



Cannabis in California

Lessons Learned

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Berkeley Cannabis Research Center

University of California - Cannabis Research Center

Our center promotes interdisciplinary scholarship on the social and environmental dimensions of cannabis production.

Through scientific research and engagement with community, government, and academic entities, we advance understanding of cannabis in socio-ecological systems at local, national, and global scales.

Our research focuses on cannabis and . . .



POLICY

Cannabis policy intersects all of our work.



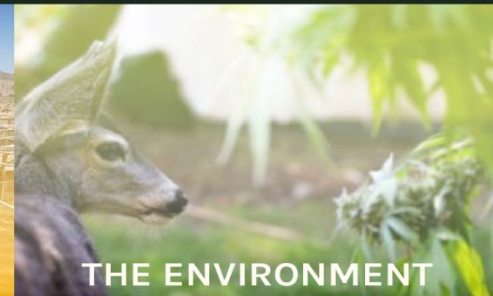
COMMUNITY

We study cannabis culture, politics, and economy.



LAND USE

Cannabis farms leave lasting imprints. We measure impacts.



THE ENVIRONMENT

Regulation promises mitigation. We assess threats.

My Research

- Anthropology
- Transition of Cultivators:
Illegal → Legal
- 14 Years (3 years fieldwork)
- California Cannabis
Advisory Committee
- 20 Publications:
 - Environment, Community,
Market, Livelihoods, Policy

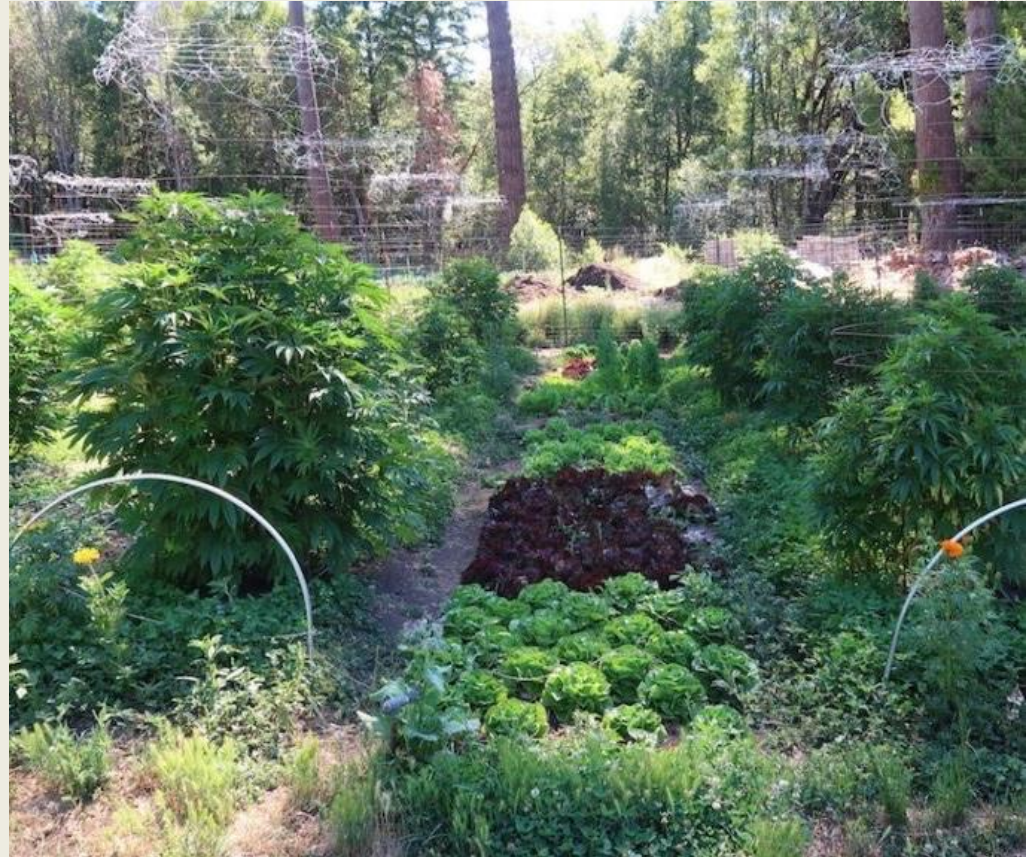


www.michaelpolson.com

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Outline

- 1) History of Prohibition & Medical Cannabis
- 2) Lessons in Regulating Cultivation
- 3) Supply Chain Issues
- 4) The Societal Aims of Market Policy
- 5) *Legalization Lessons*



Cannabis Policy in California

- 1913 Poison Act
- 1975 Use & Possession Decriminalized
- 1996: Compassionate Care Act
- 2016: Adult Use of Marijuana Act



Key Features of Medical Cannabis

- First US State – 1996
- Open to Any Ailment
- Doctor's Recommendation

Challenges

- Shifting Legality
- Diversion & “Medical” Status
- “Mess” or Just Unregulated?



Medical Collectives & Private Supply

Benefits of Collectives:

- Low Cost & Non-Profit
- Producer-Consumer Relationship
- Safe & Quality Product
- Enhanced Health, Community & Environment
- Provided Much of State's Need



Social Clubs (medical or not) can provide predictable, affordable, safe, quality product.

