, for example, have not.

The treaties' exception for "medical" use might provide a rhetorical fig leaf that can disguise this tension for those who wish to be willfully oblivious, but no one should imagine that sophisticated observers will not immediately see through that pretense.

Other ministries and the larger population have interests including correcting decades of perceived excessive punishments for small cannabis crimes, collecting tax revenues, and reducing corruption and violence associated with the black market. These, in contrast to the economic development aspirations, are essentially domestic priorities. Yet in some cases, they can conflict with each other. For example, maximizing tax revenue by levying high excises may conflict with the goal of



Gordon House.

shrinking the black market. It is important that the CLA take these competing goals into consideration.

STRENGTHEN THE ECONOMY

Many hope that the regulated production and sale of Jamaican cannabis will boost economic growth, create licit jobs, and improve trade balances. There are three distinct proposed supply mechanisms for licit cannabis, one technically feasible but diplomatically touchy; the other more defensible but largely speculative. Lofty ambitions have been projected onto the export sector, including non-psychoactive "nutraceuticals," pharmaceutical-grade drugs, and the traditional herbal product. Yet at present these markets are largely hypothetical. Perhaps they will be boons for Jamaica; perhaps other countries will outcompete Jamaica in the long run; perhaps they will be eclipsed if and when international trade in recreational cannabis is normalized.

The second mechanism is export of recreational cannabis after a hypothetical but not implausible regime change that legalizes such trade. Again, it is very hard to predict at this time whether such a market will materialize, let alone when or what Jamaica's competitive position in that industry will be.

The most tangible mechanism is bolstering the tourism sector, which already constitutes 30% of Jamaican GDP, but the policies which make Jamaica's tourist destinations differentially appealing to cannabis users are exactly the policies that those tourists' home countries may see as undermining the goals of their drug policies.

COLLECT GOVERNMENT REVENUE

The sale of cannabis, either at retail or through various steps of the supply chain, can generate taxable income. In addition, fees used to license the production, processing, sale and use of cannabis can also generate state revenues. These revenues can pay for the operation of any future regulatory program as well as serve as a modest stream of funds that the state can use for other purposes. However, it seems probable that the biggest potential source of government revenue, and perhaps even the vast majority, would be from fees charged to tourists for obtaining medical cannabis permits.²

SHRINK THE ILLICIT MARKET

The existing illicit market generates substantial negative externalities, including corruption, violence, foregone tax revenues, and damaged international reputation. Creation of the licensed cannabis market could either reduce or exacerbate the scope of the illicit market and its associated problems, depending on what policies are promoted in the new laws and how those laws are enforced. However, the illicit market should not be expected to shrink automatically in response to the creation of a licensed market, because the black market exists primarily to serve customers who live outside of Jamaica, where use will continue to be prohibited.

2. This assumes that a substantial fee (e.g., \$50 US) is charged to tourists seeking medical cannabis permits, and that tourists comply with that law at a reasonable rate (e.g., 50%). For more detail, see the attached spreadsheet.

MINIMIZE PROBLEMATIC CANNABIS USE AMONG JAMAICAN CITIZENS, ESPECIALLY YOUTH

When loosening restrictions on access to marijuana, the obvious health concern is a jump in consumption. That said, preventing a negative effect requires more than merely tracking prevalence of use. An increase in the amount of casual or frequent adult users may not be worrisome compared with an increase in the number of daily users, whose frequency and intensity are correlated with dependency. Further, great attention should be directed to preventing increased access by youth whose brains are still developing.

LEGITIMIZE HISTORICALLY MARGINALIZED PEOPLE AND PRACTICES

There exists a widespread empathy for those Jamaicans who persisted in using or cultivating cannabis, and suffered the consequences of defying prohibition. Rastafarians, in particular, elicit some sympathy for historic injustices dealt by Jamaican security forces. The decriminalization of minor possession and legalization of sacramental use, coupled with the opportunity to obtain a license in the licit cannabis market, are seen as a form of restorative justice and an economic boost to cannabis growers working near subsistence levels.

SATISFY INTERNATIONAL OBLIGATIONS

At the highest political levels, the Jamaican government ought to strive for compliance with the letter of the international drug treaties. Were the island nation to be seen as violating the conventions, or as a willing sponsor of illicit drug trafficking, Jamaica would risk international condemnation or retaliatory acts from the individual countries or international bodies such as the INCB. Ultimately, however, there are fundamental tensions between the actions that would completely fulfill international

obligations and those that would maximize economic benefits. Accordingly, Jamaican policymakers may wish to hedge their bets

by pursuing a policy that is “good enough” on international obligations, instead of adhering to them slavishly.

CONSIDERATIONS PERTINENT TO CURRENT REALITIES IN JAMAICA

Given the rollout of medical and recreational licensing regimes in the United States, there might be some temptation to mimic those policies. After all, Washington State and Colorado have managed to earn tens of millions of dollars in tax revenue (though these earnings pale in comparison to state budgets) in addition to some revenues from tourism and private investment, all while avoiding prosecution by the United States Federal government and any crippling public scandals.

However, regulation does not take place in a vacuum or only within the context of international laws and precedent. Rather, it is imperative that Jamaican policymakers consider the unique realities that the island must confront.

CONCERNS ABOUT INTERNATIONAL OBLIGATIONS WILL DICTATE INDUSTRY STRUCTURE

Perhaps the most fundamental decision facing the Cannabis Licensing Authority is defining the role, if any, to be played by government agencies or authorities in the industry itself. That role might range from merely providing quality control testing services to acting as wholesaler.

On this point, Jamaican policymakers are constrained by existing international conventions and the text of the DDA Amendment. First, the DDA clearly commands the CLA to enable the new industry via the issuance for licenses, presumably to for-profit commercial actors. Further, the UN Single Convention on Narcotic Drugs asserts “the [state] agency shall purchase and take physical possession as soon as possible [...] after the end of harvest.”

It is unclear exactly what purchasing and physical possession will entail. Officials from

the Attorney General Chamber have argued that this could allow for the licensing of private actors to act on behalf of the state agency, provided that the number is limited and they are subject to rigorous monitoring.³ For instance, if the Cannabis Licensing Authority licensed only a single firm to cultivate, process, and distribute cannabis, that would render a credible argument for Jamaican policymakers who seek to defend the new policy to international partners. However, as the number of licenses increase and state monitoring relaxes, that argument becomes less credible.

Ultimately, Jamaican policymakers must make their own assessment of what would satisfy international obligations, and further how they value that goal relative to others, such as economic development or inclusion of traditional actors. If satisfying international obligations is decided to be the top priority, then the Cannabis Licensing Authority should seek to minimize the number of licensees and maximize accompanying monitoring and enforcement. But that decision would come with additional regulatory costs and burdens. That said, if the intention of the DDA Amendment was to prioritize compliance with international obligations, lawmakers would arguably have mandated a more simple design of tighter control via a state monopoly rather than a licensed system of private actors tasked with cultivation and distribution.

It seems the decision has already been made in the court of public opinion. BOTECH researchers held dozens of meetings with stakeholders in government and private sector, and nearly all of them presumed that the Cannabis Licensing Authority would issue quite a few licenses, and

3. BOTECH defers to that opinion and does not offer its own legal opinion on the matter.

would let the private sector and free markets play a pivotal role in developing the new industry. On multiple occasions, Minister Hylton has declared that the new cannabis industry would be “market-led and standards-driven.”

That does not preclude the Cannabis Licensing Authority from giving the state a more powerful role in controlling production and distribution, or intervening in ways that inhibit the operations of a “free market,” for instance by limiting competition among actors or mandating certain modes of production. However, doing so might appear inconsistent with previous statements made by the Ministry of Industry, Investment, and Commerce, and so if market control is pursued, it should be accompanied by a clear and consistent public relations strategy.

THE NEW INDUSTRY CONSISTS OF THREE SUB-MARKETS

By legislative design, the Amendment to the DDA defines different methods of access to different cannabis products.⁴ The licensing regime created by the DDA Amendment enables three distinct sources of demand for medical cannabis:⁵

- 1) **Jamaican residents** can procure and possess medical cannabis, provided they obtain a prescription or recommendation from a certified medical practitioner or other health practitioner or class of practitioners approved for that purpose by the Minister with responsibility for health; see section 7C(2)(b).
- 2) **Tourists to Jamaica** can procure and possess medical cannabis, provided they declare their medical need on the basis

of a prescription or recommendation by a certified medical practitioner licensed to practice in the jurisdiction in which they are ordinarily resident and pay a fee for a medical permit; see section 7D(10).

- 3) **Exports** are allowed subject to international convention and laws of importing countries.

We distinguish between Jamaican residents and tourists to Jamaica because they are treated differently under the DDA Amendment. Before obtaining medical cannabis, Jamaican residents are required to secure a recommendation or prescription from a physician or licensed health practitioner in Jamaica. That need not be much of a hurdle: take the case of California, where a large number of physicians now limit their practices almost exclusively to the recommendation of medical cannabis, and usually require little to no evidence of medical need. On the other hand, in Jamaica this might be a legitimate obstacle, given that influential actors in the health sphere are anticipated to take a conservative approach to medical cannabis (e.g., the Ministry of Health, the Medical Association of Jamaica, and individual doctors). As a result, it might be that residents medically certified to use medical cannabis will likely be restricted to cannabis-derived products that are made specifically for medicinal or therapeutic uses, such as psychoactive extracts and nutraceuticals, rather than the traditional herbal form of cannabis.



Medical marijuana in California, USA.

Photo: Twitter Photo Section

4. This analysis does not include the market for industrial hemp, which we treat as entirely separate.
5. The DDA Amendment also legalizes home cultivation (up to five plants) and cultivation and possession for Rastafarian sacramental reasons. Nonetheless, buying and selling of that cannabis remains illegal and outside the scope of the licensed regime.

In contrast, tourists to Jamaica will not have to be approved by Jamaican doctors before obtaining medical cannabis. Without this limitation, and since many tourists to Jamaica arrive with open minds (if not an explicit desire) to recreational use of cannabis, it is possible that many tourists eligible to purchase medical cannabis will nonetheless seek product forms that are geared towards recreational use, e.g., herbal cannabis and perhaps some psychoactive extracts or edibles.

Those markets are expected to take on different characteristics and product varieties, as demonstrated below in Table 1. This reflects BOTECH's expectations of volumes and types of demand from the different markets. Some markets will mature quickly as soon

as regulations are implemented, while others will take years if not decades to reach their long-term potential, if at all. For instance, in the long run there may be a very large market in exporting cannabis-derived products to foreign countries, but it will likely take years for Jamaican firms to develop those products, to find partners in distribution and importation, and to navigate legal restrictions. Therefore that market should be expected to be very small in size (i.e., volume of sales and/or the volume of cannabis required as inputs) in the near future, even if it might be large in the long term. On the other hand, it may be simpler and quicker for firms to produce and sell products to individuals already within Jamaican borders, so relative to exports, those markets will likely be larger at first even if not in the long run.

Table 1. Possible Characteristics of Different Regulated Markets Enabled by the DDA Amendment

Source of Demand	Point of Sale	Expected Products	Contingency	Expected Initial Size	Expected Size in the Long Term
Jamaican Residents	Buy from a pharmacy, provided prescription/recommendation	Psychoactive Extracts, Nutraceuticals	Decisions by MoH and doctors whether to allow or prescribe herbal product	Small	Medium
Tourists	Buy from a pharmacy or "teahouse", after obtaining a medical permit.	Mainly Herbal, Perhaps Some Extracts and Edibles	A temporary ban on extracts and edibles	Small	Medium
Exports	Foreign and International Law	Pharmaceutical, Psychoactive Extracts, and Nutraceuticals	Existence of foreign markets that allow import	Very Small	Small to Very Large

Table 2. Expected by Market Characteristics by Product Variety

Product Variety	Contains Significant THC?	Expected Buyers	Key Obstacles
Herbal	Yes	Tourists to Jamaica	None for tourists. Exports seem unlikely given foreign laws.
Psychoactive Extract	Yes	Jamaican residents, tourists if allowed	Regulating product content and safety.
Pharmaceutical	Perhaps	Foreign markets	Time and capacity for research. Earning FDA approval. Trade laws.
Nutraceutical	No	Jamaican residents, foreign markets	Local firms must find buyers abroad. Trade laws.

Another useful distinction is across product varieties rather than sources of demand (Table 2).

We find these sub-markets to be a useful analytical tool for thinking about how the new market for legal cannabis might function. Regulations already have and can continue to target specific sub-markets, for instance by selectively restricting products, restricting access, or levying more rigorous controls on quality or safety. Further, the size of these markets can be estimated independently of one another, as discussed below.

DEMAND IN THE NEW MARKET IS TOO SMALL TO INCORPORATE ALL ILLICIT GROWERS

The Jamaican black market for cannabis production is undeniably large, and will easily provide for domestic demand. It is impossible to estimate its size with precision, but if one takes at face value the INCSR estimate for 37,000 acres of cultivation area, then cannabis production would be perhaps as much as 25,000 metric tons (MT). That is hard to imagine, as it is several times the size of the entire United States cannabis market. Even if the real volume of black-market production is much smaller, perhaps a few thousand MT, that

would still represent much more cannabis than Jamaican residents could feasibly consume. Even if every Jamaican adult consumed at an average rate of 100 grams per year that would only work out to about 200 MT. Clearly, the existing black-market production does not exist primarily to serve Jamaican residents. A corollary of that observation is that even if every Jamaican user switched entirely to licensed, regulated supply, it might have no meaningful effect on the size or operation of Jamaica's black-market production.

In other jurisdictions with substantial volumes of black-market production, such as Washington and Colorado, some advocates and state regulators argued that by moving cannabis consumers and producers into the new legal system, they could substantially shrink the reach of black-market activity. Raising the risk of enforcement on illegal actors, they argued, would give a competitive advantage to actors choosing to conduct business in a legal manner. Indeed, in those jurisdictions it seems plausible that in the long run, the emergence of a legal market for recreational cannabis could help shrink the amount of cannabis illegally produced, though it will likely never eliminate it entirely.

However, this logic – which would assert black-market enforcement as a top priority for the

success of the new, licensed market—may not operate in Jamaica under the new medical cannabis regime. What makes Jamaica different is that its black market primarily serves demand in other countries.

This has an important consequence. Even if every gram of cannabis consumed on the island of Jamaica was sourced from legal, licensed supply—an aggressively optimistic and unrealistic assumption⁶—there would remain significant profit opportunities for illicit production and export of cannabis.

So, while it would certainly be a pleasant outcome if there were a substantial reduction in Jamaica's black-market cannabis production, it should neither be taken for granted nor perhaps considered a primary goal. Even in the best-case scenario for the licensed cannabis regime, the new legal market would in all likelihood coexist alongside a much larger illicit export industry.

EXPORT MARKETS ARE UNCERTAIN, SCARCE, AND DIFFICULT TO PENETRATE

In keeping with Jamaica's broader strategy for industry development, the manufacture and export of value-added products in the licensed cannabis industry has received a great deal of attention. Indeed, given Jamaica's small size relative to potential markets abroad, the appeal of an export market is obvious. Further, since estimates of today's global cannabis market expenditures are upwards of \$100 billion, it would be very good economic news to Jamaica if the country could capture just a small part of that market. However, we caution that the \$100 billion figure is misleading; it is largely

comprised of the currently illicit recreational cannabis market. Therefore, it is unlikely that Jamaica, or any other licit exporter for that matter, could capture much of the market at currently illicit prices. Further, if the international conventions are revised or abandoned at some point in the future, it is likely that the value of this market will fall substantially even in the face of increased consumption.

In the short run, however, the creation of a viable industry of value-added exports may not come easily. Achieving that requires overcoming three principal difficulties or uncertainties: 1) currently, export markets are limited by international and foreign laws; 2) in the long run, the size of the future international market in cannabis-derived products is unclear; and 3) even if those markets develop as some expect, Jamaican firms may not easily compete with other producer countries.

Regarding the exportation of pharmaceutical-grade products, Jamaican firms will not have an easy time winning the approval of organizations such as the United States Food and Drug Administration. Even if firms were to secure FDA approval for a new cannabis-derived pharmaceutical, that achievement ought not to be expected at least before 2025, given how long it can take for research and clinical trials.

Regarding exports of non-psychoactive but cannabis-derived nutraceuticals or products, there is both undeniable potential and risk. This is a nascent market with high growth potential but many uncertainties. Nutraceutical products are not subject to rigorous proof of medical efficacy, and so it can be difficult to distinguish passing fads from perennial favorites. Those who are bullish on these prospects cite the high value of CBD (cannabidiol, one of the major cannabinoids found in cannabis) per ounce; however, there is no guarantee that CBD keeps its current value as countries around the world continue to liberalize cannabis laws, and well capitalized, large corporations enter the industry. Further, even if there is to be a

6. Under the DDA Amendment, only users of "medical" cannabis can access licensed supply. Presumably only a fraction of current users qualify under that definition. Further, people who grow cannabis for medical or sacramental purposes can legally acquire cannabis outside of the licensed system, reducing demand for licit product sold in stores.

valuable global market for cannabis-derived nutraceuticals, in which product is traded freely across nations uninterrupted by prohibitions on cannabis products, it is not certain that Jamaican producers will secure a significant portion of that market. Other nations, such as China and Canada, are already reported to be globally exporting CBD-based products (though they source the CBD from hemp rather than cannabis—a legal distinction that varies from one jurisdiction to another).

Further, export markets are limited by international law. Countries such as the Netherlands, Germany, Uruguay, and Canada allow for import specifically within their cannabis control laws. However, we cannot find a precedent of trade in cannabis at this time. Any trade of the drug would be governed by international agreements to which Jamaica is party. These agreements would limit the amount of psychoactive cannabis that could be exported, based on the demand statistics provided to the INCB by the receiving country.

Even Canada, which has been identified as a potential export market that recognizes medical cannabis and allows imports under the law, is far from a sure bet. Though it is legal, there is little if any precedent of the country importing medical cannabis products. It is possible that the few Canadian firms licensed to produce cannabis would prefer to work with cannabis material that they themselves have produced, rather than importing raw material or value-added products from firms abroad, in countries such as Jamaica. Further, the market is of modest size, with roughly 50,000 patients (and growing) at the time of writing.

