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Highlighting the Disconnect Between Legislation and Sustainable Cannabis

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Highlighting the Disconnect Between Legislation and Sustainable Cannabis

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Johnathon A. Macias

Abstract

Current legislation takes little regard for two major issues challenging cannabis. The carbon footprint and legislation of cannabis are looked at where it is realized that neither of the two issues is sustainable long-term. Solutions that require social responsibility from legislative reform to preserve the culture and industry are delved into.

Keywords: Environmental, Cannabis, Environmental impact of cannabis, Sustainable cultivation, Cannabis policy

Introduction

California classifies cannabis as an agricultural product, yet cannabis still wrestles with “its negative stigma borne out of racial animus” (White, 2012, p.75) that leads to cannabis being abused in terms of accessibility and regulation. Post-prohibition cannabis currently faces two major challenges. The first is misdirected policies surrounding the crop itself which propels the second issue, inefficient production with its capacity for an intensive ecological footprint contributing to the ever-looming threat of climate change. Current legislation holds little regard for either issue leaving farmers and consumers in the dark. Legalization was supposed to benefit the cannabis industry, not shift the burden of knowledge and social respon-

sibility onto the community. With nationwide legalization anticipated in the Marijuana Opportunity Reinvestment & Expungement Act introduced in 2021, it is imperative that policymakers be kept current on the needs of the industry and craft policy to meet the needs of future generations.

Legislation’s short-term goals of excessive regulation has pivoted cannabis towards a monopolized market where certain cultivation activities are supported, while other standard practices are delegitimized, (Bodwitch, 2019) deterring some farmers feeling unsupported and reluctant to join the legal market. Cannabis policy should be reformed to assist farmers by streamlining a transparent license process for cannabis with reduced costs of regulation in order to diversify and strengthen the cannabis market.

Environmental Impact

Cannabis operations have the potential for a massive environmental impact that needs to be acknowledged. This environmental damage is exponentially increased in specifically large-scale indoor farms and illicit growers, and if the industry is to thrive into the future it needs to learn to grow in a more environmentally friendly way. The massive amount of energy is attributed to the constant climate control mechanics that indoor growth requires such as HVAC, climate control, and most notably, high-intensity lighting systems.

A large portion of cannabis growing is conducted off-grid; therefore, it can be difficult to precisely measure energy input for indoor cannabis farms. However, a study conducted in 2021 attempted to quantify the greenhouse gas emitted from growing cannabis inside commercial grows, which can vary based on location and growing style but is estimated to range anywhere between “2,283 to 5,184 kg CO₂-equivalent per kg of dried flower” (Summers, 2021, p.644). This estimation translates to each pound of cannabis grown in high-intensity conditions emitting at least 1,000lbs of carbon emissions. Furthermore, the 2018 Cannabis Energy Report compiled data from self-reported cultivators and used them as a representative sample to estimate cannabis cultivation energy in the U.S., which was predicted at 1.1 million megawatt-hours (MWh) annually—the equivalent of 92,500 homes (New Frontier). These numbers are problematic because “only about a third of growers identify the environment as a concern” (Bodwitch, 2019, p.181). Without guidance from legislation, the pressure of establishing growing ethics is placed on the cannabis community by holding each other accountable for what is “safe” and what are “harmful” growing practices for the environment.

“Cannabis production is not intrinsically polluting, but engages in inefficient production,” (Mills, 2020) and to set a standard for cultivation, the National Cannabis Industry Association put out a highly revered report on the best sustainable management practices for cannabis in 2020 (National Cannabis Industry Association). Understandably, not every cultivator is open to sharing their privatized growing methods, but consumers should be able to ask if these sustainable management practices are incorporated into their farmer’s growing process.

Current Legalization Flaws

If well designed, “regulations on agriculture can mitigate impacts on natural landscapes and ecosystems” (Wang, et al., 2017, p.495), but the federal classification of cannabis as a controlled substance comes with federal regulations that catches California and its cannabis farmers in a puzzling interagency battle. Even current research hoping to divulge public health concerns have to dance between red tape just to have the ability to research cannabis.