Outline

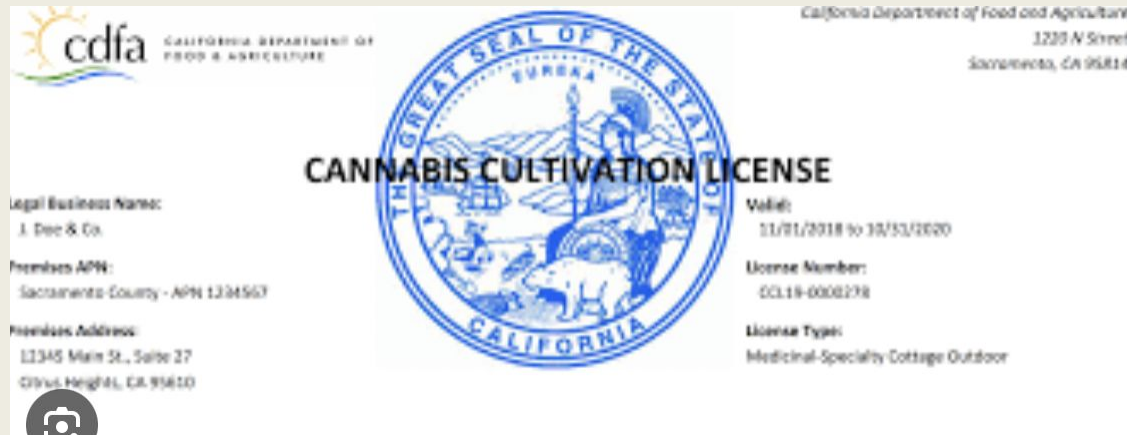
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- 2) **Lessons in Regulating Cultivation**
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Regulating Cultivation

- 1) Unlimited Licensing
- 2) Small Farm Market Became Large Farm Market
- 3) Agricultural “Product” Not Crop



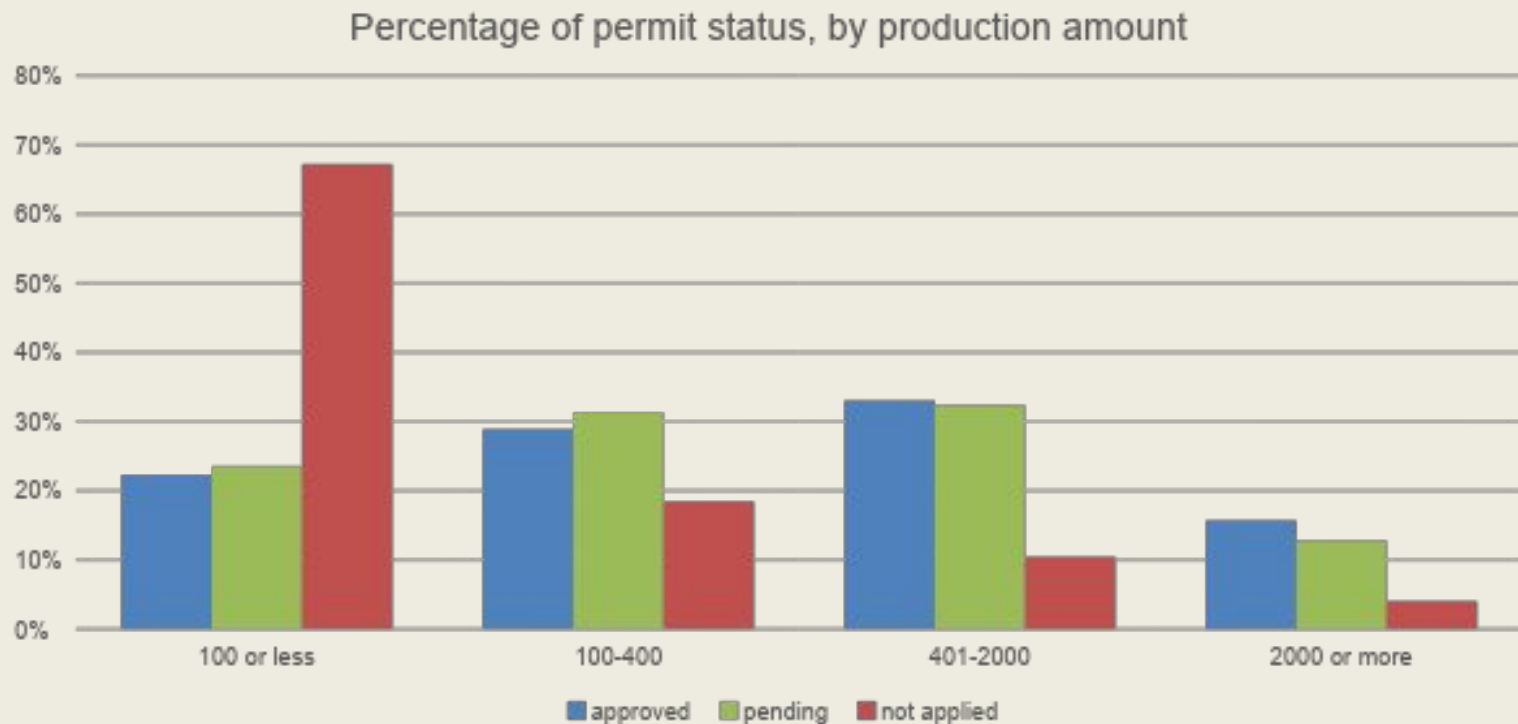
Research Questions

- What was experience of cultivators with regulation?
- Why did people stay unlicensed?
 - Motivations and Barriers
 -
- What barriers exist?
 - How can barriers be addressed best?