However, many speculate that anything can happen in the global cannabis market, since there are a great many moving parts and few precedents that could support reliable prediction. Some, including Minister Mark Golding, are pushing for a debate as soon as the UNGASS 2016 meetings are held, although that may be

optimism on the part of those wishing for such change. One theory is that if and when the international controls are amended, superseded, or abandoned, then Jamaica may be well positioned to export cannabis and cannabis-based products. Again, the ceiling on the size and value of this market is anyone's guess, as is the extent of any "first-mover" advantage. One speculation is that Jamaica's brand as a source of desirable cannabis could give local producers a considerable advantage. Furthermore, learning from the tea industry, sometimes the rents created by powerful brands accrue to the brand owners, not the producers. It is difficult make reliable projections at this time, but an end to prohibition may cause dramatic price declines in consumer markets. And cost pressures could be even stronger at the wholesale and producer level. It might well be that once cannabis is traded internationally like other commodities, it will provide incomes to producers that are like those offered by other agricultural commodities, which is to say, it may trade at prices utterly unlike those artificially created now by the drug's illegal status.

CANNABIS PREVALENCE REMAINS LOW DESPITE TOLERANT NORMS TOWARDS USE

Jamaican society offers the interesting combination of a widespread tolerance of cannabis use—especially for medicinal, therapeutic, and sacramental purposes—alongside relative low rates of cannabis use. Although there is scarce national data on cannabis prevalence rates, data from secondary school surveys suggest that Jamaica has levels of use lower than other English-speaking Caribbean countries and drastically lower than the United States and Canada.

There is some uncertainty as to how cannabis use is distributed among Jamaicans. Informal interviews suggest that the drug is more popular among lower socioeconomic classes,

and more strongly looked down upon by Jamaicans with more wealth and/or education.

Extremist fears regarding cannabis use appear relatively rare among the Jamaican population. It has been a common experience among Jamaicans to be treated in childhood with a traditional medicine made by grandmothers by soaking the cannabis flower in white rum. Further, there is a widespread recognition that for better or worse, cannabis is a unique part of the Jamaican identity that the country may be able to leverage for economic gain.

So Jamaica has a rich history of medicinal use of cannabis, while in some states in the United States “medical cannabis” is largely a term invented for legal and political purposes. It could be possible to develop a “true” medical cannabis system in which the product and delivery mechanism is intended to treat an ailment or eliminate pain and suffering, arguably in contrast to the regimes in the western United States jurisdictions that have received the most attention (and made the biggest economic impacts).

Attitudes towards punishments for cannabis possession and use are also liberalizing. Even illegal cannabis cultivation is seen by some as a morally acceptable act of self-preservation. Fewer people support expenditure of scarce enforcement resources to stop these actions. This issue returned to the forefront in the last year after several high profile cases of police abuse that ended in the deaths of Mario Deane and Oshane Dothlyn over cannabis possession.

LIMITED REGULATORY CAPACITY, MIXED JURISDICTIONS, AND UNCLEAR COMMITMENT

To keep the licensed medical cannabis industry fair, clean, and effective, there must be a single, strong regulatory authority. This is not easy to achieve. Colorado and Washington, with regards to recreational cannabis, had the

advantage of inheriting an existing regulatory apparatus (in the case of Washington, the Liquor Control Board; for Colorado, the Medical Marijuana Enforcement Division).

If Jamaica is to create an effective regulatory apparatus for medical cannabis, it will have to proceed in two steps. First, Jamaica must build out the capacity of the Cannabis Licensing Authority, which currently has no budget and no direct full-time staff. Second, it must collaborate with other agencies with whom it shares jurisdiction or at least benefits from cooperation, potentially including the Bureau of Standards, the Trade Board, the Chief Medical Officer and others.

Building the capacity of the CLA will entail some complications. Its standard for performance will be high, given the restrictions laid out by international agreements. The regulatory task facing the CLA is further compounded by several concerns:

- Not clear which regulatory body will act with full authority⁷
- Overlap and confusion in regulatory development, implementation and enforcement
- No existing domestic regulatory model from which to adapt
- No dedicated personnel
- Lack of budget or funds to pay for start-up enforcement
- Context of poor compliance

There must be a clear role for the Bureau of Standards (BSJ), and that role should suit the BSJ’s known strengths and current operations. BSJ is already in the practice of enforcing regulations pertaining to consumer protection,

7. We have come to understand that the CLA has the legal mandate under the DDA Amendment, but that the Bureau of Standards of Jamaica is nominally tasked with drafting its own set of supply regulations.

and particularly labeling. The BSJ can likely take a similar role with regards to the medical cannabis industry, given that it reportedly has access to high-quality laboratories. Specifically, the BSJ may be asked to verify that cannabis firms comply with packaging rules and that any advertised product contents (e.g., THC content) are accurate. However, interviewees have mentioned that BSJ's rules are largely voluntary. This could be a problem with the cannabis industry, since some packaging and labeling rules need to be mandatory rather than aspirational. Further, even with the BSJ there are concerns about the capacity for testing cannabis; given that, it appears that batch sampling would be the most feasible manner by which to reduce risk of contaminated products being sold or exported.

It is important to emphasize that role for the Bureau of Standards, given the language of the DDA Amendment and how medical cannabis markets function and are regulated, *is not reflected* in the Bureau's recent activity. Recently, the Bureau of Standards has been developing a draft schematic that encompasses nearly the entire scope of regulation, including the types of licenses, requirements for testing and security, points (but not levels) of taxation, and perhaps most notably, a traceability system that was planned with the assistance of Franwell, a company that operates the traceability system for the state of Colorado. This schematic has been circulated to the press on several occasions, having appeared in outline form on the Jamaica Gleaner and, more recently, circulated at Minister Hylton's August 13th press conference, at which it generated quite a few questions from reporters pressing for more details.

From our conversations with stakeholders and our independent assessment of the task ahead for Jamaica, it seems that only a fraction of the Bureau's work on cannabis has been helpful to the CLA's mission, and other parts of the work has

been either distracting or detrimental, resulting in confusion both among agencies in government and members of the public. Although the Bureau of Standards has claimed to have conducted its work with a spirit of transparency, and to have repeatedly circulated its drafts to members of the CLA, many CLA members were left in the dark regarding the Bureau's plans and without access to their drafts, though they desired to see them. The schematic drafted by the Bureau was drafted without adequate consultation with the proper government stakeholders and perhaps with too much consultation with foreign for-profit firms. We believe their schematic would be extraordinarily difficult and costly to implement, and that certain components, such as the reliance on a complex traceability system and the collection of taxes at no less than four points in the supply chain, should be removed entirely rather than "tweaked" or modified.

Instead, the Bureau of Standards can play an important role largely specializing in enforcing compliance with labeling regulations. That may include operating "secret shopper" programs that pull product from the shelves and run tests to audit whether the true chemical content is accurately reflected by the product label. It may also include issuing aspirational best practices to cannabis firms, and particularly to processors, and other measures that would be characteristic of the "market-led and standards-driven" approach as is often repeated by MIIIC and the Bureau of Standards.

Another body that has been prominently mentioned, including in the August 13 press conference, is the "Cannabis Advisory Business Council" (CABC), which, according to statements made in that press conference, "advises the Ministry on the policy and development issues that are critical to the regulation of the industry." This could be a good idea. Interviewees have found that the CLA is in dire need of such advice, given that its members are playing a critical role in the policymaking process but many have not

had the opportunity to become well educated about technical matters of the business or issues specific to regulating cannabis. However, there is no sign of any contact between the CABC and the CLA, except insofar as some individuals sit on both bodies. In other jurisdictions, business groups (which are comprised of individuals from the private sector) largely lobby policymakers or advise regulators as to the specific technical aspects related to the supply of cannabis. In other cases, these groups operate to streamline regulations (at best), or at worst, water them down.

Private industry groups, such as the CABC, are important as they provide helpful feedback for regulators as to the operation and burden of rules, and perhaps provide additional vigilance when detecting and reporting bad actors. However, the CLA should be careful not to cozy up to these business groups. Industry regulatory capture is a real worry in some jurisdictions like Colorado. It's best to think of the CABC as a necessary group, but one that should be kept at arm's length.

If there are substantive policy discussions offered by the CABC to the Ministry, they should be shared with the CLA. Members of each body should understand the roles played by each and how they intersect. Unfortunately, there is a regrettable amount of confusion and perhaps even distortion about the CABC's role, culminating in disagreements about which body would ultimately have drafting power over the recommendations that would be signed by the Minister and sent to the Chief Parliamentary Council. BOTECH remains uncertain as to how that tension will be resolved, and we encourage the Ministry to be clear and transparent as to how those bodies intersect.

The approval of product for export represents another opportunity for cooperating with other agencies. Such a role would be crucial in the new cannabis industry, particularly if the CLA decides to impose a higher set of

standards for product that is exported rather than consumed domestically. Whichever agency handles this task will need to have the relevant equipment, training, and support staff. If the Cannabis Licensing Authority can satisfy those requirements, it may take on that task on its own. If not, however, it may be desirable to delegate that activity to the Trade Board, which already works to guarantee the origin of product bound for export.

Perhaps the single most important partner in government is the Chief Medical Officer. The CMO has the authority to write policy in critical areas, including the issuance of medical cannabis permits to tourists, the fee attached to that issuance, and the types of products that may be prescribed to cannabis patients. Decisions by the CMO could single-handedly shut down the vast majority of the licensed industry planned by MIIC, for instance, if the CMO requires the same standards for medical cannabis prescriptions as are generally applied to approving pharmaceutical drugs, which must demonstrate a compelling evidence base for medical use and safety.

No less important is how the CMO assigns a fee to the medical cannabis permit: we recommend something on the order of \$50 US, and estimate that this fee could bring in perhaps \$10 million US in government revenues, and so the if the CMO were to impose a much smaller or larger fee, that would have transformational consequences for the amount of revenue brought in by the new medical cannabis regime. It is a worrisome sign that in our meeting with the Ministry of Health, as recently as August 21, the parties in attendance were not fully aware of this role and its incumbent responsibilities, nor did it appear that either MIIC or the CLA had ever reached out to them on this issue.

As a holdover from the era of colonial administration, the regulatory scheme that Jamaica designs may be inherently complex and overlapping, with many different agencies acting

within their own domain, tangential to the production, processing, distribution or use of cannabis. The need to establish rules and procedures that align with good governance and business is imperative; however, sometimes too many rules can be just as problematic as too few. The bad implementation of a good strategy might not work as well as the smart implementation of an inferior strategy.

If the Bureau of Standards or any other intersecting agencies encounter any difficulties in enforcing rules or implementing critical components, the entire policy regime may be weakened and/or delayed. So it will be important to ensure that these agencies have clearly articulated roles and resources sufficient to carry them out. The CLA will have to review these functions and roles in part with other agencies lest it create inter-agency friction and perhaps duplicate design or waste time and resources.

UNCERTAIN LAND RIGHTS, INFORMAL WATER USE, AND COMPLIANCE WITH ZONING

Ensuring legal compliance in the new industry should be a top priority. The Cannabis Licensing Authority will likely have its hands full in monitoring and enforcing adherence to the rules for cannabis licenses. But those are not the only rules that cannabis firms will have to follow. Licensees will also need to comply with rules administered by other agencies.

Already, many small businesses operate informally, and often in violation or at least outside the scope of laws and regulations. Jamaica's system for land ownership suffers from poor documentation and property lines that, while understood among local residents, are nonetheless undefined or contradicted in formal legal documents. It is unclear what plans the National Land Agency has for rectifying these issues. Additionally, many small businesses are reported to source water from illegal supply, tapping into existing supply lines or using illegal

wells. Issues with zoning and compliance with other local laws may be difficult. Finally, it is reported that many people currently producing cannabis for the black market have never been issued a TRN (Taxpayer Registration Number), and so would have difficulties paying taxes and being included in a highly monitored licensee system.

These types of issues have caused considerable delays to the rollout of the recreational cannabis regimes in Washington State and Colorado. There, licensing authorities insisted that applicants demonstrate compliance to rules overseen by other state and local governmental bodies. Meanwhile, those authorities were often unprepared or unwilling to adjust their existing policies to allow for firms operating in cannabis. That made compliance extremely difficult for even the best intentioned cannabis firms. Take the case of local permits, for instance, which levied broad restrictions on locations for cannabis firms. Even if a firm found a way to comply with all ancillary rules, it might have taken months for municipal and state agencies to do the necessary investigations and paperwork, including site visits, environmental impact reviews, and legal reviews.

COMPETITIVE ADVANTAGES AND FALLING PRICES IN THE LONG TERM

Since economic benefits (e.g., exports and foreign investment) are a primary objective of the DDA Amendment, and these can arrive differently in the short and long term, expectations about the economic benefits of the cannabis industry should explicitly consider not just today's trade environment but also how that might change in the future.

In the short term, the near-global prohibition has a complex effect on the value of cannabis. At perhaps \$10 per gram, cannabis is tremendously valuable in the United States and other wealthy countries, at least when compared to similar

agricultural products (e.g., food crops, fibers, tea, coffee). But prohibition is the principal reason for that high price. By one estimate, if the United States were to legalize cannabis and allow a well-capitalized, licit industry to enter, pre-tax prices would fall to less than one fifth the current level (See *Altered State? Assessing How Marijuana Legalization in California Could Influence Marijuana Consumption and Public Budgets*, 2010 by RAND). Compared to the current high price point, black-market producers have room to make substantial profits in producing and distributing cannabis even with relatively disorganized and inefficient business practices. That holds true for black-market production in the United States, and doubly so for black-market producers in Jamaica, who have the additional advantage of very cheap inputs (e.g., land, water, labor). The same math will apply to cannabis produced in Jamaica's licensed medical sector. Once implemented, Jamaican medical cannabis may be substantially cheaper than cannabis sold in stores in Washington or Colorado, giving the impression of a competitive advantage to Jamaica.

But, to some extent, Jamaica's competitive advantage over United States producers is a

mirage. As the legal cannabis industry in the United States continues to mature, the cost of cannabis production and the price paid by consumers will fall. (There is some evidence that United States legal prices are falling already.) As that happens, Jamaican cannabis exports—legal or illegal—will command less markup when intended for sale in the United States.

So United States prohibition is in some sense a blessing and a curse. The near-global prohibition on cannabis is the primary reason why the Jamaican cannabis exports are so valuable, but the same international laws prevent Jamaica from capturing that value (except indirectly through illicit export). If and when the United States and other countries lift their prohibition, opening the gates to legal Jamaican cannabis exports, by that time the legal cannabis industry in Washington, Colorado, and Oregon (and perhaps California) might have matured sufficiently as to drop their costs of production at or near the current level seen on the Jamaican black market. Surely, some global demand for Jamaican cannabis will persist, but that might be largely for “artisanal” varieties, which occupy just one niche in the larger market.

POLICY OPTIONS AND RECOMMENDATIONS

Understanding the goals and constraints facing Jamaica allow greater clarity when thinking about the specifics of a regulated cannabis industry. Below we describe various options and recommendations organized by 11 overarching themes.

LICENSING AND INDUSTRY STRUCTURE

There are many different ways to structure the cannabis industry. Other researchers have discussed a range of options for the supply and distribution of cannabis, including state monopolies, public authorities, non-profit dispensaries, cannabis clubs, retail-only points of sale, and commercial models (for more information, see *Considering Marijuana Legalization Insights for Vermont and Other Jurisdictions*, 2015 by RAND).

If those policies were mapped onto a simple continuous spectrum with “free market operation” on one end and “government monopoly” on the other, then it could be said that the goal of satisfying international obligations would be more government control, while the goal of maximizing economic impacts would be a more loosely regulated market. Presumably Jamaican policymakers want to find a spot somewhere in the middle. Leaning too far towards government control might limit economic opportunities and betray public expectation. Regulations that are excessively *laissez faire* might backfire completely, either by becoming impossible to implement, triggering retaliation from foreign bodies, or doing substantial damage to Jamaica’s reputation.

Ultimately, it will be left to the Cannabis Licensing Authority and other policymakers in the Government of Jamaica to decide how to

strike that balance, and which actions or policies would be required in order to adequately satisfy international obligations. Our recommendations herein are intended to permit adjustment around the fringes, so that they could accommodate different priorities regarding security versus elegance, or regulation versus the free market. To the extent that the CLA wishes to make such adjustments to these recommendations, we generally advise they refer to the regulations already written in other jurisdictions, including Colorado, Washington State, and Uruguay. Although those regulations have certainly not been designed with Jamaica’s unique needs in mind, they provide a comprehensive, detailed example of a monitored cannabis regime.

However, Minister Hylton has already stated on multiple occasions that the new cannabis industry will be “market-led and standards-driven.” In keeping with those public statements, the following section specifies an industry design that fundamentally involves issuing licenses to a number of private actors.

The following four guiding principles should shape the industry:

- 1) Reserve cultivation licenses for both small and large cultivators and assuring some portion of the market to small cultivators.
- 2) Allow for different means of supply to different sub-markets.
- 3) Maintain and documenting state-licensed custody throughout the supply chain.
- 4) Minimize regulatory complexity to reduce mistakes or opportunities for corruption.

CANNABIS RETAIL

It is important that regulations allow medical cannabis to be sold in a way that is convenient

to the buyer—failing that, customers might prefer to purchase on the black market instead (or in the case of tourists, perhaps never come to Jamaica at all). In this case, given the distinct

markets enabled by the DDA Amendment (see Table 1 earlier), there ought to be a distinct point of sale for each anticipated product variety (Table 3).

Table 3. Points of Sale for Medical Cannabis

Retailer Type	Market Demographic	Anticipated Product Variety	Appropriate Regulatory Rigor
“Teahouse”	Mainly tourists, with some residents	Herbal and traditional infusions	Low
Pharmacy	Mainly residents with prescriptions	Extracts	Medium
Store (OTC)	Residents with or without prescriptions	Nutraceuticals	Medium
Exporter	Foreign markets	Nutraceuticals (possibly extracts)	High

In the simplest model, both tourists with medical permits and Jamaican residents with the proper medical authorization would purchase from the same place. The two populations have somewhat different needs, which might be best served within two different purchasing environments (as discussed above in the section “The New Industry Consist of Three Sub-Markets”).

While Jamaican residents will most likely be prescribed only non-smokeable varieties to consume at home, tourists are most likely seeking herbal marijuana and a place to use it. However, there will likely be some overlap within those groups: some tourists will come strictly for medical use, and some residents with recommendations or prescriptions will nonetheless seek to use for recreation. In short, some medical cannabis patients will be seeking to fulfill legitimate medical needs, without any concern for recreational value—for other patients, the opposite will be true.