The current federal framework of policies that monitor the distribution of cannabis disproportionately imposes hardships and inaccessibility onto small-scale farms while simultaneously dismissing the energy intensity of large, indoor, corporate-owned farms. By failing to recognize the true value of excluding small farms from cannabis, poorly crafted policy divides farmers economically by determining their ability to pay the hefty licensing fees that are consistently perceived as “[exclusive] of small growers, undermining economies in rural communities” (Bodwitch, 2019, p.177). An anonymous survey conducted among growers throughout California identified “70% of noncompliance rates being attributed to costs from the multiagency licensing system and 37% struggled with the regulation inconsistencies” (Bowditch, 2019, p.181).

This expensive and complex process is also to manipulation by large cannabis corporation. “Prop 64 was explicitly aimed to build on and support small farms which were supposed to be the backbone of the cannabis cultivation center... but the state undercut small farms by allowing growers to stack permits letting big canna establish larger operations, to get in the game early,” (Polson, 2020, p.1) pushing small farms out of the market. Stacked licenses by large operators make up a majority of capacity limits for county ordinances so licenses become even further inaccessible. Ostracizing farmers not only results in a loss in tax contribution but becomes a significant problem when compared to the failure of education about safer and more sustainable growing practices. Policymakers should be more embracing of small farmers because when excluded, farmers have zero incentive to properly dispose of their waste and limited use of testing for pesticides. Over time this waste leaches into the nearest stream resulting in contaminated water that is detrimental to wildlife (Wengert, 2021) and leaves an unnecessary destructive wake in the name of cannabis. Illicit farmers are framed

as the perceived villains when the solution of inclusion rests on policy makers hands than their own.

Misdirected Policies

Coined as “the most ubiquitous form of drug taxation” (Valdia, 2015, p.766), the average cost of cannabis from seed sale is widely expensive as legislation misguidedly forces it through several fees before it can begin to be profitable. Cannabis is taxed more heavily when compared to other products. In late 2020 the California legislatures office attempted to compare the tax rates of cannabis to other substances of intoxication and a quarter gram joint was comparable to three shots of liquor (Kerstein 2). A reform to these laws would not only make more rational sense when compared to any other product with a medicinal capacity but would also ease regulations and diversify the cannabis market.

The taxes revenue from cannabis in the state of California as of November 2021 was \$3.12 billion (CDTFA, Cannabis Tax Revenues for the Third Quarter of 2021) but these combined fees associated with permits, licensing, and applications end up being too costly for farmers, in fact, “many farms fear that the increased regulatory cost associated with formalization will force them to either shut down or remain on the black market” (Wagner, et al., 2018). Navigating through permits, licensing, and applications, farmers must transform themselves into lawyers before their product can hit the legal market. Some of these regulations such as specific zoning of cannabis plants in relation to other agricultural products are impractical for small-scale operations, making it hard for family farms without financial capital to thrive and risks their profits stop from recycling into the community. Tax revenue is undeniably beneficial for the state but not at the cost of suffocating mom-and-pop farms that are not backed up by a sleuth of investors. Because of issues such as this, the challenge facing cannabis resides in the legislation itself.

Another prime example of a misguided approach that needs to be changed is awarding subsidiaries to large corporate farms for reducing their electricity usage indoors instead of saving recognition for truly remarkable achievements, such as carbon-neutral farms. Encouraging low emission processes is a step in the right direction but can allow for large corporate farms to take advantage of low discounted rate emissions while zero-emissions farms are hardly compensated for their progress towards a sustainable future. If incentives were pro-

vided towards achieving zero emissions, farms would strive for a lower emission standard. The proper resources such as financial incentives should be invested in the hands of those reinforcing sustainable thinking, not greenwashing hands looking for cheaper rates.

What Legislation can do

Federal legalization has the capacity to reduce problems associated with the illicit market if crafted more inclusively. Policymakers’ rules influence everyday activities, and they need to comprehend that an issue such as a labyrinthine licensing process, prevents farmers from joining the legal market, creates so many more issues than it prevents. Cannabis policy should be reformed in a manner that is inclusive of smaller farmers by offering assistance instead of burdening them with complex licensing processes. Lawmakers should focus on the promotion of information revolving around sustainable cultivation and keeping a more informed consumer base for public health. By promoting the benefits of certain practices such as growing in a greenhouse in comparison to growing with “diesel dope.” This would help cannabis deviate from unsustainable practices such as growing with diesel powered generators. Reform would keep community members out of the unpredictable cycle of the black market while reducing the environmental impact of cannabis.