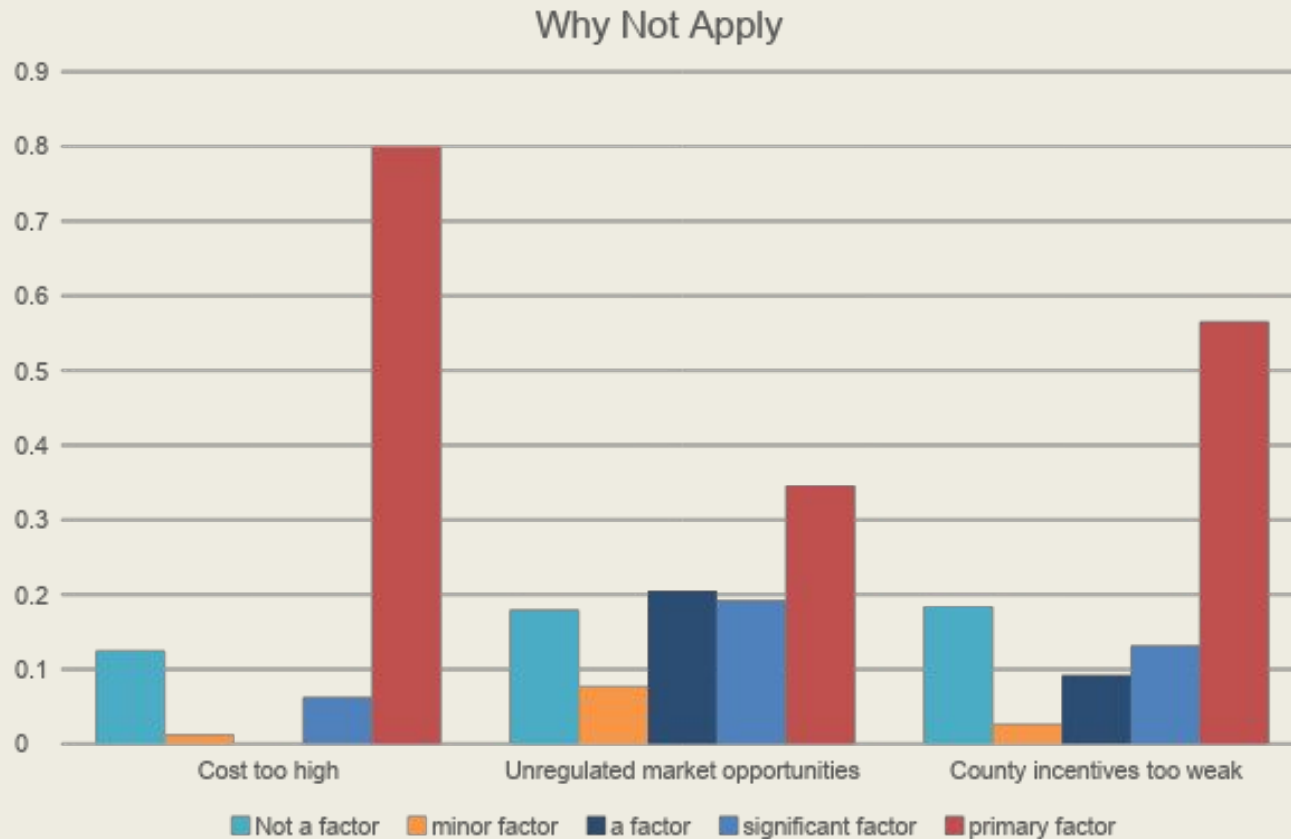
One of five grow sites at a non-compliant cannabis farm.

Small farmers stayed unlicensed.