Perhaps the best way to cater to both demographics is to offer two separate environments. Pharmacies would be open to any

tourist or resident—provided they have a recommendation, prescription, or permit to use medical cannabis—where they could purchase whatever type of cannabis products are allowed based on their legal authorization. Another type of venue would be tailored towards patients who value a recreational and perhaps social component of their cannabis use. These “teahouses” would have more restrictive requirements for entry, allowing anyone with a medical permit but only certain types of recommendations or prescriptions.

Since both the prescription regime (type of products, qualified ailments, dosage, etc.) and certification of other qualified health practitioners is the ambit of the Ministry of Health, it is difficult to make any specific recommendations at this time as to how or if residents can access teahouses. It may be that more liberal physicians will write prescriptions in vacation spots like Negril or Ocho Rios, allowing residents the proper authorization to purchase licit cannabis in the teahouse system seemingly for recreational purposes. However, this scenario is unlikely given the ubiquity and low price of recreational cannabis on the island.

Teahouses would have special operating rules, similar to the Dutch *coffeeshop* model. Only on-site consumption would be allowed and cannabis sales would be limited to small quantities, perhaps no more than 5 grams per buyer. This has dual benefits: 1) tourists can use cannabis in a relaxed and social setting and 2) tourists are discouraged from buying excess cannabis and taking it home in a suitcase. (Further, for the sake of simplicity, teahouses should be eligible for processor licenses, which are described in the following section, so they can easily buy wholesale from cultivators and process on-site.)

Whether to allow edible forms of cannabis in teahouses is an important decision. Edibles are difficult to regulate, particularly for potency. Because of technical reasons pertaining to how edibles are made and tested, it is difficult to accurately test them for potency, which often varies wildly from, say, one corner of a brownie to another and also one brownie from the next. Further, because THC consumed orally has delayed intoxication effects, edibles often lead to accidental overdose, which is not a direct danger to health but can lead to erratic and sometimes dangerous behavior. For those reasons, it might be desirable to prohibit teahouses from selling edible varieties to tourists. An exception might be made for “traditional” forms of infusions, such as cannabis tea, provided that they are low dose and can be produced safely and consistently.

Another distinction should be drawn between pharmacies and general stores. This follows from the fact that, under the Food and Drug Act, some cannabis-derived products (i.e., those that are non-intoxicating or low risk, such as nutraceuticals) will be classified as food rather than drug. They will therefore not be confined to the licensed system for medical cannabis, not require a medical prescription, and so could be sold less restrictively.

Exporters of medical cannabis will have to follow special procedures. Product exported

to foreign markets ought to come under extra scrutiny with regard to quality control, origin, potency testing and labeling, as well as health and safety regulations. While those requirements might be unrealistic and excessive for firms that sell domestically, they should be more easily attainable for exporting firms, which already seek to comply with the health and safety laws of foreign countries and to demonstrate to their international buyers that they have a reputable, consistent, and high-quality product. Without such controls, the reputation of Jamaica’s brand is at risk.

SUPPLYING CANNABIS

Producing herbal cannabis is relatively simple (see Figure 1 for more detail on the three-step process of cannabis supply). First, cannabis is cultivated at the farm. The crop is sown, tended, and harvested over a three to four month period. Once harvested, the crop is dried or cured. After curing, the product is processed for consumption. At a minimum, this includes trimming flowers from the stalk and stem. (Technically, at this point, cannabis is ready to be consumed for instance by grinding and rolling into a spliff.)

Extra steps are required to make cannabis extracts or infused products. This starts with



Cockpit Country farmer.

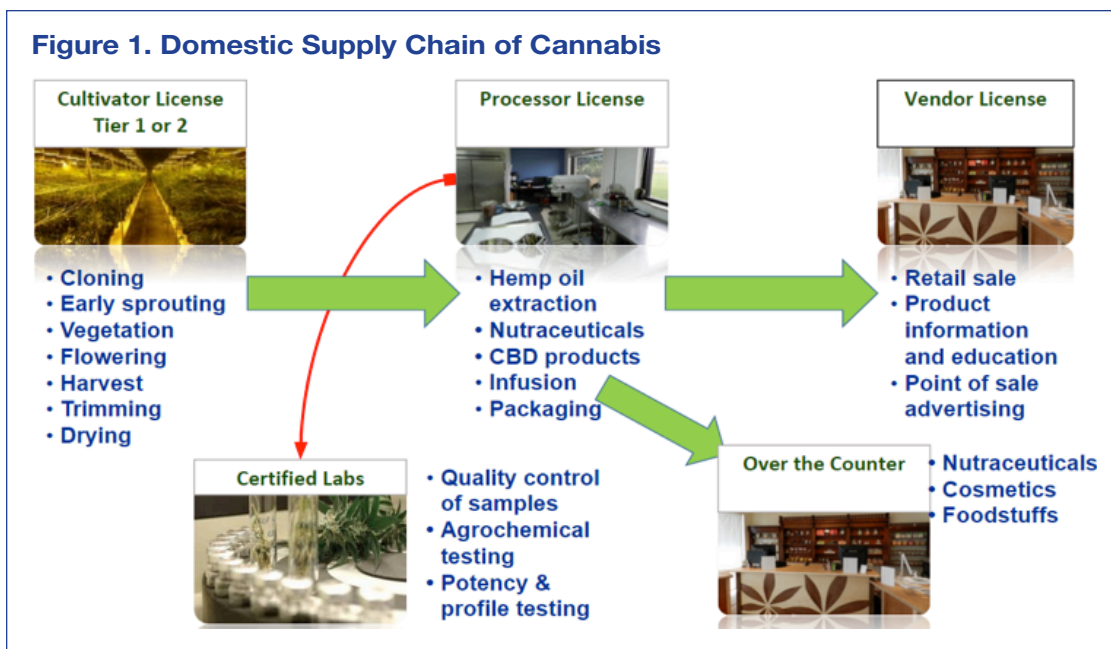
the cannabis “trim,” which can include the dried flower that has been removed from the stem or the remaining trim or “sweet leaves” which contain less psychoactive material. Processors use a solvent and/or extraction method to isolate the desired cannabinoids, resulting in oils and concentrates. These extracts may then be further processed into infused products such as edibles, vaporizable substances, tinctures, or topical products.

Just as rules regarding retail should be convenient to the consumer, rules for how cannabis is supplied should be convenient to existing methods of production. Though compliance with some rules will require extra effort from

cannabis producers, those disturbances should be minimized. This principle helps to keep regulations simple and practical.

As the product moves through the supply chain from cultivator to processor to vendor, it must be monitored and tracked. One method is to use an official bag, similar to a tax stamp, intended for wholesale transport. Any cannabis or cannabis products found outside of such a bag and not on the premises of a licensed firm would by definition be illegal. The bag should be labeled with unique identifiers, including with the license number of the cultivator and processor (if any), a unique lot number, and the results of any potency or safety tests (if any).

Figure 1. Domestic Supply Chain of Cannabis



Again, in a simple regime, cultivation, processing, and even retail could be done by the same firm. We recommend that firms be allowed to do so if they wish, but ultimately the activities should be covered by three separate licenses. “Cultivator” licenses allow for cultivation through curing, while “processor” licenses allow for the manufacture of ready to use smokeable products and extracts and the packaging of product. Firms licensed to sell cannabis (either as a teahouse or as a pharmacy) may also

wish to integrate vertically by taking on the role of processor and/or cultivator, and perhaps this should be allowed. The need to establish government control over harvested crop may be accomplished by the use of special bags as harvested cannabis leaves the cultivator and heads to the processor. All cannabis sealed in these bags is therefore accounted for and controlled by the state. For vertically integrated firms, the CLA should consider additional risk-management tools, such as requiring firms to

report their harvest and the amount of product processed from said harvest, weighing these against the licensee's allotted production cap as established by yield. Anything beyond a certain margin of error would necessitate an investigation.

There must also be a stage for product testing. Testing generally occurs immediately before the product is transferred from one part of the supply chain to another; for instance, when a cultivator is selling cannabis "trim" to a processor for further extraction, and also immediately before sale, such as when cannabis products are packaged for distribution to pharmacies. Special licenses can be issued for testing cannabis.

An additional complication is that cannabis must be transported from one licensed actor to the next. One response is to grant that capacity to those private firms, such that a processor would drive to the site of the cultivator when purchasing raw material, and when the product is finished, personally deliver the product to the retailer. Transport would be monitored through the use of invoices and manifests, or a more high tech system such as GPS tracking devices. All such information should be recorded and transmitted to the CLA for assessment.

Another option is to establish specific licenses for transport itself. There are costs and benefits to both models. A transport-specific license adds complexity to the industry structure, but also makes it easier for authorities to monitor the flow of product through the supply chain. Tested samples of products should be obtained by a licensed lab, preferably in the private sector. Under this scheme, labs should be able to obtain representative samples of cannabis and cannabis products from processors and transport it back to their facility for examination.

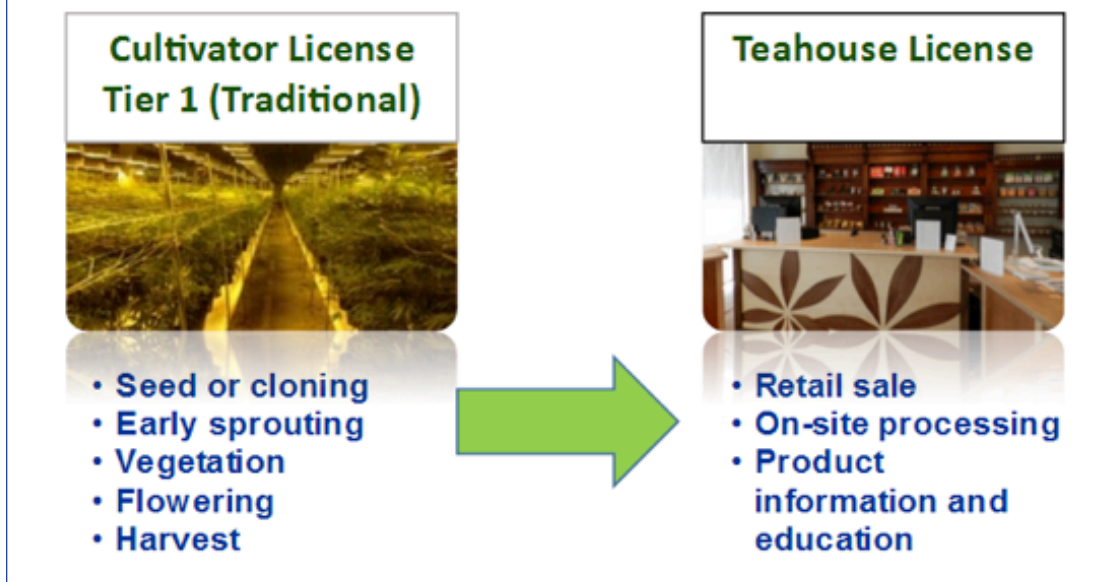
In order to avoid pitfalls of over regulation and corruption, the government should avoid

interacting heavily with the product as it moves through the supply chain. It is better for the CLA to act as a referee, only intervening when there is a problem or when the reported figures do not make sense. Once a violation has been established, sanctions should be swift and certain (this is especially true early on). By establishing its power as a watchful guardian of the rules that govern the cannabis industry, the CLA will earn the trust and respect of players.

For reasons of equity, licenses for cultivation should be allocated to a combination of small and large cultivators. One way to operationalize this is to create two distinct subclasses of cultivation licenses separated by either the amount of acreage, the number of plants, or production quantity allowed. We refer to the license for the smaller farmer as a "traditional" or Tier 1 cultivation license and the larger farmer as a "non-traditional" or Tier 2 cultivation license.

Because cannabis cultivation has important economies of scale, smaller cultivators are inherently at a disadvantage. It would be expected for them to have higher costs of production. Further, because they are selling less volume, they will have fewer revenues and diminished ability to comply with complex regulations. As a result, if they are to compete with larger producers, they will need some protection.

Under the spirit of medical cannabis established under the law and international conventions, we therefore suggest that "traditional" cultivators be exclusively allowed to supply to teahouses (see Figure 2). This has the added benefit of offering tourists a wide variety of artisanal blends produced by small farmers, for which they may be willing to pay a premium. Traditional cultivators would still be required to report their yields and list of buyers and amounts to the CLA for risk management assessment.

Figure 2. Regulated “Teahouse” System

In the schemes proposed above, many elements follow precedent set in other jurisdictions. For instance, regulators in Oregon, Colorado, and Washington State allow for the same three main license types (Producer, Processor, and Retailer), and also divide cultivator licenses by size. Some of those jurisdictions also issue licenses for sampling and testing cannabis. Uruguay licenses producers and processors, overseeing how product moves along the supply chain, until it is sold in licensed pharmacies.

Industry structure

1. Develop a list of license definitions that are clear and concise.

Regulations should include a rigorous set of definitions defining all aspects of the market, including licenses, products, acts of trade, etc.

2. Allow for tiered cultivator licenses for small and large facilities, each with different license requirements and rules.

Tier 1 licensees could operate under less onerous regulations, given their reduced capacities to comply with complex rules and also the lower risk of diversion from their farms. Conversely, larger farms should be held to a higher

standard. The licensing of a few larger firms for commercial production for the supply of raw material for the nutraceutical, pharmaceutical or medical cannabis market would help deter product diversion and make it easier for the CLA to regulate such activity and players.

3. Create a “teahouse” license required to source from traditional cannabis farmers.

We expect tourists to contribute a significant portion of the market value and tax revenues in the licensed medical industry. The licensing structure should allow for business ventures primarily (but not exclusively) aimed at the tourists market, including farm tours (similar to “wine tours” in California’s wine country) and places for on-premise consumption. According to the “wine tour” model, tourists should be able to visit a cannabis farm where they can see first-hand the cultivation process and the curing and trimming stage, and perhaps buy and consume the product on-premise. Such a special license class would help attract foreign investment and greater numbers of tourists, who come to Jamaica in pursuit of its “natural” environment. Additionally, the CLA may want to consider certain limitations for teahouse licenses.

The CLA should also consider some additional factors regarding the teahouse system and supply to tourists. Some have expressed concern that big hotels and resorts may obtain exclusive access to these licenses, shutting out other establishments. Distribution of these licenses should be equitable. Lastly, as a reminder, consider seasonality of tourist economy to ensure that periods of feast and famine average out.

4. Promote certain actors to police each other, especially between farmers and teahouse licensees.

The rigorous security measures envisioned for larger Tier 2 farms would arguably be too burdensome for traditional (Tier 1) growers. Therefore, aligning incentives within this system ensures some measure of checks: for example, by holding teahouse licensees responsible for diversion of product found to be grown by an approved supplier. Teahouses should also be required to report their receipts of product purchased, allowing the CLA to verify the amount sold by Tier 1 cultivators. In some cases, teahouse licensees may vertically integrate, further aligning incentives.

5. Allow individuals and firms to obtain multiple licenses in different stages of the supply chain (e.g., cultivator and processor licenses).

Vertical integration of earlier stages of the supply chain (cultivator and processor licenses) allows for economies of scale and efficiency. Further, it increases the risk factor for firms as they become more lucrative and invested, which promotes compliance. However, the CLA may want to consider limitations on integration of retail licensees from obtaining cultivator or processor licenses as a means to avoid the problem of product promotion and aggressive marketing. This largely depends on what type of products are sold in the final stages and what restriction the government puts on advertising. If the Ministry of Health

prohibits smokeable product from being sold in stores, then the issue is largely moot.

However, the CLA should exempt the teahouse system, allowing some Tier 1 producers the ability to obtain teahouse licenses.

6. Allow for different rules, privileges, and application processes for different license types.

For instance, Jamaica could consider imposing smaller fees for smaller licenses and/or issuing some licenses by means of an auction and others by other means. In order to supply the tourist market with processed artisanal ganja products, consider permitting Tier 1 cultivators the ability to obtain a limited processor license for the production of homemade nutraceutical products which can be sold in teahouses or by other licensed retailers. These homemade products should be able to meet minimum safety standards that are required from the BSJ (we have been told that some BSJ's standards are voluntary). Again, the quantity of homemade products sold should be kept small, thus reducing the risk of mass contamination; anything beyond a certain threshold would not be considered artisanal and would probably require greater safety and health scrutiny.

7. Consider issuing cultivation super-licenses to farmers' organizations.

Those organizations, functioning as co-ops or collective gardens, may merit a special role as holders of super-licenses if they demonstrate proper procedures, capability, and financing. That scheme would enable beneficial economies of scale and skill diffusion while also reducing the number of licenses to be directly monitored by the CLA.

8. Pass interim regulations, especially to establish rules to allow for transportation.

This would close the currently existing legal void that burdens universities who have research licenses and legal sources of cannabis but lack legal means to transport cannabis

from the farm to the research lab. Additional interim regulations would help establish the CLA's authority when it comes to regulating the cultivation, processing and research of cannabis. Rules should be drafted to govern some limited cultivation and processing for research. Consider licensing a small number of trustworthy firms who have clear business plans and are owned and operated by reputable individuals or companies.

However, the CLA *should not* develop expansive or detailed interim regulations nor issue many interim licenses. Issuing interim licenses complicates the process later of requiring firms to meet minimum standards or reapply for licenses. The CLA should draft some rough rules, but only allow a small number of new entrants into the market. Revoking interim licenses is troublesome and politically unpalatable.

9. Consider establishing transportation guidelines within the regulations to allow for the transportation of cannabis.

Products, herbal or value-added, will need to move from cultivators to processors to vendors, and so from the physical premises and jurisdictional custody of one licensee to another. This activity, like all others, must be licensed.

Two approaches are available: 1) issue a specific license for transportation activities, and allow firms to acquire that license either individually or in combination with other license types; and 2) fold transportation activities into the list of activities covered under some other license type, e.g., cultivators, processors, retailers, or some combination of each. Each option has its advantages. Issuing a separate license for transportation arguably adds complexity, but it can also make it easier for regulators to monitor supply chain activity.

We recommend that the CLA include transportation into the list of activities undertaken by processors. But with that privilege should come additional responsibilities: they must

record shipments via transport manifests and invoices, which should be audited by frequently regulators (either randomly or on a regular basis). High-tech solutions such as GPS tracking devices could also be required for conveyance vehicles. Regulations should establish that only pre-determined routes are allowed and that drivers and other courier staff are properly screened.