Another way legislation could be more transparent would be more definitive labeling standards. Cannabis products can possibly be interpreted as misleading when policy only requires major cannabinoids such as THC and CBD to be identified on the certificate of analysis. This deceives consumers to think that these cannabinoids are the only significant chemicals in cannabis, but terpenes along with minor cannabinoids also play a major role in determining the effects of cannabis. Many consumers of cannabis looking for a non-synthetic entheogen that eases the hardships of everyday life could be misled by the limited required cannabinoid testing. Susceptible to confusion, consumers can be misled by the analysis certificate and medicinal patients may not get the desired effects sought after. For example, if an extremely high THC product is not performing as advertised, consumers could replace this regulated, safe cannabis with alternative substances such as narcotics, which can be addictive and have devastating side effects instead of the natural relaxation that cannabis brings. In fact, cannabis is so well known as

a safe alternative for its pain relieving properties, “promising evidence suggests that cannabis may be a powerful and efficacious tool in the alleviation of this [opioid] crisis” (Wiese and Wilson-Poe 2018). Legislation should put out a public health guide to educate consumers with updated information on the public health status of cannabis instead of leaving a limited surgeon general’s warning that most consumers glance over.

California has loosely addressed the environmental concern of cannabis by creating a rule that will go into effect in July 2022, which will require “progress towards compliance with the California Environmental Quality Act before issuing or renewing provisional cultivation licenses.” (Department of Cannabis Control). This will help the state bring sustainability into the conversation but still falls short in farmers who lack tangible resources to achieve sustainable gardens.

Sustainable Benefits

Sustainable farmers are environmental stewards that are mindful of energy consumption, conscientious of water use, and make an effort to produce wastes and packaging that can be recycled. A favored method to meet these criteria is regenerative farming in greenhouse operations. Regenerative farming promotes environmental health while greenhouses harness the power of the sun. These sun-grown flowers offer many benefits, but marketing portrays sun grown as second-tier to indoors; therefore, consumers associate the bottom shelf with lower quality. This could not be further from the truth. Sun grown flower has a lower environmental impact and more diverse cannabinoid profiles when compared to indoor.

By relying on the sunlight instead of high-intensity lights, a “shift from indoor grows to outdoor grows could reduce greenhouse gas emissions up to 96%” (Summers, 2021, p.648). In addition to reduced energy consumption, outdoor grows to have a more robust cannabinoid profile than indoors, which merely boast higher THC content. An independent study at a farm in Southern Humboldt compared clones of the same plant grown side-by-side, one indoor and one outdoor (Huckleberry Hill Farms). Their analysis, while not from a peer-reviewed, published study, indicates the possibility that sunlight develops more full-bodied cannabinoid profiles than the clone grown under artificial light. With more cannabinoids to produce a full synergist effect, this study alludes to outdoor cannabis to have more wholesome potential effects than indoor. A drawback to outdoor growing

would be susceptible to influences such as male pollen spores, pests, and bad weather. However, these drawbacks can be mitigated through growing in the greenhouse, which can be costly upfront but retains immense long-term value for cultivators. Unfortunately, accessibility to resources leaves greenhouse farming unavailable as an option for many farmers.

Conclusion

Cannabis is not sustainable with its current legislature. Sitting contently with tethering policy directly hurts the workforce behind the industry where smaller farmers are coerced into hard decisions to stay out of debt, such as laying off employees or letting their crops die to prevent debt from taxable harvests. Efficient, sustainable, and healthier alternatives for cannabis could be standardized but legislation seems to remain disconnected from the reality of cannabis and continues failing on integrating small farmers. The regulations that govern cannabis should not limit the industry but should direct it towards a more efficient future. Cannabis has been placed in a negative spotlight for too long by prohibition and with the potential to be cultivated with the healing of the body and soul in mind, the stigmas surrounding cannabis need to be better understood within the context of the wellness it can bring, not baseless claims incited by fear.

Carbon pollution from cannabis is low on the list of contributors to global warming, but in an interconnected world, awareness of our role is significant in preventing a global catastrophe. With multiple perspectives considered, the path towards environmentally friendly cannabis will be complex, but increased relationships and knowledge between policymakers and cultivators will ultimately benefit all of California.

Author Bio

Johnathon Macias has been a professional member of the cannabis community for 6 years. This article is fueled by Johnathon’s own experience of a family farm excluded by the licensing process. He works to bring awareness of the environmental impact of cannabis in hopes of bringing sustainability to the conversation. Johnathon believes that Cal Poly Humboldt can play a significant role in the region to build a more environmentally and socially accountable cannabis industry within our state.

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