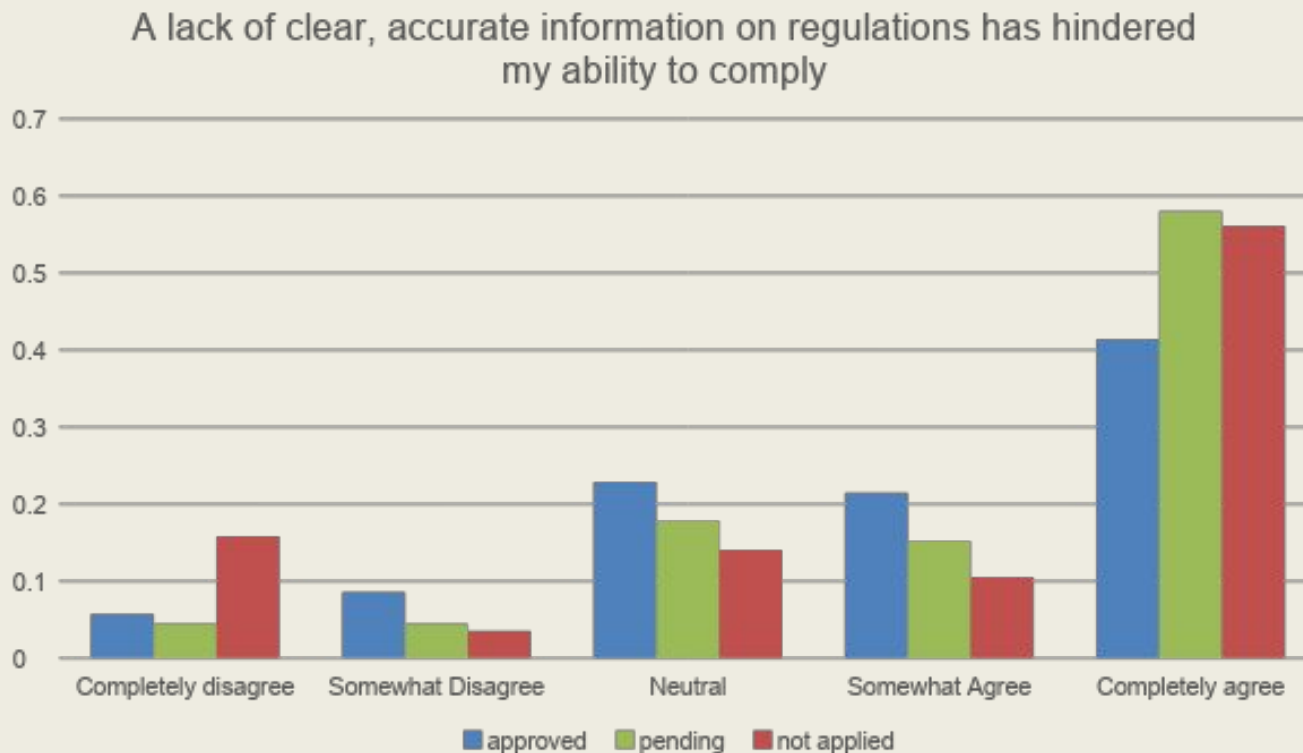


The majority of farmers who did not apply for permits produced less than 100lbs in 2018.

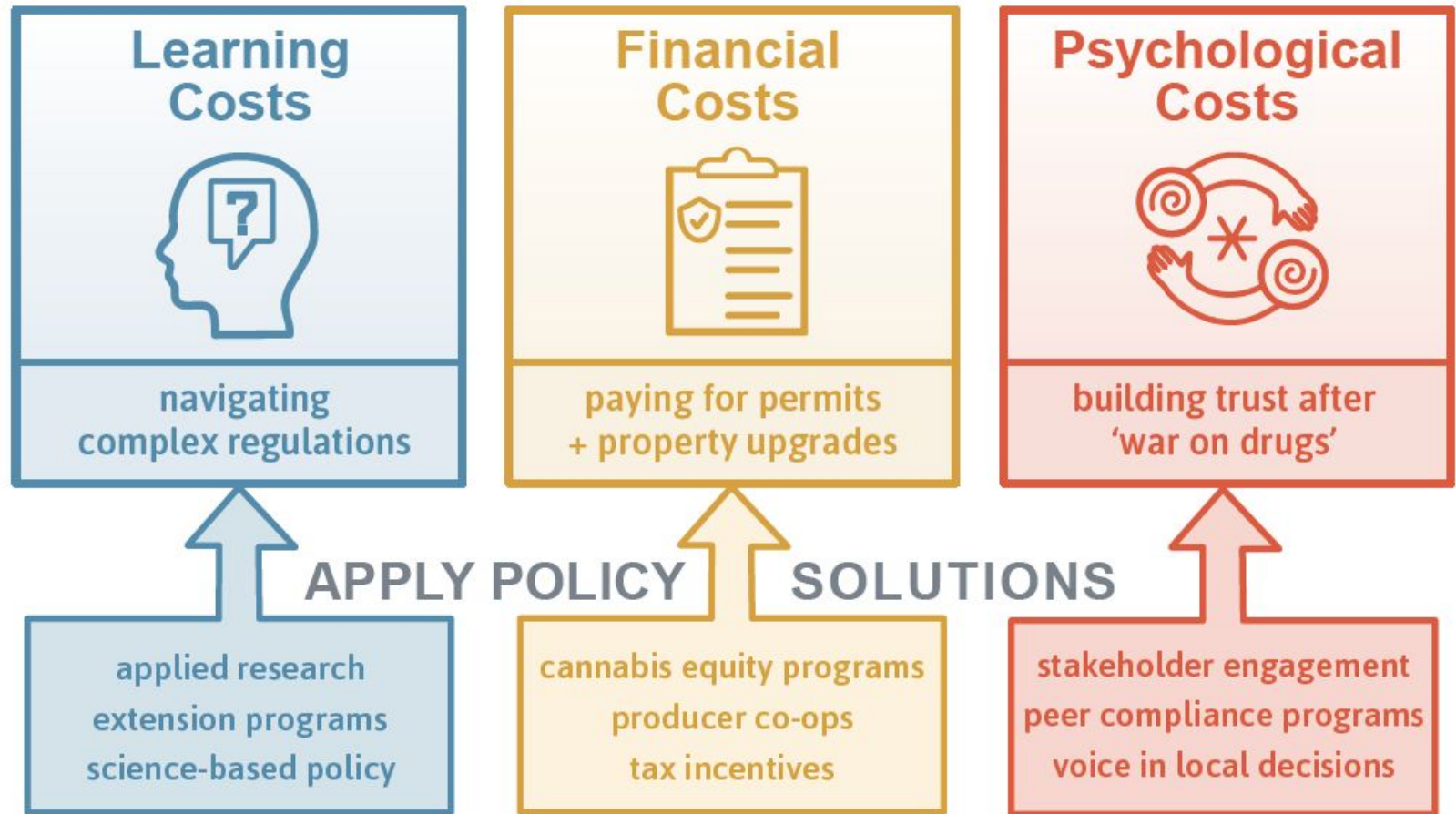
Cost was the primary barrier to compliance.