10. Enable the sale of cannabis clones and seeds from the National Germplasm, managed either by the Scientific Research Council or some other actor.

We propose that the National Germplasm offers its services to 1) receive cannabis strains submitted to them, both for purposes of scientific record and for reproduction and 2) sell cannabis clones and/or seeds to licensed cultivators. The National Germplasm already offers these services for most other agricultural crops, and appears willing and able to do the same for cannabis. This should be offered as an optional service to those licensees who want to participate. Additionally, these activities can be contracted out to private companies if and when that demand is established.

LAW ENFORCEMENT AND ENSURING SUFFICIENT CONTROL OVER LICENSEES

As discussed in previous sections, international obligations demand that the Government of Jamaica control the supply of medical cannabis—at a minimum, this entails requiring firms operating in cannabis to obtain licenses.

If the Cannabis Licensing Authority issues licenses to private firms, then there will be pressure to make the argument that there will be sufficiently rigorous regulations in place as to satisfy international obligations, or at least defend against accusations that Jamaica is in breach of those obligations. To support such an argument, in this section we provide recommendations that would enable the

Cannabis Licensing Authority could supervise licensee behavior. These rules should be enforced rigorously from day one, rather than beginning with laxity and then tightening.

However, the existing black market cannot be ignored. Cutting down on Jamaica's black-market production and exports might mollify the concerns of other countries (e.g., the United States) regarding the new, licensed industry, and help to prevent cannabis produced by licensed actors from being diverted for illegal sale. But reducing the scale of Jamaica's illicit cannabis production—or even preventing its further growth—would require attention and resources. The black market will not, as some seem to hope, dissipate automatically as the new licensed industry comes online. Even if the new licensing regime is successfully implemented and completely satisfies the demand from Jamaicans and tourists, the opportunity for profitable illicit production for smuggling abroad will remain.

Below we 1) identify measures by which the CLA could monitor and control licensee behavior, as expected by its international obligations; 2) discuss aspects of controlling black-market activity; and 3) consider policies targeted at individual users in order to protect the public health and safety.

Compliance with regulations and deterring diversion

11. Employ metrics, risk assessment and routine and unannounced investigations to control supply of cannabis.

Licensing fewer firms makes the CLA's job easier in terms of monitoring actors involved, but smart regulations should include a robust metrics system to estimate crop yields and amount of value-added goods produced and sold. For cultivation, processor, and vendor licenses, the CLA should collect and audit all reports of yield (or sales), balancing them with reports from associated buyers/suppliers and known limits (e.g., acreage or bulk weight

of yield). Suspicious amounts (beyond a reasonable margin of error) should warrant further investigation. Transport activities should be subject to frequent auditing of delivery logs and routes. Regular site visits by CLA agents throughout the year are a necessary tool to measure acreage and ensure compliance of other security and bookkeeping rules as well as rules placed on processors (e.g., food and medicine safety regulations). In addition, the CLA should conduct unannounced visits from time to time to ensure compliance.

12. Establish clear sets of supply control rules that are reasonable and deter diversion to black market.

All licensees must prove that they meet the minimum qualifications established by regulation to prevent diversion to the illicit market, but these regulations should be less strict for traditional Tier 1 cultivators who supply teahouse licenses. Regulations should not overburden these smaller firms, since they lack much of the capital necessary to invest in chain link fence, barbed wire, cameras, record keeping, electronic seed-to-sale tracking or indoor or enclosed structures. At a minimum Tier 1 cultivators should be tax compliant, be able to pass a background check (this could extend to farmhands and other laborers as well), establish a physical location of their farm, which should include GPS coordinates, be limited as to how much they can cultivate and to whom they can sell. Licensees that supply the medicinal or export market (generally Tier 2) are likely to be larger firms who can readily supply more consistent and higher quality products for commercial interests. Therefore, rules on these larger firms ought to be more rigorous and can include some security measures.

13. Consider use of a “tax stamp” via counterfeit-proof, single-use packaging to identify licit product.

Arguably, many firms will not be able to comply with more expensive and complex systems of

supply control, including electronic seed-to-sale tracking. Packaging cannabis produced by cultivators in government-designed counterfeit-proof bags, sealed and stamped with the licensee's number, ensures a degree of supply control that is easy to enforce. Cannabis ready for consumption or processing that is not packaged in these non-reusable bags would be considered untaxed and illegal.

14. Consider monitoring cultivators by product sold rather than (or in addition to) acreage licensed.

In this system, monitoring and enforcement hinges on a "tax stamp." When a licensed cultivator finishes a harvest, perhaps including curing and trimming the product (i.e., if he is an integrated cultivator-processor specializing in herbal product), he then must call a licensed processor and put in an order for pick-up. To do so, the cultivator will specify how much product he'd like to sell (by weight), provide his cultivator license number, the buyer, and the license number of the vendor (whether that be a pharmacy, a "teahouse", processor, or an exporter). This information will be logged by the CLA, and the cultivator's harvest subtracted from his quarterly (or annual) quota. Upon arrival at the cultivation site, the processor delivers the correct number of tax-stamped bags to the cultivator, who packs the product in bags and then seals the bag. CLA agents could witness the bagging of harvest. Processors would be forbidden from picking up from or delivering to any site that is not a licensed cannabis firm and required to submit travel logs to the CLA. Tax-stamp bags should be designed to thwart imitations, and to have tamper-proof seals. At least two versions of the bag must be designed: one for wholesale processing able to envelope cannabis trim and another for final retail sale. Once the proper fee for the tax stamp has been set, that amount can be charged to the cultivator or processor (or withheld from the final sales total) upon packing.

15. Be cautious about requiring security measures, such as video cameras.

Washington State and Colorado have both required security cameras throughout the premises of licensed cannabis firms, such as at points of entry and exit. However, that level of regulatory intrusion is already being left out of the regulations of newly legalized jurisdictions such as Oregon. The same requirement imposed in Jamaica might be both ineffective and very costly to adopt and enforce, particularly for cultivators in remote areas. We advise the CLA to review Colorado and Washington State's regulations for better understanding of security systems required, but not to adopt them wholesale.

16. Include a set of enforceable administrative fines for violations by licensees.

Fines should vary with the severity of the violation. We recommend that firms' licenses be suspended for a certain period of time if violations continue or compliance is not established. Mechanisms for license revocation should also be included in regulations after a certain number of violations have occurred within 12 consecutive months. Regulations in Colorado and Washington State provide examples of tiered-fine systems.

17. Include an appeal and arbitration process for fines, license denials, suspensions and revocations.

Section 9A(7) of the DDA Amendment establishes that an appeal tribunal must be constituted in accordance with regulations made under section 29. Therefore, the CLA will need to draft clear rules to that end. The appeals process guarantees that firms are not unfairly targeted and allows for some manner of explanation. The CLA board should adjudicate any dispute through internal procedures consistent with Jamaica's administrative law. These arbitration mechanisms should also be written clearly into the regulations.

18. Consider reasonable disqualifying factors for licensees.

Individuals who have a recent prior criminal history for certain cannabis-related offenses

should be disqualified, especially those with a felony conviction of drug trafficking within the last several years. Others with a violent criminal background or tax delinquencies should also be disqualified. But if the goal is to include currently illicit cultivators, then the CLA should consider not making disqualifying factors too onerous on individuals with prior history. Certainly each disqualifying offense should have a corresponding limitation on the lookback period.

19. Conduct background checks and financial investigation for licensees at every stage of the supply chain.

All of those seeking a license, and their financial backers, ought to undergo a criminal history check through JCF as well as a financial investigation by the Financial Investigation Division to ensure that individuals and their partners are not criminally involved or linked to organized crime. License transfers, if allowed, must be subject to these requirements.

20. Require licensees to destroy unused or unwanted stock through a verifiable procedure.

Claimed destruction of unused or unwanted cannabis (as well as product that fails testing) is a fertile area for fraud. Regulations should define permissible methods to dispose of product and require accounting against a licensee's production cap and inventory. Ideally, all destruction should be done in front of witnesses at law enforcement facilities using incineration or other methods used for illegal drugs.

Illicit market enforcement

21. Suggest that the Ministry of Justice close the “Rasta-to-Rasta” trade loophole, or else announce a clear and consistent enforcement policy.

Rastafarians are currently allowed to cultivate, possess, and consume cannabis for sacramental purposes, but are prohibited from buying or selling unless licensed to do so under the broader medical cannabis-licensing regime. This is unenforceable, and since cannabis cultivation

takes time and resources, Rastafarian cultivators sell to other Rastafarians as a means to recoup their costs. If the current law stands, police might enforce the law arbitrarily and selectively, opening the opportunity for unjust enforcement practices. We recommend that the CLA, working with the Ministry of Justice, the Ministry of National Security, and Parliament, work to either amend the law to allow for the sale of small amounts of low-cost cannabis within the Rastafarian community or change law enforcement policy to deal with the issue fairly.

22. Continue working with international partners.

The public image of compliance with international obligations serves an important, albeit foreign, constituency. Many are watching how Jamaica will regulate its nascent cannabis industry. The appearance of diversion to the black market or a loose medical system may cause concern abroad. It is important to invite the INCB for a mission sooner rather than later as regulations are not yet in place and the market is still in transition. Working with the United States in areas of drug eradication and interdiction may be a difficult sell politically. However, satellite imagery from the United States may serve a useful purpose for efficient recognition of outdoor cultivation sites. This would broaden the reach of the JDF, whose resources are limited, to eradicate unlicensed growers.

Furthermore, Jamaica should confer with the government of Uruguay, which has already undergone this review and still maintains a positive working relationship with the INCB. Contacts might be facilitated through the Inter-American Drug Abuse Control Commission of the Organization of American States.

Public safety

23. Establish much tougher penalties for drivers using alcohol and cannabis in combination than for those using cannabis or alcohol alone.

Though there are disputes about the relative

dangers of driving under the influence of alcohol versus cannabis, it is clear that driving under the influence of both substances at once is more dangerous than either alone.

24. Increase funding for Drug Treatment Courts, but limit their use to individuals who have committed non-drug related offenses and suffer from substance use disorder.

Under the DDA Amendment, possession of cannabis is not an offense for which one can be submitted to a Drug Treatment Court. However, any increase in problematic use might be better reduced through a DTC framework. A small portion of taxes could be used to scale up or increase the court's capacity to hear cases. However, Jamaica's DTCs should be limited to those found committing other non-drug-related offenses such as domestic violence, drugged driving, larceny, robbery, etc. due to their cannabis-related intoxication or dependency.

ALLOCATING LICENSES: LICENSE QUANTITIES, PRODUCTION CAPS, AND DISBURSAL METHODS

Even after the issue of determining the industry structure is settled, there remain some principally important questions: How many licenses of each type should be issued? What limits on production should be required for cultivation licensees? How should those scarce licenses be disbursed?

Determine the Quantity and Size of Cultivation Licenses

Our calculations suggest that the size of the market to be regulated by the CLA is dramatically smaller than what many seem to expect. It has been difficult to estimate the size of the current illicit market production. We have used the United States government's INCSR estimate for 37,000 acres of cultivation area, which would produce as much as 25,000 metric

tons (MT). This estimate is almost certainly too high.⁸ It is more likely that only a small fraction—perhaps less than one percent—of that space would need to be licensed for licit medical cultivation. We anticipate roughly 5 MT of demand each from tourists and Jamaicans with medical prescriptions.⁹ We calculate that Jamaica could meet that demand with as few as 5 or as many as 30 acres licensed for cultivation.¹⁰ Those calculations are imprecise, but perhaps a reasonable target for licensed production would be towards the middle of that range, e.g., 20 acres.

Yet 20 acres of licensed cultivation space is not necessarily the correct number: if one is bullish on the prospects of a nutraceutical export sector, or on the portion of current Jamaican cannabis users who will switch to the medical sector, then perhaps that number needs to be increased. This number may again have to increase in future years, if one expects growth in tourism, or resident demand for medical cannabis, or exports from the nutraceutical sector. That suggests a system of loosening limits over time.

Moreover, the maximum cultivation target could be measured in bulk weight of product or net quantity of THC rather than acreage. This would require establishing some conversion formula for acreage yield, but might be easier to monitor and enforce (perhaps in conjunction with a tax stamp system).

Further, ultimately the CLA will also have to consider whether it will be preferable to under- or over-shoot the “proper” amount of cultivation space. Under-licensing space will make licensed

8. Authors' calculations, citing INCSR and data from in-person interviews. See attached to the report.

9. (Estimating the needs of the nutraceutical sector is more difficult, though certainly in the early years it may be very low, e.g., 1 MT.)

10. That estimate is contingent on expected yield per square foot of cannabis canopy, involving both yield per square foot per harvest and number of harvests per year.

cannabis scarce and therefore more valuable, giving additional incentives for licensed cultivators to follow the rules rather than risk having their license suspended or revoked. It would also raise prices to consumers, whether tourists, Jamaican patients, or processors looking to export cannabis-derived products abroad. On the other hand, over-licensing production space risks causing an excess of licit cannabis on the market, perhaps leading to price collapses, which in turn would provide great profit incentive for diversion to the black market. Therefore, it seems advisable that the CLA attempt to “undershoot” the correct amount of licensed cultivation area, and then react in future years by gradually issuing new licenses or raising cultivation caps per each license type.

Twenty licensed acres might be handled by a small number of licensees. The precise number will depend on the distribution of large, small, and perhaps micro cultivators. Below it is shown that the CLA issues “Tier 1” licensees with a half-acre maximum on canopy space and “Tier 2” licenses with a full 5 acres of canopy space. In Table 4 below outlines 3 scenarios, demonstrating that this volume of demand could be produced by as few as 4 and as many as 40 licensees.¹¹

11. This simple model assumes away some of the complications of the proposed license scheme, in that there are no teahouse licenses, which would complicate the picture. Further, recall that if cultivation super-licenses are issued to farmers’ associations, that perhaps each super-license would constitute a Tier 2 license.

Facing the fact that there will likely be few licenses issued in the first years, the CLA will have to make some tough choices. Whatever the decision, it should be representative in terms of issuing licenses to both small and large producers. For political concerns, wealthy or foreign interests cannot be the only winners.

Determine the number and size of processor and retail licenses

This is a much easier task, for a variety of reasons. Since cultivators are the first and foremost drivers of the quantity of supply, there is no need to enforce a market cap at the level of processors and retailers. However, there are other reasons to limit supply.

We anticipate retail licenses going exclusively to existing pharmacies. Nonetheless, perhaps the CLA would like to restrict the number of licenses, i.e., to 50, as to make it easier to enforce against license violations.

Compared to cultivator licenses, processor licenses are expected to go to more capital-intensive and higher-skilled firms. So it would be reasonable allocate licenses to larger producers. Perhaps the CLA would like to issue no more than, say, 10 processor licenses when the market first enters. We do not see the need for any cap on the size of a business operating in processing.

Methods for allocating scarce licenses

If there were an unlimited number of licenses, the CLA could simply issue a license to every

Table 4.

	Scenario 1	Scenario 2	Scenario 3
	Only Big Firms	Mixed Firms	Only Small Firms
# Tier 1 (half acre) Licenses	0	20	40
# Tier 2 (5 acre) Licenses	4	2	0
Total Acreage	20	20	20
Total # Licenses	4	22	40

applicant who met baseline qualifications. That would also be appropriate in the less-extreme scenario in which there are fewer applicants for a given license type than the number of licenses that the CLA would like to issue—which may well be the case for processing and retail licenses. However, given the large number of Jamaicans who currently farm cannabis (perhaps tens of thousands) and the widespread perception that the industry can be profitable to even small farmers or individuals who are allowed to cultivate up to five plants on their property, there will surely be many more applicants for cultivation licenses than available licenses, unless the choice is made to use a fee system rather than the license system to limit production volume.

Unless a license is issued to every qualified applicant, the CLA will have to adopt some method of allocating scarce licenses. That method should be effective, fair, and transparent, whether it involves a lottery, an auction, or merit selection based on a point system.

Aspects of Licensing

25. Design an effective, fair, and transparent method to award initial licenses.

Consider strenuous qualifying requirements in combination with a primary method for issuance, including lottery, ad hoc selection, or auction. Auctions of public goods or spaces is not uncommon and are most preferable to the state as they allow the CLA to earn seed revenue while raising the price of each license. On the other hand, auctions can be politically unpalatable because they give advantage to the wealthiest applicants unless special provisions are made to let cash-constrained applicants pay in arrears, out of sales revenue, rather than in advance. That said, auctions should be reserved for larger Tier 2 licenses as it is unlikely that traditional Tier 1 growers will be able to buy a license. Another consideration of fair allocation includes distributing the amount of licenses by parish.

26. Consider allowing for the resale of existing licenses.

This allows for a greater efficiency (in the economic sense) of licenses, since licensees will be able to transfer their license to another actor if they find it in their own economic interest. If licenses may be resold, we strongly advise against any method vulnerable to the appearance of political patronage. Purchasers of a resold license must be able to meet the minimum requirements established by the regulations, including any checks regarding background, criminal history, and financing. The CLA should hold funds in escrow until the buyer has met qualifications.

27. Impose caps on licensed cultivation.

Due to the large numbers of Jamaican entrepreneurs reportedly interested in obtaining a license to cultivate cannabis and the relatively small amount of cannabis consumed domestically or exported to be exported in the initial years of the industry, we recommend that the Cannabis Licensing Authority calculate a market-wide cap for either for the amount of material produced or canopy area. Managing the level of production in this fashion can reduce the risk of licitly produced cannabis being diverted to black markets. By restricting the number of licensees, it might also prevent the CLA from being overwhelmed by a regulatory burden disproportionate to its funding and capacities.

Cultivation licenses should be issued with respect to that market-wide cap, taking into consideration both the number of cultivation licenses to be issued and the amount of product that each is allowed to produce. The market-wide cap might be adjusted in future years according to demand estimates and observations of price trends: increasing or “too high” prices suggest that the market is under-supplied, and low prices would suggest the opposite.

It is less important to restrict the issuance of licenses for processing or retail, both because it is likely that a smaller pool of firms who

are interested in and qualified to seek those licenses and because those firms are more likely to comply with regulations and easier to monitor.