Unclear information poses a barrier to compliance.



Learning and psychologically adjusting to regulations is also a barrier and cost



How Are Cultivation Regulations Working Out?



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Local Regulations

400+
Experiments in
Cannabis Policy



Time to Local Approval

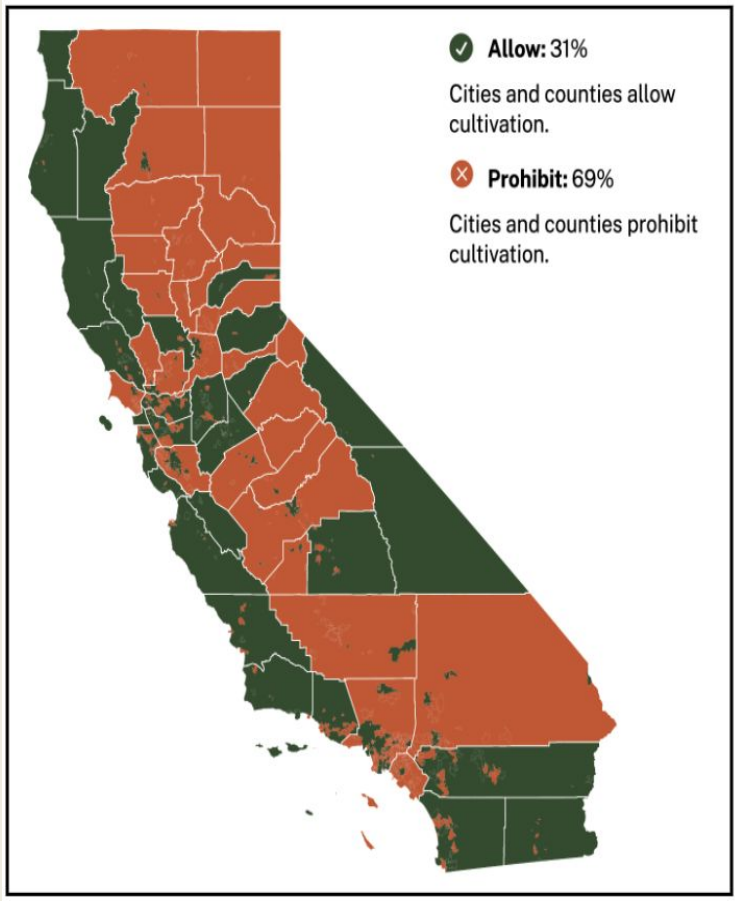
- 1) Highly variable approval amounts
- 2) Average approval time = 24 months
- 3) Larger projects were approved faster than smaller
- 4) Pre-existing cultivators had longer approval times (26 v 16m) and more permit requirements

JURISDICTION	TOTAL OBSERVATIONS	# OBSERVATIONS W/ COMPLETE TIMEFRAME DATA	MEAN
ALL JURISDICTIONS	728	703 (96.6%)	24
HUMBOLDT	542	540 (99.6%)	28
LAKE	60	38 (63.3%)	10
MENDOCINO	3	3 (100%*)	23
MONTEREY	4	4 (100%)	26
NEVADA	54	54 (100%)	8
SAN LUIS OBISPO	31	30 (96.8%)	16
SANTA BARBARA	9	9 (100%)	13
SANTA CRUZ	12	12 (100%)	10
SONOMA	13	13 (100%)	23