28. Zone licensees appropriately.

Restricting licensees to certain areas of operation help to reduce diversion and make the regulator's job easier. Further, outdoor cultivation centers may require greater distances from each other as a way to reduce cross-fertilization from neighboring growers, especially with regard to hemp. Established pharmacies that are already licensed by the state should be grandfathered into the system if the regulations require pharmacy sale of psychoactive product, yet the CLA should avoid over-licensing retail stores in any one area to avoid market saturation. This will require limiting the number of vendor licenses. The CLA will need to measure market demand for psychoactive product. In the end, the demand for products to treat cancer or glaucoma may be very small.

RETAIL AND ACCESS

The new industry requires clear rules about how patients become eligible to obtain medical cannabis, where and how that cannabis is sold, and which products are eligible for sale. Under a "medical cannabis" framework, the government may want to restrict each class of individuals to specific product types.

Consumer safety regulations

Protecting the consumer—by ensuring that he/she is purchasing a product of known purity, quantity, and cannabinoid profile, which has been tested and which is properly packaged and labeled—helps protect both consumer health and the reputation of Jamaica's nutraceutical and medical cannabis industries.

29. Define cannabis and cannabis-derived products within the regulations.

Each type of cannabis as listed in the DDA Amendment, including cannabis for medical, therapeutic, industrial and spiritual purposes,

needs an operationally clear definition. We have yet to find a reliable definition of a cannabis-based "nutraceutical" and recommend the CLA establish, perhaps with the Ministry of Health, what types of cannabis or cannabis-derived products would qualify based on cannabinoid profile or psychoactive/intoxicative effects. It might be best to delineate different products based on potency or intended effect; nonetheless, clear definitions need to be established to prevent firms from finding creative workarounds to the law.

30. Consider limiting the range of products available for retail, including banning edibles, at least temporarily.

Edibles pose additional health hazards, including their attractiveness to young children. Washington and Colorado have both experienced difficulty in regulating them with respect to accurate and consistent dosing. Unlike those jurisdictions, Jamaica does not now have a substantial trade in cannabis edibles. In the early years, we recommend banning edible products. Rather than include edibles at the initial stage, Jamaica should first see how the market reacts to medical cannabis. (Note that consumers with a strong desire for, e.g., cannabis brownies can always make their own.) Regulators should revisit this issue in the future.

31. Establish reasonable, yet differentiated, quality control and safety rules for cannabis and cannabis products.

Testing cannabis and cannabis-derived products for agrochemicals and contaminants will help ensure that a safe and reliable product reaches consumers. Rules to that end, including acceptable limits of chemicals in consumer products, restrictions on the use of certain cancer causing agrochemicals, and sample testing should be included in regulations.

However, testing is expensive and so it should not be reflexively required in all cases. Herbal cannabis is less likely to contain hazardous chemicals or to vary wildly in intoxicative potential.

As a result, herbal cannabis, which should be destined for teahouses, could be exempted from rigorous testing within the supply chain. If there is to be required testing, perhaps it should be carried out with less expensive forms of testing including near infrared (NIR) technology, which can measure potency and moisture with a reasonable precision. In combination, the CLA or BSJ might also want to operate “mystery shopper” operations that pull product from store shelves, audit their label claims, and test for dangerous impurities.

Cannabis-derived products represent additional hazard, both because they are more variable in potency and because they may contain residual hazardous substances from extraction and/or infusion. Other jurisdictions impose more stringent forms of testing for these products, using tests for residual solvents and contaminants such as chemicals and microbiological matter. Colorado and Washington State regulations provide lists of prohibited chemicals and extraction solvents. It seems reasonable for Jamaica to follow this model. However, consideration will have to be given to the role of the Chief Medical Officer and the Food and Drug Act.

32. Consider more rigorous standards for exports.

As suggested earlier, products intended for export merit a higher degree of control with regards to quality and safety. Consider requiring advanced methods for testing those products (including using chromatography to test for potency) while allowing less precise methods (e.g., near infrared (NIR)) for domestic product. Jamaican residents who are willing to pay for additional assurance regarding product quality could seek to purchase from companies with better brand names or who have secured certain voluntary certifications or standards.

33. Facilitate the creation of voluntary standards for a higher standard of product quality and best practices.

Using voluntary standards in combination

with health and safety requirements can be more effective than relying on regulation alone. That approach allows for the government to set a reasonable minimal standard to protect consumer health and the integrity of the industry, and another, higher standard that would signal superior quality and reliability to consumers who are willing to pay more for that assurance.

34. Require clear health and warning labels with nondescript packaging for end-user products.

Products should not appear attractive to youth or make false health claims. Further, the user needs to know the approximate dose as well as cannabinoid profile, potency and instructions. Packaging should not be colorful or attractive. Prominent warning labels should be required for all products and inform the user that the product may be habit forming and to avoid driving or operating heavy machinery.

35. Use child resistant packaging for products.

Preventing accidental ingestion by children is an important and necessary tool to protect public health. Childproofing bottles, containers, bags, and other packages should be included in the final rules. If edible products are allowed for sale—especially sweetened edibles—special attention would be required to preventing their accidental ingestion by young children unaware of their psychoactivity.

36. Consider limiting sales hours.

Limiting sale hours of some of the more intoxicating cannabis-derived products (e.g., high-THC products) could promote public safety. Many jurisdictions restrict the sale of alcohol or cannabis during late night hours. We advise a similar scheme, but with exemptions for some teahouses, which may want to operate later for tourists who use on-site. Even if this were not implemented for pharmacies, where cannabis can be only sold but not used, it might still be implemented for teahouses, where late-night use might be seen as more problematic.

37. Establish mechanisms for product tracing, lot number and issuance of recalls.

This is especially true for processed, value-added products such as tinctures and extracts. Regulations establishing a chain of custody can help to ensure that tainted products can be recalled from store shelves. Other jurisdictions have established certain lot sizes based on weight of cured cannabis material. We recommend that each tax stamp bag double as a typical lot. It should be somewhere between five and twenty pounds.

38. Establish 10mg of THC as the standard “dose.”

That quantity has become a standard, and appears on labels and such, but in Colorado and Washington State it has been described as a “serving size”. That term has the connotation of treating cannabis as a food product rather than as a drug. We advise against that language, but favor 10mg of THC as a standard as used in other jurisdictions.

39. Establish equivalency standards for non-herbal products to standardize transaction limits.

Implicitly the law establishes a transaction ceiling by allowing for the possession of up to 2 ounces of cannabis for medical purposes. That appears to mean 2 ounces of dried flower, but cannabis products, such as concentrates, can take many forms. For example, roughly 2 ounces of cannabis concentrate (assuming 70% THC) could be equivalent in number of doses and price to 3 pounds of dried bud. It is important to consider reasonable purchasing limits for processed cannabis products. The state of Colorado has completed some recent rules and scientific studies on equivalency. We suggest reviewing a report compiled by the Marijuana Policy Group titled “Marijuana Equivalency in Portion and Dosage.” We recommend that the CLA consider these rules and studies once the restrictions on types of cannabis products have been established.

In the other direction, it would be unreasonable to limit processed nutraceutical and medical products (especially those that are not intoxicating) to a hard 2 ounces if the product’s net weight is more. Certain types of creams, ointments, edibles, etc. can weigh more than 2 ounces, therefore we recommend setting some type of equivalency standard. This obviously would not apply to non-intoxicating products that contain less than 1% THC.

One conceptually simple but operationally demanding approach would be to set all quantity limits in terms of net THC content.

40. Establish a procedure to accredit or certify labs to test cannabis for potency, profile and contaminants.

If labs are to test cannabis, someone has to test the labs and certify their competence. In the long run, testing is best left to the private sector rather than government or academia, and that has been the precedent set in other jurisdictions. However, in the short run, Jamaica will need to make best use of where expertise on the island is today. Because the University of the West Indies reportedly has the best equipment and training on the island, perhaps it should be given a lead role in certifying laboratories or setting the standards for certification.

41. Establish a trustworthy system of obtaining samples from cultivators.

A characteristic problem of using private testing laboratories is that cultivators and other market participants get to choose the labs they use. This creates a conflict of interest when a lab detects a dangerous impurity, or merely finds that the product is of low potency and therefore limited commercial value. There have been accusations in Washington State and Colorado the market participants put economic pressure on laboratory operators to fudge the results, and that some operators comply. The “mystery shopper” approach, where tested product is bought at retail

and sent for retesting to a lab operated or employed by the government, puts a check on such behavior. Labs whose results are found to be false on retest should be cautioned, and if their performance does not improve should lose their testing licenses.

42. Require that testing results be recorded with the CLA as well as the licensee.

In order to ensure that cannabis sold for consumption has passed testing, the CLA should keep records of all lots tested to ensure that processors destroy material that does not pass.

43. Fees should be collected from cannabis licensees when they submit products for testing.

If all product sold must be tested, and if there are a limited number of licensed testing facilities, the point of testing could serve as the point of tax and fee collection. That approach is especially relevant if the tax or fee is based on THC content, since the testing facility will provide that measurement.

Access to medical cannabis prescriptions and recommendations

Medical cannabis regulations need to be sufficiently strong to protect and promote the health and wellbeing of users. Novice users will require some minimal degree of oversight by healthcare professionals.

44. Refrain from overly restricting the prescribing or recommending of cannabis or intoxicating cannabis-based products.

Under the Dangerous Drugs Act and its most recent amendment, the Ministry of Health decides what medical or nutraceutical products are available and to whom. The CLA needs to work with the Ministry to ensure that an appropriate range of products is available to consumers. It is important to strike a balance between a loose medical cannabis regime, as seen in California, and one that is too restrictive, as seen in New York. Some health-care professionals would prefer a ban on smokeable

cannabis on the grounds that smoking anything is not good for health. But if that preference were adopted as policy, a substantial tourist market might never emerge. The same would be true if the government insisted on a narrow range of conditions qualifying for medical use, or on full pharmaceutical-style product testing to establish safety and efficacy for each indication in each patient population.

We understand the concerns of restricting access to products that have yet to show any clinical results. However, under the spirit and letter of the law, the CLA should work with the Ministry to allow for those with terminal and chronic illnesses to access, under doctor supervision, either whole plant material or cannabis-based products. An increasing amount of jurisdictions, absent scientific studies, are accepting the use of cannabis to treat a growing amount of maladies or to alleviate pain. We recommend that Jamaica not restrict medical cannabis to a narrow interpretation of products that show results after clinical testing.

45. Establish medical conditions for which cannabis is an allowed treatment as well as reasonable guidelines to issue prescriptions and recommendations.

Health agencies and officials, including the Ministry of Health, the Chief Medical Officer, the Medical Association of Jamaica, and the Pharmaceuticals Council play important roles in determining access to and content of medical cannabis. Regulations should work with other government bodies to establish a list of medical conditions for which cannabis can be used as a treatment (though allowing for some degree of discretion by doctors). The list should be subject to change as more research may expand or contract the number of ailments on that list.

We recommend that Ministry of Health issue prescribing or recommending guidelines, especially if other health professionals (beyond just doctors) are allowed to prescribe certain cannabis products.

46. Utilize the prescription system for the vending of final products at pharmacies by trained pharmacists.

It would be unnecessary and costly to require stores that sell only cannabis and nothing else, as has been done in Oregon, Washington, and Colorado. Using existing pharmacies and pharmacists to distribute the drug will be more cost effective, reduce regulatory burden, and protect the public health.

47. Advise the Ministry of Health to list highly psychoactive forms of cannabis as “List 4”, and mildly psychoactive forms as “List 2”.

That puts intoxicating material (e.g., herbal cannabis and extracts with significant quantities of THC) behind the counter but allows for easier purchase of high-CBD/low-THC products, which are not intoxicating.

48. Establish age restrictions.

The law does not establish a minimum age for medical cannabis. We recommend that children under 18 be restricted, but not prohibited, from accessing medical cannabis. Depending on the type of product (e.g. potency and profile), minors who need or could benefit from medical cannabis should undergo a more rigorous screening process. Options would include a requirement for parental consent or for a second medical opinion.

49. Prohibit the use of vending machines.

Use of vending machines should be prohibited. Few psychoactive substances, at least in the Western World, are so readily offered by vending machines which could allow intoxicated individuals or youth easy access.

50. Ban all forms of marketing and promotion, especially for smokeable products available at points of vending.

Neither vendors nor processors should be able to aggressively advertise their products directly to consumers other than at point of sale. There should be exemptions for tour operators who are

seeking to attract foreigners into teahouses. Even then, marketing and promotion should be kept to within reasonable standards and practices so as not to offend or disrupt already existing tourist operators who run family establishments. Consider a Dutch *coffeeshop* model whereby advertisements are externally limited to storefront signs but less restricted within the confines of the establishment. Conversely, vendors might be required to provide drug abuse prevention information at the point of sale.

51. Advise the Ministry of Health not to certify additional health practitioners for prescription/recommendation privileges.

During the initial stage of the cannabis market, it would be prudent to restrict prescriptions or recommendations of cannabis to doctors. This restriction should be reevaluated within a reasonable amount of time to determine if other health practitioners could be trained in recommending more mild forms of cannabis (e.g., high CBD products).

52. Implement rules and monitoring systems to police potential “kush doctors” who abuse prescription privileges.

Consider working with the Medical Association of Jamaica to self-police physician behavior. Consider placing annual maximums on the number of prescriptions or recommendations that a health professional is allowed to write, and forbidding them from charging for that service.

53. Allow for different categories of vendors catering to different styles of consumption.

We anticipate that some patients will seek medical cannabis strictly to treat real medical needs, while others will merely use the medical cannabis system as a means to access the drug for recreational purposes. That possibility is practically guaranteed by the text of the DDA Amendment, which imposes only a minimal burden of proof on tourists of medical need before the issuance of medical permits. Jamaican residents, on the other hand, will need to secure a prescription or recommendation from

a Jamaican medical professional; as a result, many of them will truly seek medical cannabis for its medical or therapeutic value rather than its intoxicating properties. If the Jamaican government would like to maximize sales, then both styles of use should be accommodated for by regulations. Perhaps the most important way to do so is to establish a vendor class (which we call “teahouses”) that allows for on-site consumption and a wider range of products than is available at pharmacies.

TAXATION AND REVENUES

An integral aspect of ensuring that regulations are correctly written, revised, and implemented regards taxation and the collection of revenues. The Cannabis Licensing Authority will bear the primary burden of implementing regulations on the new industry, and therefore needs a reliable source of adequate funding.

Tax base and points of collection

Taxation of cannabis can take place at different points within the supply chain, based on different elements. For example, tax can be levied at each point of sale (from cultivator to processor to vendor to end user). Further, the CLA could base the tax rate on the price of the good sold, by weight, or by potency (e.g., per unit of THC). Most other jurisdictions levy taxes on the price of the good sold, sometimes at each point of sale. Few tax by weight; none so far tax by potency.

That said, we recommend that Jamaica consider a simple excise tax for domestic goods sold on the island—taxing at final point of sale based on a percentage of price. Given that tax compliance on the island is low, the simplest scheme will reduce the administrative and financial burden on firms and the CLA. However, Jamaica should consider a reasonable approach to taxing by potency as a means to better shape the market.

In many other jurisdictions, precedent exists for taxing psychoactive substances by potency

(e.g., alcohol is taxed at higher rates by volume of ethanol). Though technically more complex, taxing by potency is superior to taxing by weight or price as it correlates better to intoxication. If Jamaica can overcome technical issues of finding a representative sample, then this scheme allows regulators to better shape the market as consumers generally seek out products with greater intoxicative effects. In this case, taxing by potency is perhaps the most “market driven” option. This approach equalizes taxes across products of different potencies. Further, fee per gram of THC produced—which could be collected after sale, rather than before production, to ease life for smaller producers—obviates the need to control production by, e.g., limiting the number of plants to be grown or the growing area.

This last point is critical. If one of Jamaica’s principal concerns is to establish clear oversight on cultivators in an environment of no or little compliance, then taxing on potency, coupled with regular monitoring and reporting, is the best mechanism to ensure that licit product is not diverted to the black market. Each licensed cultivator would essentially set his own production cap, growing as much cannabis as he can afford to given the tax rate. If a farmer grew more than he could afford or if his yield turned out to be more potent, then any surplus would be destroyed.

The step by step procedure for establishing a potency base for taxation would first require a price per unit of THC. Again, no other jurisdiction has attempted such a tax base (though in 2014 Massachusetts state considered a tax of \$1000 per ounce of THC). Establishing this price point is critical and may need further adjustment as it limits the overall quantity of product in the market. However, Jamaica should consider different rates for different products and perhaps in different markets (i.e., taxing products sold in teahouses more as tourists are used to paying more for cannabis).

At a minimum, establishing potency would require THC potency testing of representative samples of cannabis trim prior to processing. For example, a 10 gram sample of herbal cannabis trim is found to contain 6 percent THC, establishing a potency base of 0.6 grams of THC. This scheme can be even more complex if regulators decide to include other cannabinoids, with higher taxes on cannabis found to have less CBD relative to THC. To illustrate the effective tax, assuming a potency of 6% THC, then a tax of \$600JD/gram of THC would raise current black-market retail prices about 75%, from roughly \$50JD to about \$90JD per gram of cannabis. This rate is not a recommendation, but is useful from an illustrative point of view.

54. Consider using a tax base of potency to best shape the market.

Taxing by potency is complex, but allows Jamaica to best shape supply and demand in a “market driven” manner. If the technical challenges of testing and sampling as well as finding a reasonable price per unit of THC, then cultivators would grow up to the amount they can afford and users would consume as much of the intoxicant as they could afford. In short, taxing by potency standardizes the entire market with the added benefit of reducing the need to set production caps and monitor compliance with them.

55. Refrain from implementing complex schemes for tax collection, which are easy to evade and difficult to monitor.

Rather, consider collecting taxes at fewer points. The use of tax stamps in the form of special bags is to establish production limits and some degree of supply control; they should not be used to generate revenue but pay for the cost of the bags. Consider instead a retail tax based on a percentage of the final sale as a means to generate revenues for the CLA. Additionally, the CLA could consider a tax and fee schedule for different products, levying higher excises on products that require more

testing or are highly psychoactive or products destined for the tourist market.

56. Consider imposing a Special Consumption Tax (SCT) on cannabis, which would enable revenues to feed directly to the CLA.

Consider ways to tax purchases by tourists with a medical permit more than taxing medical cannabis for locals. If levying an SCT is not feasible, then consider applying higher licensing fees for teahouses.

57. If tax is collected within the supply chain, consider imposing tax withholdings as a means to increase and facilitate compliance.

This would only apply to those who cannot readily collect or file tax receipts.

58. Consider import taxes for cannabis and cannabis-derived products.

Jamaica is not currently an importer of cannabis, but might become one if some other jurisdiction legalized at a low price and allowed exports. Subject to existing international trade obligations, the Ministry of Finance might want to discourage such activity to protect the young domestic industry.

Fee structure

Generating fees from tourist permits is perhaps the easiest and most reliable way to collect revenues for the CLA and other earmarked programs. We estimate that tourist permits might generate as much as \$5-20 million USD per year, depending on tourist volumes, interesting in medical cannabis and compliance. This is not a substantial amount of revenue compared to the national budget. But it could provide a steady stream of funding for the Cannabis Licensing Authority.

59. Index fees, and taxes not based on a percentage of the final price, to inflation.

The utility of taxes and fees erode over time as inflation deflates the real value of any taxes. Therefore, all taxes and fees should be indexed to inflation. This only needs to be considered

for specific or per unit taxes. Products destined for the tourist market may want to index on foreign currency, such as the dollar, in order to maintain price for non-residents.

60. Levy licensing and renewal fees.

Licensing firms will take time and resources from the CLA, therefore licensing should be paid for by application fees, or revenues generated by revenues if the CLA decides to auction licenses. Annual renewal fees should also be applied to licensees.

61. Impose substantial up-front fees on tourists upon the issuance of a medical permit.

Given that Jamaica sees between two and three million tourists, and a substantial portion of those seek to use cannabis on the island, this can be an important source of revenue. A \$50 US fee might be appropriate; a higher fee might bring in more revenue but at the expense of attracting fewer tourists. We also recommend indexing this fee to the US dollar.

62. Direct fees from tourist medical cannabis permit to the Cannabis Licensing Authority.

This is likely to be the single largest and most reliable source of revenues, especially in the short-term, and so is easily the simplest and safest method by which to fund CLA operations both now and in the future. But this requires the Ministry of Finance to specifically allocate those fees to the CLA. It might be desirable to modify the law to guarantee those funds in the long term.

Revenue sharing and earmarks

Revenues earned from taxes and fees must be shared with other relevant agencies. For example, NCDA will need funds to increase its capacity to conduct rapid assessments of individuals who may need some form of treatment; JCF will need funds to continue to enforce the current DDA which prohibits unlicensed cultivation or public use of cannabis.

63. Deliver adequate funding for the NCDA (up-front and ongoing) for baseline measures of cannabis use.

Current and future evaluations of cannabis use will require data collection and analysis. Save for the lack of resources, the NCDA is capable of conducting rapid assessments and households surveys.

64. Earmark adequate funding for the NCDA to handle increased amounts of assessments of problematic or dependent use.

It is impossible to forecast how much increased prevalence will lead to increased problematic use. However, the NCDA should submit budgetary requests related to screening and treatment on an annual basis to the CLA and the Ministry of Finance.

65. Consider writing “earmarks” into the regulations so that revenues fund specific activities within an agency (e.g., data collection by NCDA).

In order to avoid revenue capture by the state or mismanagement by agencies, earmarks should be used to ensure that some of the taxes generated by the sale and consumption of cannabis go to partner agencies for specific purposes.

66. Consider using tax and fee revenues to fund enforcement efforts against illicit production and export.

Jamaica’s large black market in cannabis production and export will continue to exist. Any means to coerce illicit operators to comply with the law benefits the state via tax revenues.

67. Consider sharing tax revenues with local enforcement authorities (e.g., tourist police) to ensure their cooperation in ushering sales from the black market to the licit medical sector.

For instance, in tourist areas, this would motivate tourist police to focus on keeping tourists away from black-market dealers.

INTER-AGENCY COORDINATION, BUREAUCRATIC PLANNING, AND STAFFING

Jamaica has a complex set of state agencies with different levels of institutional capacity. A smooth regulatory structure will require inter-agency coordination matched by strong regulatory capacity within the CLA.

Though the CLA has the legal authority as the principal regulatory body in matters of cannabis under the DDA Amendment, it has yet to assert that authority. The CLA needs to design internal rules and procedures, design a budget, and hire staff, and to write a clear and comprehensive *modus operandi* and a terms of reference. On a higher level, we advise that the CLA make clear that it has jurisdiction over all aspects of licensing cannabis firms and monitoring the behavior permitted by those licenses. Indeed, these are multiple roles rolled into one. When working to write industry regulations, the CLA should seek to be transparent, fair, and deliberative. When reviewing license applications, it should aspire towards consistency. When monitoring and sanctioning licensee behavior, it should strive to immediately establish a culture of compliance, backed by frequent audits or inspections and meaningful penalties. The CLA should not take it as a role to advocate on behalf of any specific firm within the industry, nor to lobby on behalf of the industry as a whole, though it should generally seek to operate in a way that does not unnecessarily inhibit the operations of the industry.

Organizational structure

68. Designate a single regulatory authority with a clear mission goal, sufficient enforcement capacity, and continual budget.

Having multiple overlapping agencies cover the same scope of work makes compliance and enforcement harder. Hybridization of enforcement officers is one way to alleviate this concern, but at the end of the day one agency should be in charge. This will require a substantial scaling-up of the CLA.

69. Assign an Executive Secretariat, including a cannabis czar, within the CLA to act as executor of the regulations.

Other jurisdictions have assigned a full-time staff as well as single administrator when it comes to executing or acting as a single authority. By assigning the task of a cannabis czar to a single individual, he/she can coordinate among the diverse stakeholders of the CLA and industry. Right now, no single individual is acting with this power, complicating matters of design and agency coordination.

70. Ensure long-term funding for the Authority, particularly by securing a portion of fees from the issuance of medical permits to tourists.

The CLA will require regular annual funds. It's likely that the collection of fees from tourists for medical permits will be the largest potential revenue stream. In order to ensure proper and consistent regulation, it will be imperative for the CLA to secure a portion of that revenue stream. Other sources of revenue should also be tapped into, including license fees and perhaps special consumption taxes.

71. Provide substantial up-front funding to the Authority, as to help with the initial review of license applications and ensure adequate enforcement from day one.

Much of the cost of regulation is borne before revenues can begin to be collected. The CLA will require substantial investments in staff and equipment so that it can write policy, conduct public outreach, and solicit and review license applications. Providing that funding to the CLA will help ensure a smooth and problem-free implementation.

72. Establish an Enforcement Division under the CLA, with well-paid field officers who are regularly rotated from one parish to another.

These stipulations help prevent corruption. It is important that enforcement over the licensed market is of high quality and integrity, especially

in the industry's early days. The number of officers should be proportional to the number of licenses issued so as not to overwhelm officers.

73. Estimate the total costs of regulating the new licensed system, and ensure that incoming revenues will be sufficient to at least make the system revenue neutral.

Estimates of costs would allow for more planning prior to the issuance of licenses or the operation of the market. Right now, estimates are difficult to make as data are scarce. The CLA, in its current form, needs to think seriously about the total costs of regulation and how much taxes would be needed to cover those costs of operation.

74. Determine credible estimates for the number of applications expected for each license type.

Market forecasting would allow the CLA to reliably shape the size of the market. Over licensing points of vending or cultivation may cause distortions in the market that are hard to reverse, at least initially.

75. Consider flexibility by using sunrise and sunset clauses in order to phase in and out rules.

Many other jurisdictions have phased in and out rules via sunrise or sunset clauses within the regulations. If this option is legally available to the CLA under Jamaican law and custom, then it should consider phasing in and out certain rules and procedures as need be. Foreseeably, many firms will not be able to comply with many detailed rules during the initial stages of regulation. Finding flexibility in the application of certain rules helps firms adjust and ease into complying with the regulatory burden placed upon them. This would be especially helpful for traditional growers associations who may need some extra time and investment in order to comply with all the rules.

Inter-agency coordination

In order to ensure a smooth rollout of regulations and license firms, the CLA will need to work with several other agencies and regulatory authorities in order to ensure compliance and good business practices.

76. Immediately confer with Ministry of Health to establish the scope of the future licit market, including what products will be available and to whom.

The Ministry of Health has the power to regulate all food and drugs, as well as dangerous drugs, under the Food and Drugs Act as well as the Dangerous Drugs Act. If the Ministry were to prohibit the sale of herbal products and only allow clinically-proven products to be restrictively obtained via prescription, then fewer suppliers will be needed. Even less suppliers would be licensed if the Ministry prohibited the sale of herbal cannabis to tourists who are allowed to access the drug with a medical permit issued by the Ministry. Therefore, the CLA must work closely, at least during the initial stages, to discuss a reasonable scheme that is not too restrictive yet protects public health.

77. Coordinate with ancillary regulatory agencies to ensure licensee compliance.

For instance, work with National Land Agency to lease out public land currently occupied by qualified growers (perhaps via the Ministry of Agriculture and Fisheries). Officers from the Trade Board should also coordinate with CLA officials with regard to issuing export licenses.

78. Consider use of hybrid officers from the CLA.

Training CLA officials in rules and procedures of other agencies, such as export licenses, will avoid delays in getting product to market. Likewise, the CLA should train or inform PICA or officials from the Ministry of Health at points of entry on how to issue medical permits for non-residents.

79. Facilitate training of BSJ, Ministry of Finance, Trade Board, NEPA and RADA staff.

Allow visits to currently illegal cannabis farms by the National Environmental Protection Agency and the Rural Agricultural Development Agency, so they can, respectively, write codes of practices and issue advice to licensed farmers. If those activities are not undertaken in advance of licenses, that might cause additional delays. The Ministry of National Security should issue some policy guideline of non-enforcement to that effect, so that neither the farmers nor the government workers would be placed at risk of arrest by participating in the training sessions.

DATA COLLECTION AND FURTHER STUDY

Currently, our estimates have been constrained by the lack of reliable data. It is of utmost importance that the CLA establish some baseline and projection measurements. In order for a licensing agency to properly license firms, it must first assess the viability of one more entrant into the market. This is especially true for the first few years. Furthermore, Jamaica will need to gauge the effects of this new cannabis market, including prevalence rates, change in number of illicit producers, public health effects, shift to new routes of administration, etc. Collecting and analyzing these metrics better allow the government to establish if the law is meeting the established goals.

Data collection

80. As soon as possible, undertake efforts to establish baseline measures of cannabis use in Jamaica.

Currently, household surveys are infrequent and expensive; secondary school surveys are easier but neglect the adult population. In order to collect inexpensive and high-frequency measurements, it may be more pragmatic to administer non-representative surveys to “convenience samples”, perhaps via online or text message survey. Such surveys would necessarily be non-representative, and would

be expected to exclude certain populations, particularly those with low literacy or access to telecommunications, but would nonetheless help policymakers track trends in cannabis use.

81. Track access and use of non-herbal forms of cannabis, including edibles and portable vaporizers.

Survey methodology should be adapted to reflect different behaviors and attitudes regarding cannabis use. Further, surveys may help reaffirm sales figures or find discrepancies in sales data (e.g. survey results indicate much higher consumption of vaporizable products than what is recorded at point of sale).

82. Put in place measures to estimate the size of Jamaica’s black-market cannabis production.

Measuring this metric will determine if one of the principal goals—to reduce the black market—is being met. This includes reliable data on number of illicit farmers, average yield per harvest, number of harvests per year, average size of area under cultivation, etc.

83. Periodically report the total sales and tax revenues from the licensed medical system, alongside other statistics.

This ensures transparency. Washington State has implemented an online dashboard updated daily. Colorado issues monthly reports, along with numbers of patients and the different medical problems they report upon applying for medical access.

84. Cooperate with RADA to collect data on the number and size of cannabis growers in touch with RADA staff.

Staff from RADA work directly with smaller farmers and are better suited to measuring the size and yield of licensed cultivator. Quantitative information collected by RADA could provide another method of verification. RADA should work with local growers to make an estimate of expected yield per acre, so that enforcement authorities can more easily detect licensed cultivators diverting product.

OUTREACH AND EDUCATION

Political expectations are very high, and the people of Jamaica should come to recognize the internal and external challenges involved in the cannabis market. Otherwise even a relatively successful outcome will look like a failure because it does not achieve the impossible. In addition many citizens have only limited and imprecise understandings of the new law, including what is allowed, where it is allowed and who is allowed to do what. A smooth rollout depends on adequate public information.

Public education

85. Moderate expectations with regard to outcomes.

It is important that the general public understand the realities on the ground. This includes keeping expectations and goals attainable, and emphasizing that a limited number of licenses will be issued, at least at the beginning. Starting low and slow will allow for scaling up when needed; moving too fast could create a chaotic rollout period, putting excessive pressure on regulators and other government agencies.

86. Spend funds ahead of time to educate the general population on the change in the law and the framework of the regulations.

It is important to educate all sectors of the population in the details of the law and regulations, including who can obtain a license to supply the market as well as who can access and use cannabis. This includes public information campaigns for rural growers, tour operators, those likely to obtain medical cannabis and tourists. Users, including tourists, should be educated on the restrictions of public use; increasing enforcement to that end is recommended.

87. Adopt new prevention and education campaigns to protect public health and promote responsible medical or therapeutic use of cannabis.

Because cannabis and cannabis products are permitted for medical and therapeutic purposes, the NCDA should adopt new prevention and

education awareness campaigns in light of this paradigm shift. Public health and awareness messaging cannot use scare tactics and rhetoric of previous campaigns when cannabis was prohibited. Rather, campaigns should inform the public about the responsible use of cannabis by providing reasoned and balanced information. Campaigns should target vulnerable populations, including youth whose brains are still developing and heavy users who are likely to slip into dependency. However, messaging aimed at the general population is also needed (e.g., don't operate a vehicle after consuming cannabis, don't use cannabis if you're pregnant, do not mix cannabis and alcohol, etc.). Jamaica may want to adapt from other jurisdictions who have altered their prevention campaigns.

88. Consider public hearings and outreach events to gauge local stakeholder feedback on draft regulations.

Opening up the process of drafting regulations to the public can be messy, it does have its benefits. Several jurisdictions, including Colorado, Washington, and Uruguay, have sought public input during the final draft stages through public hearings and town hall meetings. It would be wise to reach out to the public to obtain some buy-in and create some dialogue, as the Chevannes Commission did.

PROMOTE INDUSTRY AND TOURISM

Many Jamaicans expect the new medical cannabis industry to bring more jobs and foreign investment to the island, and the CLA and other government agencies to enact policies that will enhance that economic potential. Indeed—even though the actual economic impact of the medical cannabis industry will probably be far smaller than the press has suggested—it will be important for the new regulations to promote industry and tourism. They can do so in two ways: 1) by attracting a greater number of tourists or enticing them to spend more money per trip, and 2) by supporting firms that export medical

cannabis, and especially non-psychoactive varieties, e.g., high-CBD products, which face less restrictive trade barriers.

A third option would be to promote the use of cannabis-derived products by Jamaicans with medical prescriptions, and so increase domestic demand. However, that is of dubious benefit. For one, such a policy risks also promoting rates of cannabis intoxication and use. Further, it seems likely that many Jamaicans will continue to access cannabis illegally, or at least outside the licensed system. Instead, they may continue to buy cannabis on the black market, or else legally “home grow” up to five plants.

In any case, the benefits of policies promoting industry and tourism are two-fold. On the one hand, greater revenues from tourism and exports directly spell more money coming to the island. But the other benefit is less obvious: greater demand for licensed, medical cannabis creates new opportunities for issuing licenses to cultivators, and further greater potential to “migrate” today’s black-market cannabis producers into the legal, licensed system.

Export markets are uncertain: though there are countries whose laws might allow cannabis-derived imports from Jamaica, there is no guarantee that they will do so in practice, and further to do so in substantial volumes. Therefore, we advise the Jamaican government to assist private firms as they seek to maximize exports of cannabis, whether in herbal, nutraceutical, or pharmaceutical form. There is a wide range of candidate policies, and we defer to JAMPRO and other trade promotion agencies as to which would be most appropriate, but credible options include fiscal incentives, Special Economic Zones (SEZs), and diplomatic and lobbying efforts.

Tourism promotion

89. Locate “permit stations” at airports and points of entry so that tourists can easily acquire medical permits.

This may be one of the most important

recommendations with respect to increasing government revenues. It is likely that there will be substantial demand by tourists for medical cannabis permits, but only if they are made easy and inconspicuous to acquire. That way, tourists will be more likely to stay within the teahouse system, buying taxable products. Likewise, locate additional permit stations in key tourist centers, e.g., Negril, Montego Bay, and Ocho Rios.

90. Train PICA officers or officials from the Ministry of Health to help tourists obtain medical permits at point of entry.

Providing training to certain officers from the Passport Immigration and Customs Agency or the Ministry of Health that issue medical permits will ensure easier collection of fees. Though there may already be Ministry of Health officers station at airports, it may be necessary to train *additional officers*.

91. In tourism areas, work with local businesses to discourage tourists from buying black market-cannabis.

Alongside lower barriers to entry into the licit medical tourist system, Jamaica should discourage black-market access through education campaigns at hotels and increased police presence in high volume tourist areas. Tourists should be dissuaded from buying any cannabis outside of official, tax-paid packaging.

92. Consider rules that would advantage local hoteliers rather than large, foreign-owned, often “all-inclusive” varieties.

This recommendation pertains to trade-offs between efficiency and equity. Large, often foreign-owned hotels and tour companies help bring many tourists to Jamaica, but nonetheless they are often accused of sending much of those revenues offshore to foreign interests rather than allowing them to be distributed more diffusely to Jamaican residents and business owners. If that issue concerns Jamaican policymakers, they should consider policies that would advantage smaller and/or

locally-owned hotels and tour companies. For instance, one policy might require large hotels to source from small-scale (“tier 1”) cultivators. However, any policies should consider existing WTO rules and Bilateral International Treaty obligations, and should investigate whether those rules allow for exceptions with regard to the cannabis trade.

93. Deter tourists, non-permanent residents, and Jamaicans from exporting cannabis via personal travel on airplanes and cruise ships, using a combination of public education and security checks at ports of exit.

Given the significant differential in retail cannabis prices between the U.S. and Jamaica, there are incentives for export even of legal, licensed cannabis product. Further, the more than 2 million visitors to Jamaica per year could carry back a substantial volume of cannabis. Unless that incentive is counterbalanced, Jamaica may acquire a reputation as a likely source of cannabis trafficking, even from tourists who otherwise do not currently face much suspicion from U.S. customs officials. If so, U.S. customs may begin to make it an unpleasant experience for U.S. tourists to return to their home country from Jamaica, subjecting them to additional delays and scrutiny. By the same token, if individual Jamaicans try to exploit the price difference by carrying cannabis abroad, they are likely to face additional scrutiny at foreign customs stations. To prevent this, it would be wise to station drug dogs and other methods of detection and dissuasion at points of exit.