Local Bans

2/3rds of CA governments ban cultivation and other commercial activity

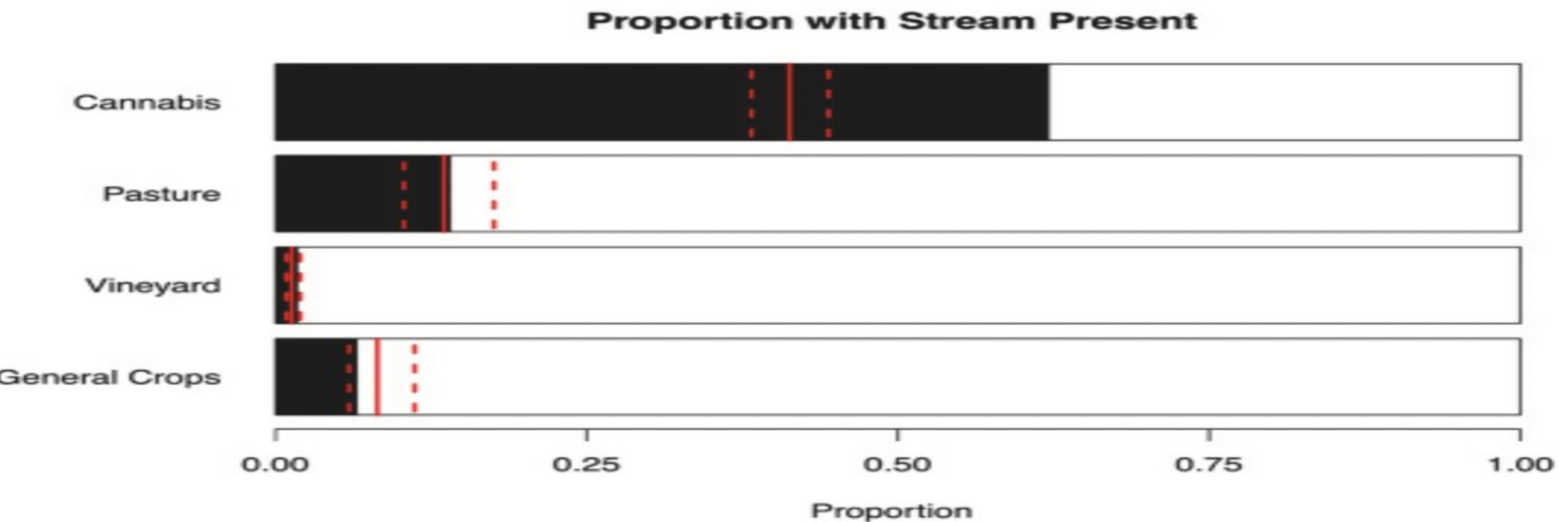
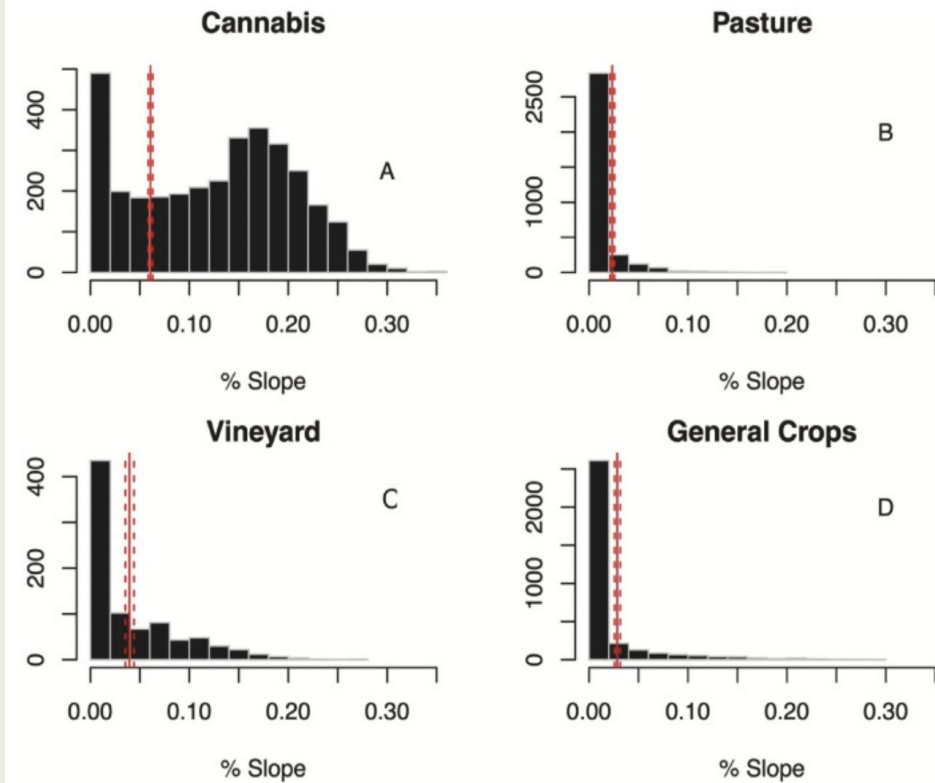
Bans are the most common local regulations



Bans:

- consume local resources
- create “whack-a-mole” dynamics with questionable long-term efficacy
- punish people for pursuing livelihoods
- Negative effects vulnerable populations