Foreign trade and industry promotion and protection

94. Further develop and implement the hemp regulations drafted by JAMPRO

Several stakeholders were eager to build a national hemp industry. A proposed set of regulations has already been drafted by JAMPRO, and after review, we endorse the

general form of those regulations. But, as a rule, the best way forward would be for Jamaica to establish regulations that are very business friendly (i.e., not burdensome). International restrictions placed on hemp are much less than those for psychoactive cannabis.

There are two primary challenges facing Jamaica with regard to hemp: 1) the lack of a comparative advantage vis-à-vis major hemp producers such as China and Canada; and 2) cross pollination with psychoactive cannabis crops, damaging the quality of psychoactive cannabis grown on the island. If Jamaica is considering developing a hemp industry, then it should streamline regulations, making it easy for firms by lowering administrative burdens, keeping costs down, and getting product to market. See the discussion of other jurisdictions’ hemp regulations in the Appendix. The only practical restrictions should be those that prevent cross pollination. Hemp farms should be relegated to parishes far away from licensed cannabis cultivators.

95. Apply the same standards and rigor for clinical pharmaceutical trials to medicines for export.

Clinical trials are expensive and time consuming. Many trials are governed by national laws and regulations or international norms and standards. It would be unwise for Jamaica to establish its own set of regulations undermining those already in place for comparable substances. In any case, products looking for markets outside Jamaica may need to meet standards established in other jurisdictions, such as those of the US Food and Drug Administration.

96. Investigate trade opportunities overseas as a means to expand the market for licit products.

Because Jamaica is a relatively small market, any hopes of growing a very large market in Jamaican cannabis production rests on selling

products to residents of other countries, either via tourism or exports. But currently, few countries allow for imports of medical cannabis, and even those (e.g., Israel and Canada) have complex rules on which products may be imported and under what circumstances. Entering those markets is not impossible but will be difficult. Lobbying or trade promotion efforts would be beneficial, and could be done either by Jamaican government (e.g. JAMPRO) or private associations.

97. Consider, if possible, residency requirements or limits on foreign investment and involvement.

Foreign investment and skills can be a mixed blessing—they may help launch a young industry, but alternately they might push out local firms and instead deliver industry profits to foreign interests. The CLA should consider policies that balance these issues. One possibility would be to require licensees to demonstrate that majority stakeholders are Jamaican residents or citizens. There are myriad ways of requirements that could operationalize that principle, e.g., up-to-date tax compliance, having a TRN, demonstrating history of tax payments on land, proof of residency, etc. However, on this point, Jamaican policymakers are restricted by the terms of their Bilateral Investment Treaties (BITs). Restrictions would have to be carefully worded with respect to those treaties, and perhaps justified on the basis of relating to security concerns.

98. Protect Jamaica's brand and image using intelligent intellectual property protections and obtaining geographical indicators (see Assessment in Appendix for greater detail).

This is an important issue for many stakeholders, with diverging interests. Protecting certain images, practices, technologies, and brands are well within the scope of existing national and international law. The Jamaican Intellectual Property Office (JIPO) seems fully competent to handle these issues. JIPO already has in place mechanisms to issue trademarks, patents, and GIs for products relating to cannabis. However, there is reason to doubt the full potential of these protections, at least in the short term; both more research and work with international bodies will be needed. The attached Assessment in the Appendix contains more information for further consideration.

99. Consider limiting export agreements to prevent biopiracy and diversion to the black market.

Export licenses should be granted to companies or individuals who are reputable buyers that won't divert Jamaican products or raw material into markets where cannabis is illegal. When possible, agreements with foreign-based companies who wish to study Jamaican cannabis should be contingent on the final ownership of discoveries specific to the quality or particularities of Jamaican cannabis, ensuring access and benefit sharing.

APPENDIX

PROTECTING JAMAICA'S CULTURAL HERITAGE: INTELLECTUAL PROPERTY RIGHTS AND GEOGRAPHICAL INDICATIONS

Description

One topic that has been stressed by many stakeholders¹² is the issue of establishing Intellectual Property (IP) and/or Geographical Indications (GI) for strains, seeds, DNA structures, extraction methods, breeding processes, trademarks and images, traditional knowledge, and cannabis-based products.

Targets roughly fall into three different categories of possible IP protection:

- 1) patentable and trademarkable (brands, images, nutraceuticals, pharmaceuticals, extraction techniques, technologies, etc.);
- 2) possibly patentable (breeding processes, cultural practices); and
- 3) questionably patentable (strains, seeds, plant matter).

Additionally, some stakeholders wish to establish a seed/strain registry, perhaps in cooperation with the Scientific Research Council's National Germplasm. If this had only modest ambitions, it would aim to simply catalog strain varieties on the island—and perhaps elsewhere around the world—solely for scientific and historical purposes. The Svalbard Global Seed Vault (SGSV) in Norway is perhaps the only global seed repository. Currently the SGSV stores nearly 25,000 cannabis seeds (unknown how many different strains) from around the world, but it is not dedicated to cannabis nor does it provide additional services such as strain mapping. If properly designed, a global cannabis seed vault or strain registry may offer

12. As of the writing of this report, we have not been able to meet with experts at UWI who are conducting research into genetic mapping and strain profiles.



Rastafarian.

Photo: TKlaus-J. Kahle

Jamaica a first mover advantage that might help it become a recognized global authority. More ambitiously, a strain registry might also provide supporting evidence for IP claims, by which individuals could claim ownership of a strain: for instance, if it were to qualify under the Plant Variety Protection Law (currently a bill in parliament, and modeled after a major U.S. law), it should be demonstrated to be distinctive, uniform, and stable. Establishing IP rights over cannabis strains would benefit individuals who currently claim ownership of strains, but would also protect and incentivize cannabis breeders seeking to develop new strains.

Ganja has been deeply tied to mainstream Jamaican and Rastafarian culture. The Rastafarian community is very concerned about the loss of its cultural heritage and religious symbols as companies, especially from overseas, develop or sell Jamaican ganja products. The most frightening evidence of this fear coming true is when last year the Marley family sold the rights to use the image and name Marley

to Privateer Holdings.¹³ As regards the claims to protecting Rastafarian heritage, it is clear that JIPO intends to prevent non-Rastafarians from making use of Rastafarian symbols and language, such as lions of Judah and the red-yellow-green color scheme.

Relevance/Assessment

We believe these issues are capably handled by the Jamaican Intellectual Property Office (JIPO) and are outside the scope of the Cannabis Licensing Authority's (CLA) mandate. JIPO already has in place mechanisms to issue trademarks, patents, and GIs for products relating to cannabis.

Unfortunately, there is little precedent for IP rights applied to cannabis strains and breeding processes. However, among non-cannabis plants, there exist frameworks for patenting plant material and breeding practices, under several international conventions¹⁴ and United States Federal Laws.¹⁵ News sources suggest that the U.S. Patent Trademark Office (PTO) has yet to issue patents for cannabis strains due to prohibition. It might be the case that Jamaica can feasibly establish and police IP within the country (by JIPO and GIs) but be powerless when it comes to enforcing globally.

This does not mean that Jamaica should not pursue GIs—rather, that they should be viewed as an uncertain but low-risk and high-ceiling investment, payable only in the long-term. If certain treaties are amended or prohibitions are relaxed, there might be a large global market in cannabis (easily exceeding \$100 billion U.S.) in

which IP over cannabis strains might be quite valuable. In that scenario, there might be fierce dispute over IP claims, and presumably those claimants who can demonstrate the earliest claim would have an advantage in whichever court would hear the case.

Given the cutting edge nature of this issue, we see this as an innovative issue for Jamaica. By getting out in front of this issue, Jamaica could gain substantial inroads into strain mapping, technology, research and development, product lines, breeding techniques, nutraceuticals, pharmaceuticals, etc. Furthermore, the creation of an international seed registry could also generate user fees from international clients. It may take several years for growers to establish a GI certification, but the reward may outweigh the risk in the future.

Challenges

Fundamentally, because cannabis has been prohibited for so long in so many countries and under international law, there is scarce precedent for associated IP rights.

Even in non-Cannabis products, questions remain as to Jamaican firms' ability to enforce IP/GI. In one interview we gathered that Jamaica has only one registered GI (Jamaican Jerk). However, the issue remains as to how companies with limited resources might enforce any brands, trademarks or GI overseas.

In the short term, it will be difficult to enforce IP and GIs outside of Jamaica. Some areas grant reciprocity in trademarks and other forms of IP, and so in those areas (e.g., CARICOM) enforcement is more plausible. The U.S. is another story. For instance, if Colorado firms misappropriated Jamaican strains or seeds, what would be the means of redress? Who would arbitrate the case given that the material is prohibited under federal law?

Further, Article 27 of TRIPS does permit countries to exclude from patentability products in order to protect the public order or morality.

13. Another disputed case is the rapper Snoop Dogg's appropriation of the appellation "Snoop Lion", after visiting Jamaica and announcing a conversion to Rastafarianism.

14. E.g., Union Internationale pour la Protection des Obtentions Végétales's *International Convention for the Protection of New Varieties of Plants* and the World Trade Organization's *Agreement on Trade-Related Aspects of Intellectual Property Rights* (TRIPS).

15. The Plant Patent Act of 1930 and the Plant Variety Protection Act of 1970.

One useful analogy might be to ask about the patentability of ivory, ivory polishing/carving machines, or breeds of elephants that are known for their thick tusks. On the other hand, if one makes the contestable assumption that cannabis prohibition is in its dying years, then this too will be only a short-term obstacle.

Another concern is that some strains currently grown in Jamaica have in fact recently originated from Holland or the United States. If there ever were a true “Jamaican” variety of ganja, it may have been lost or at least substantially diluted. Going further back in the historical record, cannabis is not native to the island of

Jamaica but rather to the Indian subcontinent. Therefore, any claims to origination of a strain in Jamaica will be difficult to verify and perhaps fundamentally subjective. Factors such as genetic drift and hybridization only compound that difficulty.

Efforts are likely to be time-consuming, and controversial. In the worst-case scenario, they will both be expensive to the state and divisive to farmer/breeder communities. JIPO and the SRC may need additional resources in order to handle those claims in a speedy, just, and transparent manner, including vetting the origin of strains or other breeding inputs.

LESSONS AND PRACTICES FROM OTHER JURISDICTIONS

Background

In order for the Cannabis Licensing Authority to consider the best practices framework in the Appendix, We would first like to provide some important background and contextual information organized by jurisdiction. Regulations are constantly changing, and the table provided in the accompanying document is only a snapshot of a dynamic process. It behooves the CLA to understand that goals and constraints facing each jurisdiction, rather than taking their rules at face value and without context.

In any case, it is clear that Jamaica should adapt, but not simply copy, the rules and procedures from those other jurisdictions. It is important to understand in which ways Jamaica is in a fundamentally different position.

Jamaica is at an important disadvantage relative to many other jurisdictions evaluated herein, where those bodies charged with regulating the cannabis market already had in place the appropriate bureaucratic structure. For instance, in Washington, it was the Liquor Control Board that was given control over cannabis; in Colorado, the Marijuana Enforcement Division could simply expand the activities underway in its Medical Marijuana Enforcement Division; in

Canada, Health Canada regulated all activities related to the production and provision of cannabis for medicinal purposes. In Jamaica, we have been unable to identify any comparable enforcement and regulatory authority that could easily add medical cannabis control to its existing portfolio. Instead, the CLA will have to build from the ground up its own organizational structure, hire skilled personnel, internal processes, and budget. Further, Jamaica’s existing enforcement capacity and tax compliance in other comparable industries is limited at best.

Importantly, because regulations are constantly in flux, the CLA must be able to do adapt to changing circumstances. Many adjustments will be required,¹⁶ and the better they be decided fairly, transparently, and quickly. Those processes ought to be decided early, in the initial regulatory structure recommended by the CLA, however flexibility is key.

Further, though all of these jurisdictions had a robust illicit market, they could realistically aim

16. Other jurisdictions have adjusted, for instance, the overall market cap, the number and size of licenses, tax rates, detailed regulations governing new products such as edibles, and responses to clever ways that the industry will attempt to evade existing regulations.

to wholly incorporate that black market into the new licit, licensed regime. In Jamaica, this would be a fantasy scenario. The bulk of black-market production in Jamaica is exported illegally, whereas in Colorado it was merely to meet domestic demand. The DDA Amendment creates three licit commercial sectors of demand: psychoactive and non-psychoactive exports, medical access by Jamaican residents, and tourists coming from abroad. Even if those areas were entirely provided for by licensed suppliers, the resulting licit market may still be dwarfed relative to the quantity of production intended for black-market export. This fact should shape future regulations by limiting licit supply to meet the future medical demand of locals and tourists as well as the primary inputs for any developing nutraceutical or pharmaceutical industry, scaling up as need be. Start low and slow.

Canada

Canada's medical cannabis law has recently been changed by the federal government. Prior to its current law, in 2001 Canada had enacted enabling legislation via the Controlled Drug and Substances Act to permit individuals with qualifying illnesses (which were listed by regulation) to obtain medical cannabis. Individuals were allowed to obtain the substance by three different means: 1) apply under the Marihuana Medical Access Regulations (MMAR) to access Health Canada's supply of dried marihuana; 2) apply for a personal-use production license; or 3) designate someone to cultivate on their behalf with a designated-person production license.

Given the historical context of early medical cannabis laws in North America, Canada's initial regulatory framework was loose, encouraging many individuals and firms to enter the market under personal-use production and designated-person production. The most egregious violations of the spirit of the law took place within the designated-person system, which enabled for the existence of cannabis dispensaries. In fact, several dispensaries still exist in western Canada

in violation of the current law and regulations. In response to concerns from stakeholders that system governed by the MMAR was open to abuse, and after extensive consultations, the Government of Canada introduced the new Marihuana for Medical Purposes Regulations (MMPR) in 2013 to further restrict and regulate the market.

There was a period of about a year wherein the government phased in the new regulatory framework that exists today. The biggest changes include removal of personal-use production and designated production. All licit medical cannabis comes from licensed producers who then distribute the product directly to consumer via the postal system.

United States of America

The current situation of medical cannabis regimes in the United States is incredibly complex—too complex to cover entirely in just a few pages. Instead, we provide an overview of some of the most well-known systems among the currently 23 jurisdictions within the United States that permit medical cannabis in some form. Regulations vary in regulatory framework, including executing agency, limits on production, licensing, permissible ailments, types of products, and more.

However, all of these laws remain in conflict with Federal law. In short, the Constitution guarantees certain sovereign rights to each of the fifty states (under the 10th Amendment). The Federal government has enacted Federal law through the Controlled Substances Act to criminally prohibit the unauthorized cultivation, distribution and use of cannabis. The federal government has scheduled cannabis as Schedule I and does not consider it to have any medical value. However, since 2009 the Federal government has issued new prosecutorial guidelines within the Department of Justice to reduce enforcement of the Controlled Substances Act, conditional on adherence to certain guidelines. It remains to be seen how future Administrations will enforce the Federal law.

California

Starting in 1996, California passed a popular referendum to allow individuals suffering from terminal illness to use cannabis. The law generally provides an affirmative defense for individuals using cannabis for medical purposes. California was the first jurisdiction in the Western Hemisphere to legalize medical marijuana in some form. California's system, though the first and perhaps the most well-known, is one of the least regulated. The state law only permits for medical production and use, but does not establish any regulatory mechanism to that end. Instead, counties and local jurisdictions have passed their own local laws to shape the market, or prohibit it outright, within their jurisdiction. In effect, there are over 50 different regulatory schemes within California alone. Yet, the trade is booming and is considered an industry leader.

Washington

Washington State passed medical cannabis by popular referendum in 1998. However, the system established in 1998—if it can be called a “system”—bears scarce resemblance to the medical regime today. To some extent, it has been a runaway regulatory system, in which unintended consequences have been given ample time to play themselves out, and in response policymakers have had to pass further laws and regulations as to enforce order to the resulting chaos.

In 1998, in the words of former Governor Gregoire, “Washington voters made the compassionate choice to remove the fear of state criminal prosecution for patients who use medical cannabis for debilitating or terminal conditions. The voters also provided patients’ physicians and caregivers with defenses to state law prosecutions.” That is, the law made no statements about the supply of cannabis but merely provided patients with an affirmative defense.

Only later, in 2011, was the issue of supply finally addressed. Again, according to Governor

Gregoire, they “provide[d] additional state law protections. Qualifying patients or their designated providers may grow cannabis for the patient’s use or participate in a collective garden without fear of state law criminal prosecutions. Qualifying patients or their designated providers are also protected from certain state civil law consequences.”

However, even in 2011, production and retail was severely constrained. The law did not established “medical marijuana dispensaries” but rather “collective gardens”, which were limited to 10 members at a time, each of whom had to “share responsibility for acquiring and supplying the resources required to produce and process cannabis”. If implemented, that would have lead to a fairly conservative system of supply.

But the law was implemented and re-interpreted in ways that were arguably contrary to the legislators’ initial intent. This applies both to limits on the size of collective gardens and the ways in which patients were required to contribute. Due to pressure from the Federal government, Governor Gregoire vetoed certain key components of the 2011 law including the registry of producers and processors. As a result, the 10 member limit for collective gardens was no longer enforceable, and instead, through the process of a court decision, was reinterpreted to essentially mean “no more than 10 members in the store at any given time”, effectively abolishing the patient limit. Further, it later became admissible for members of a collective garden could contribute via financial payments, i.e., purchases, rather than the in-kind payments such as labor and equipment which were specifically mentioned in the law.

It was only in 2012 that voters approved Initiative 502 (I-502), which clearly legalized the production, distribution, and sale of cannabis, established restrictions and taxes, and assigned licensing and regulatory authority to the Washington State Liquor Control Board

(LCB). Incidentally, the LCB recently privatized the state's alcohol distribution monopoly, as required by an earlier voter initiative. This allowed the Board to build similar internal, thematic teams of research and area experts to write the rules that would govern the new legal cannabis industry. It was at this point that the LCB hired BOTE Analysis as a consultant to advise them on implementation, specifically on issues such as market sizing, license rules, and tax rates. Initially, the "25/25/25" tax system affects roughly a 45% tax rate, though this has since been down-revised to approximately 37%. Refer to the Table for more information.

A first draft of regulations was filed in July 2013. Over the next two months the Board conducted a series of 13 public hearings across the state and met with over 6,000 citizens. After taking into account public input, new rules were filed in September 2013 and adopted a month later. The LCB began to accept applications for producer, processor, and distributor licenses in December 2013; licenses will be issued in the first half of 2014; and stores opened in July 2014, a full 20 months after the passage of the law.

In the first 12 months, Washington saw \$260M in sales and \$65M in excise tax revenues. But daily sales continue to increase, and for FY 2016, Washington might collect twice that figure. Currently, the Washington system is in tremendous flux as the LCB works to tighten regulations on the untaxed medical market and merge the two systems into one. It took regulators over a year to finalize regulations after the law's passage, but challenges with aligning the competing medical market with the recreational market.

Colorado

Recently, Colorado has garnered tremendous attention for being the first jurisdiction in the world to allow for recreational cannabis (i.e. full adult non-medical use). However, medical cannabis predated this most recent legal change. In 2000, Colorado passed a popular

referendum to amend the state constitution to allow for medical cannabis use for those with qualifying illnesses (this definition is very broad as Colorado includes undiagnosable disorders including pain). Many patients would declare an individual caretaker to provide medical cannabis, limited to production of no more than six plants per patient.

This legal regime was relatively unregulated with a few exceptions, such as user registry, covered by a fee, and certain plant count limits. With the publication of new federal guidelines in 2009, the market radically shifted toward larger firms. The number of medical users jumped nine-fold from 11,094 in July 2009 to 99,902 in July 2010—since then it has remained stable around 100,000 (85,000-127,000). May 2010, the State brought in a regulatory system for the medical cannabis business. The new law mandated the Colorado Department of Revenue (CDR) to regulate the nascent industry.

Since 2010, the regulations have undergone several changes, but has changed a great deal in recent months to try to shape it to match existing rules that govern the competing recreational market.

In November 2012, Amendment 64 to the Colorado State Constitution legalized the production, distribution, and sale of cannabis, necessitating further statutory changes by the State Assembly. Additionally, it established restrictions and taxes, requiring the Colorado Department of Revenue to license and regulate the industry. Governor John Hickenlooper formed a Task Force to study requisite legal changes and the processes for developing effective laws and regulations that allow for adult access to cannabis, monitoring the impacts, and designing new methodologies for cannabis-specific prevention programs.

The Colorado Department of Revenue drafted initial rules in July 2013, using three years of prior experience regulating the medical cannabis

industry. This knowledge was adapted and expanded to suit a legal, non-medical cannabis industry. Initial rules were further amended after public input over the summer of 2013, and final rules were adopted in September of 2013. Starting in November 2013, the CDR began accepting applications for producer, processor, and distributor licenses. Licenses were issued and the legal, non-medical cannabis system began distribution in January 2014.

It took Colorado approximately fourteen months to develop regulations, which are still undergoing adjustments, including labeling, potency tests, and serving sizes. Legal cannabis was a \$700 million dollar industry in Colorado in the first year of legal sales (January-December 2014). That year Colorado retailers sold \$386 million of medical cannabis and \$313 million for purely recreational purposes. The two segments of the market generated \$63 million in tax revenue, with an additional \$13 million collected in licenses and fees.

Oregon

Oregon, like Washington, had a very loosely regulated medical cannabis system in place prior to the legalization of cannabis for recreational purposes in November 2014. (Oregon's voters narrowly voted down a similar but looser legalization bill in 2012.) The law gives regulatory authority to the Oregon Liquor Control Commission (OLCC), against mirroring the Washington approach. The details of the Oregon law is a mix of that seen in Washington and Colorado. Like the two other states, the legal industry is based on licenses at various levels. Residents are allowed to grow four plants and possess up to 1 ounce in public. Taxes were originally set to be collected at the producer level (\$50 per ounce) but have been shifted to point of retail sale, where they instead incur a 17% tax rate.

However the Oregon law is very much in flux, due to the necessity of merging Oregon's unregulated medical market into the tighter

structure that governs the new recreational market. For instance, as a temporary stopgap, as of July 2015 and until the passage of regulations governing the new recreational system, Oregon medical dispensaries will for the first time be allowed to sell to all Oregon residents including those without a medical cannabis recommendation. Once regulations are passed that privilege will be revoked, and existing medical businesses will be encouraged to transition into the recreational market.

Uruguay

The case of Uruguay has three distinct features. First, Uruguay will become the first and only state party to the international drug control regime to legalize the production, distribution, and use of cannabis for non-medical or non-scientific purposes. Second, regulatory reform is a government-led initiative, not a public referendum. According to polls, the public is not in favor of this policy change. Lastly, no existing regulatory body predated the law. Unlike Colorado and Washington, which had the Colorado Department of Revenue and the Washington State Liquor Control Board, Uruguay must establish the Institute of Regulation and Control of Cannabis (IRCCA).

The law allows for the access of cannabis through three supply mechanisms: personal home grow, cannabis clubs (registered collectives that can grow up to a certain limit), and pharmacy sale for recreational cannabis. Medical cannabis can be accessed through the pharmacy sale as well. All producers and users of cannabis in any form have to be registered with the government and limited to a 40 gram per month maximum.

The executive branch delivered regulations approximately four months after the passing of the law. The Executive Secretary of the National Drug Board had suggested that a legal industry will be functional by September 2014. To date, IRCCA has issued several sets of regulations to govern the medical, hemp, and recreational

markets. However, serious staffing issues, lack of resources and political will has plagued the rollout of much of the market. Today, only two of the three legal sources of recreational cannabis are up and running—home grow and cannabis clubs. However, several news outlets have criticized the rollout as limited at best. Regulators seem to suggest that the pharmacy retail market may be available to consumers by the end of 2015. To date, it has been almost two years since Uruguay passed its cannabis reform and the pharmacy system is still not in place.

Israel

Unfortunately, we are unable to assess the details of the Israeli medical cannabis regulations as

they can only be obtained in Hebrew. However, using news sources and other English-language material we are able to detail some of the key points within the law.

Since the early to mid-1990s Israel has permitted the use of cannabis for certain qualifying illnesses. The regulations and law have changed over the decades. Currently there is a bill in parliament to standardize the prescription method with which patients can obtain medical cannabis. This is supposed to allow more doctors to issue prescriptions for qualifying medical conditions. Licensed producers will continue to cultivate, but the end product will be sold in the existing pharmacy system.

US HEMP REGULATIONS BY STATE

Federal Action

A provision in the 2014 federal Farm Bill opened the door for universities and state departments of agriculture to begin cultivating industrial hemp for limited purposes. Specifically, the law allows universities and state departments of agriculture to grow or cultivate industrial hemp if:

“(1) the industrial hemp is grown or cultivated for purposes of research conducted under an agricultural pilot program or other agricultural or academic research; and

(2) the growing or cultivating of industrial hemp is allowed under the laws of the State in which such institution of higher education or State department of agriculture is located and such research occurs.” The law also requires that the grow sites be certified by—and registered with—their state.

The law also requires that the sites used by universities and agriculture department be certified by—and registered with—their state.

State Action

Twenty-two states have enacted state laws relating to industrial hemp. Generally, states have taken three approaches:

- 1) Establish commercial industrial hemp programs.
- 2) Establish industrial hemp research programs.
- 3) Enact studies of industrial hemp or the industrial hemp industry.

Elements of state industrial hemp laws can include:

- Defines industrial hemp. Most state laws require hemp to have THC concentrations of not more than 0.3 percent by weight, but at least one state (West Virginia) requires the crop have less than 1 percent THC concentrations.
- Provide that industrial hemp is an agricultural crop in the state.
- Establish licensing or registration programs for growers. Such programs often require registrants to provide information on the type of industrial hemp that will be grown, the grow area, and how the harvested crop will be used. Programs often also require growers to submit to criminal background checks.

- Provide for inspections and establish testing standards for seeds and crops.
- Authorize fees to support the program. Some states have authorized specific industrial hemp funds. Some states also specifically authorize the state to collect funding from foundations and private sources to support the industrial hemp program.
- Establishing an affirmative defense for registered industrial hemp growers from prosecution under state controlled substances laws.
- Setting penalties for violations of the industrial hemp law.
- Creation of an advisory board to advise regulators on the development of regulations, enforcement, and budgetary matters.
- Defining industrial hemp based on the percentage of tetrahydrocannabinol it contains.
- Authorizing the growing and possessing of industrial hemp.
- Requiring state licensing of industrial hemp growers.
- Promoting research and development of markets for industrial hemp.
- Excluding industrial hemp from the definition of controlled substances under state law.
- Establishing a defense to criminal prosecution under drug possession or cultivation

Note that some states laws establishing commercial industrial hemp programs require a change in federal law or waivers from the U.S. Drug Enforcement Agency before those programs can be implemented by the state.

State Statutes

California

CA FOOD & AG §81000-81010

- Requires industrial hemp growers to be registered with the state.

- Prohibits the possession of resin, flowering tops or leaves removed from the hemp plant.
- Establishes registration and renewal fees for commercial growers of industrial hemp.
- Organizes a five year review of industrial hemp's economic impact.

While legislation adding this section was enacted in 2013, the law specifies that its provisions do not become operative unless authorized by federal law.

Colorado

C.R.S.A. § 35-61-101 to 35-61-109-

- Permits growing and possessing industrial hemp by registered persons for commercial or research and development purposes.
- Establishes an industrial hemp committee to work with the Department of Agriculture to establish an industrial hemp registration program and a seed certification program.
- Establishes an industrial hemp grant research program for state institutions of higher education to conduct research to develop or recreate strains of industrial hemp best suited for industrial applications.

Connecticut

Public Act No.14-191 (Enacted June 12, 2014; goes into effect on October 1, 2014)

- Legalizes a feasibility study on industrial hemp.
- Commissioners of Agriculture, Consumer Protection and Economic and Community Development shall study the feasibility of legalizing the production, possession, and sale of industrial hemp, respectively.
- By Jan. 1, 2015, a report will be made to the legislature regarding "[...]said commissioners' recommendations on establishing a statutory definition of "industrial

hemp”, based on the percentage of proposed tetrahydrocannabinol in such industrial hemp, as distinguished from marijuana, (2) amending the general statutes to exclude industrial hemp from the definition of “controlled substance” in section 21a-240 of the general statutes, and (3) establishing a licensing system for industrial hemp growers and sellers.”

Delaware

Del. Code Ann. tit. 3, ch. 28, §2800-2803

- Authorizes the state and higher education institutions to grow or cultivate industrial hemp for agricultural or academic research.

Hawaii

S.B. 2175

- “Authorizes the dean of the College of Tropical Agriculture and Human Resources at the University of Hawaii at Manoa to establish an industrial hemp remediation and biofuel crop research program;
- requires a report on the rate of contamination uptake and efficient uptake from soil and water, the rate of carbon fixation in the Calvin cycle and the viability of industrial hemp as a biofuel feedstock;
- clarifies that the term industrial hemp means the plant Cannabis Sativa L;
- provides criminal and civil immunity.”

Illinois

720 ILCS 550/15.2

- Authorize the state and higher education institutions to grow or cultivate industrial hemp if: (1) the industrial hemp is grown or cultivated for purposes of research conducted under an agricultural pilot program or other agricultural or academic research; (2) the pilot program studies the growth, cultivation, or marketing of

industrial hemp; and (3) any site used for the growing or cultivating of industrial hemp is certified by, and registered with, the Department of Agriculture.

- Before conducting industrial hemp research, the Department of Agriculture and local law enforcement must be informed in writing.
- Institutions of higher education must provide quarterly and annual reports to the Department of agriculture and are subject to inspection. The annual report is due on or before October 1.
- Allows the Department of Agriculture to adopt rules to comply with federal rules or to adopt emergency rules deemed necessary to public interest safety and welfare.
- Defines industrial hemp.

Indiana

IC 15-15-13-1 to 15-15-13-16

- Authorizes the production of, possession of, scientific study of, and commerce in industrial hemp in Indiana by license holders.
- “Industrial hemp is an agricultural product that is subject to regulation by the state seed commissioner.”
- The state seed commissioner adopts rules and oversees licensing, production, and management of industrial hemp and agricultural hemp seed.
- Sets the standards for application for hemp license and registration.

Kentucky

KRS § 260.850-.869

- Establishes an industrial hemp commission to promote the research and development of industrial hemp, and commercial markets for Kentucky industrial hemp and hemp products.

- Establishes a five year industrial hemp research program, to be directly managed by the University of Kentucky Agricultural Experiment Station to conduct research on industrial hemp for a variety purposes.
- Establishes an industrial hemp licensing program.
- Includes language that “Kentucky shall adopt the federal rules and regulations that are currently enacted regarding industrial hemp and any subsequent changes thereto.”

Note: On Feb. 19, 2014, Kentucky announced five pilot hemp projects that would be used across the state, including one project that would research whether industrial hemp could be used to remediate tainted soil.

Maine

7 M.R.S.A. § 2231

- Permits a person to “plant, grow, harvest, possess, process, sell and buy industrial hemp” if that person holds a license.
- Prohibits the state from issuing a license unless “The United States Congress excludes industrial hemp from the definition of “marihuana” for the purpose of the Controlled Substances Act, 21 United States Code, Section 802(16); or...the United States Department of Justice, Drug Enforcement Administration takes affirmative steps towards issuing a permit under 21 United States Code, Chapter 13, Subchapter 1, Part C to a person holding a license issued by a state to grow industrial hemp.”

Michigan

M.C.L.A. 286.841 to 286.844

- Authorizes the state department of agriculture and rural development and colleges and universities in the state to grow or cultivate, or both, industrial hemp for purposes of research conducted under

an agricultural pilot program or other agricultural or academic research project.

- Establishes an industrial hemp research fund to support research into growing or cultivating, or both, industrial hemp and grants to colleges or universities in this state to conduct research into growing or cultivating, or both, industrial hemp.

Montana

Mont. Code Anno., § 80-18-101 to 80-18-111

- States that industrial hemp that does not contain more than 0.3% tetrahydrocannabinol is an agricultural product.
- “...an individual in this state may plant, grow, harvest, possess, process, sell, or buy industrial hemp if the industrial hemp does not contain more than 0.3% tetrahydrocannabinol.”
- Requires industrial hemp growers be licensed by the state.
- Creates an affirmative defense to prosecution under criminal code for marijuana possession or cultivation.

Nebraska

Neb.Rev.St. § 2-5701

- Permits a postsecondary institution or the Department of Agriculture to grow or cultivate industrial hemp for purposes of research conducted under an agricultural pilot program or other agricultural or academic research. Requires certification and registration of industrial hemp sites.

New Hampshire

2014 HB 153

- This bill establishes a committee to study the growth and sale of industrial hemp in New Hampshire.
- The study must report their findings by Nov. 1, 2014.

New York

McKinney's Agriculture and Markets Law § 505

- Authorizes up to ten sites for the growing or cultivating of industrial hemp as part of an agricultural pilot program conducted by the department and/or an institution of higher education to study the growth and cultivation of such hemp provided that the sites used for growing or cultivating industrial hemp are certified by, and registered with, the department.
- Prohibits the sale, distribution or export of industrial hemp grown or cultivated pursuant to this article.

North Dakota

N.D. Cent. Code, § 4-41-01 to 4-41-03

- States that industrial hemp that does not contain more than 0.3 percent is considered an oilseed.
- "...any person in this state may plant, grow, harvest, possess, process, sell, and buy industrial hemp (cannabis sativa L.) having no more than .03 percent tetrahydrocannabinol."
- Requires industrial hemp growers be licensed by the state.
- "North Dakota State University and any other person licensed under this chapter may import and resell industrial hemp seed that has been certified as having no more than .03 percent tetrahydrocannabinol."

N.D. Cent. Code, § 4-05.1-05

- Permits the North Dakota state university main research center to conduct baseline research, including production and processing in conjunction with the research and extension centers of the state, regarding industrial hemp and other alternative industrial use crops.

- Allows for the center to collect feral hemp seed stock and develop appropriate adapted strains of industrial hemp which contain less than three-tenths of one percent THC.
- Requires the state agriculture commissioner to monitor the collection of feral hemp seed stock and industrial hemp strain development and certify appropriate stocks for licensed commercial cultivation.

Oregon

O.R.S. § 571.300 to .315

- Requires industrial hemp growers be licensed by the state.
- Authorizes "industrial hemp production and possession, and commerce in industrial hemp commodities and products."

South Carolina

S. 839

- "Adds chapter 55 concerning industrial hemp; provides that it is lawful to grow industrial hemp in this state;
- clarifies that industrial hemp is excluded from the definition of marijuana;
- prohibits growing industrial hemp and marijuana on the same property or otherwise growing marijuana in close proximity to industrial hemp to disguise the marijuana growth."

Tennessee

TN AG Code 916

- "Authorizes growing of industrial hemp subject to regulation by the Department of Agriculture;
- provides for license fees;
- provides that industrial hemp is not marijuana but can be categorized as a controlled substance under specified circumstances;

- Provides that the department has the right to inspect the hemp crop for compliance.”

Utah

UT H 105

- Permits the Department of Agriculture and a certified higher education institution to grow industrial hemp for education.
- Exempts an individual with intractable epilepsy who uses or possesses hemp extract or an individual who administers hemp extract to a minor with intractable epilepsy.
- Provides for a hemp extract registration card; requires maintenance of neurologist medical records and a database of neurologist evaluations.

Vermont

6 V.S.A. § 561 to 566

- “Industrial hemp means varieties of the plant cannabis sativa having no more

than 0.3 percent tetrahydrocannabinol, whether growing or not, that are cultivated or possessed by a licensed grower in compliance with this chapter.”

- “Industrial hemp is an agricultural product which may be grown, produced, possessed, and commercially traded in Vermont ...”
- Requires industrial hemp growers to be licensed by the state.

West Virginia

W. Va. Code § 19-12E-1 to 19-12E-9

- “Industrial hemp that has not more than 1 percent tetrahydrocannabinol is considered an agricultural crop in this state if grown for...purposes authorized...”
- Requires industrial hemp growers be licensed by the state.
- Creates a complete defense to prosecution under criminal code for marijuana possession or cultivation.