Marginal Lands





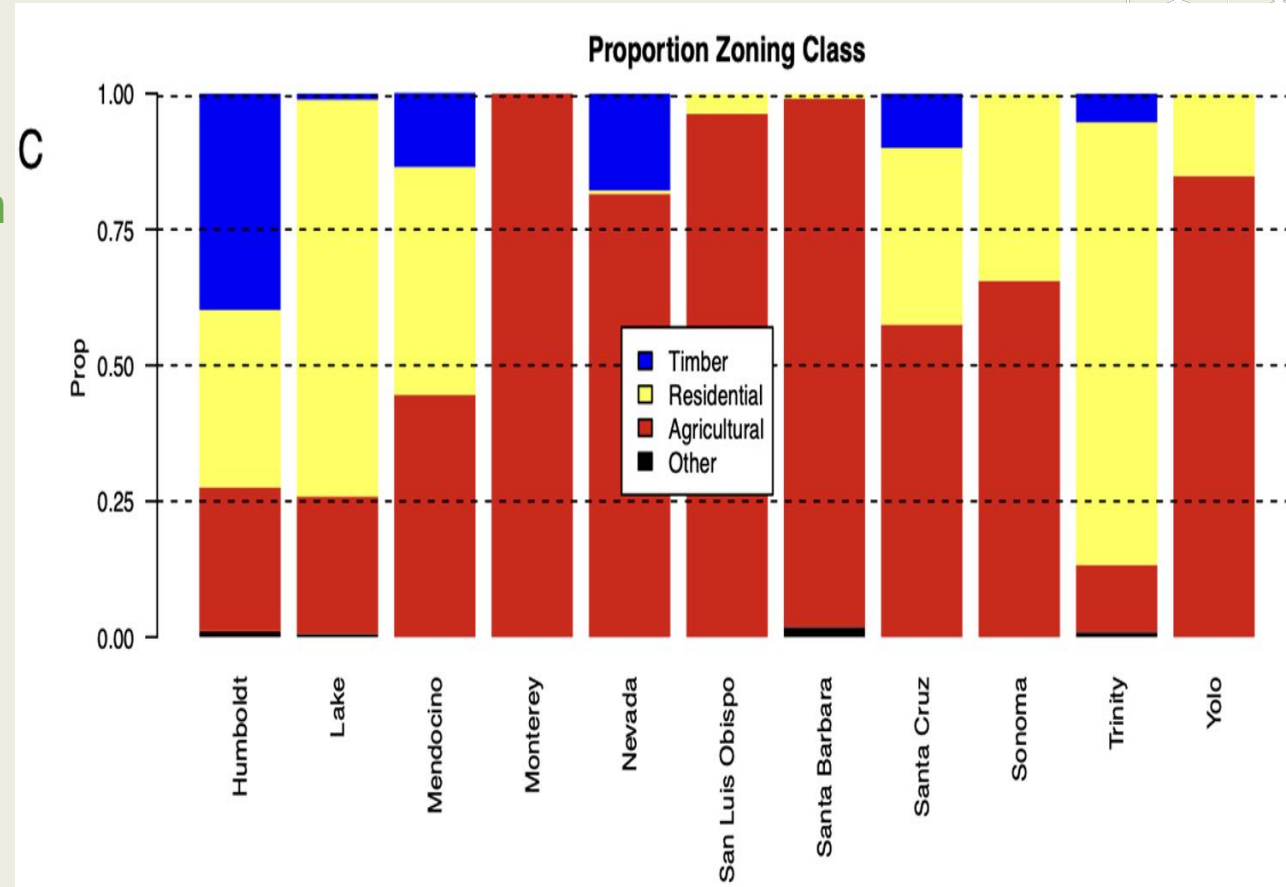
Shifting Cultivation Geography

Large Farms are Ag Zoned:

- Biggest farms are on ag land

Bifurcation of cultivation sector:

- large farms in easily permitted ag zones
- small farms in difficult-to-permit zones



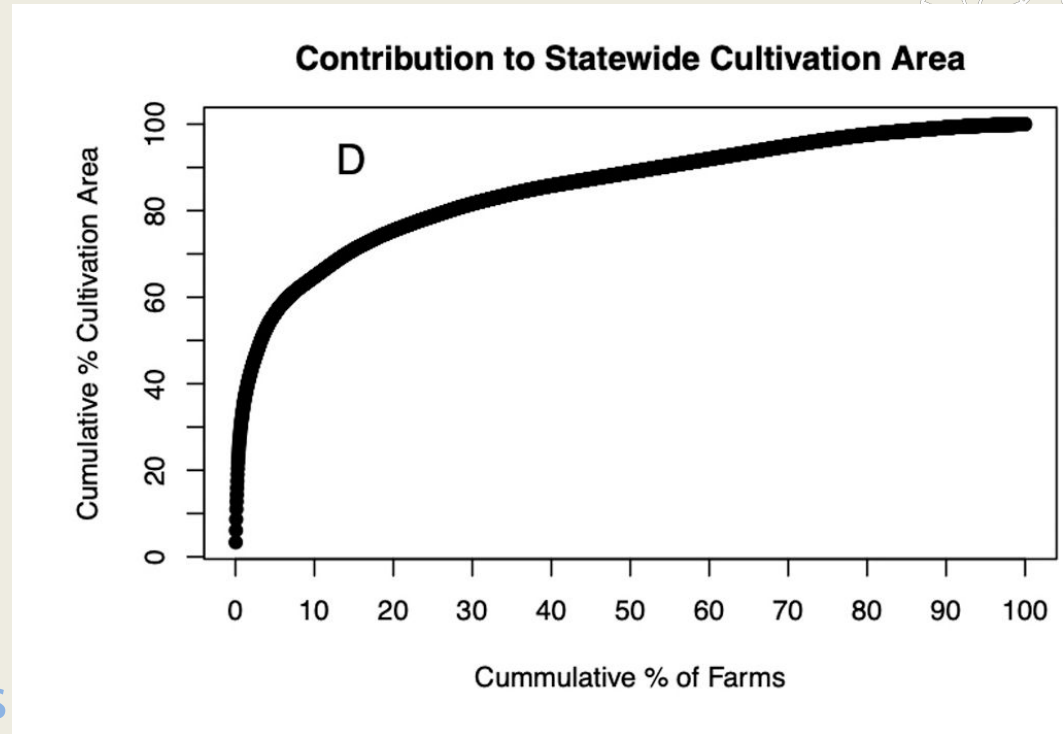
Shifting Cultivation Geography

Farm concentration:

- 10% of farms represent 60% of cultivated area

Absentee /Commercial Farms:

- Areas with biggest farm size growth had tenants and no on-site residences

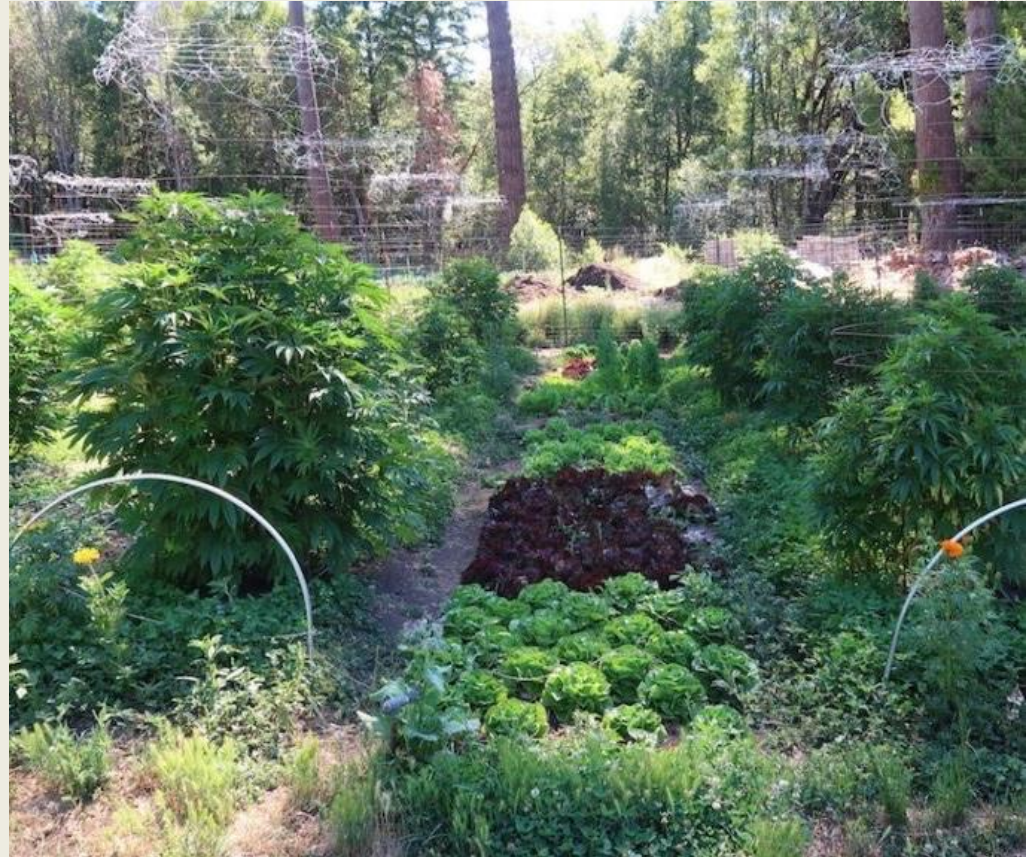


Lessons Learned: Regulating Cultivation

- 1) If it's legal, make it legal!
 - a) Make consistent, clear, and accessible system
 - b) Integrate into existing systems
 - c) Avoid reversion to law enforcement
- 2) Do regulations produce the kind of market citizens deserve and demand?
 - a) Choice of: industrial, exclusionary market or opportunity for many in wake of drug war

Outline

- 1) History of Prohibition & Medical Cannabis
- 2) Lessons in Regulating Cultivation / Farming
- 3) **Supply Chain Issues**
- 4) Policy & Social Aims
- 5) *Legalization Lessons*



Market Development & Challenges

Crisis of overproduction

=

crisis of over-licensing

=

crisis of under-consumption



Market Challenges: Crash & Reform

- Sales declined 20% ('21-'23)
- Prices collapsed
 - *26% price decline ('21-'22); 50% decline since 2017*
- Cultivators failed
 - *41% decline in farmers ('22-'24)*
- Turn to bulk farming @ low prices
 - *approx. 40% decline in flower sales b/t '20-'24*
 - *Rise of manufacturing*
- Sectoral consolidation
 - *Approx 9-20 farms could supply entire state needs*



Market Challenges: Revenue Upheaval

- *State Tax revenue down 43%*
- *Decreasing tax compliance*
- *Unpaid debt affecting supply chain*
 - *especially farmers*



Unlicensed Market

- Robust market pre-crash
- Loss of livelihoods causes distress, life problems, and community impact
- Many left market
 - a) those with options left or became licensed
 - b) Those left are more vulnerable



Unlicensed Market

- Price drop in illegal market, too
 - closure of out-of-state markets
 - Tightening of in-state market
- Licensed market depends on unlicensed market
 - front door / back door
- New “gray market”
 - including robust illegal retail sector



Today: Enforcement

- Push to Re-Criminalize
- Turn toward financial punishment
- Uniquely Strict Enforcement
- What is a Fair, Equitable & Appropriate Response for Legalized Era?



Ways to Address Unlicensed Market

- 1) Enforce until it disappears?*
- 2) Scale up & Promote Consolidation?*
- 3) Create accessible legal market system to undermine illegal market*

Policies for Establishing Sustainable Markets

Problem:

Ag Markets Undermine Small Producers & Promote Concentration

- *Undermines rural development*
- *Narrows benefit of market*

Support Smaller Farming System

- *Geographic Protections*
- *Cooperatives*
- *Equity Programs for “Legacy” Actors*
- *Price Supports to Ensure Livelihoods & Other Public Goods*



Policies for Establishing Sustainable Markets

Problem:

Overproduction is Tendency with Ag Commodities

- *Bad for public health*
- *Bad for public safety*

Undermine Overproduction

- *Calibrate Cultivation to Needs*
- *Calibrate Retail to Supply*
- *Ensure Ag Stability via allotment system*



The Value(s) of Legalization



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Thank you!



Contact us!

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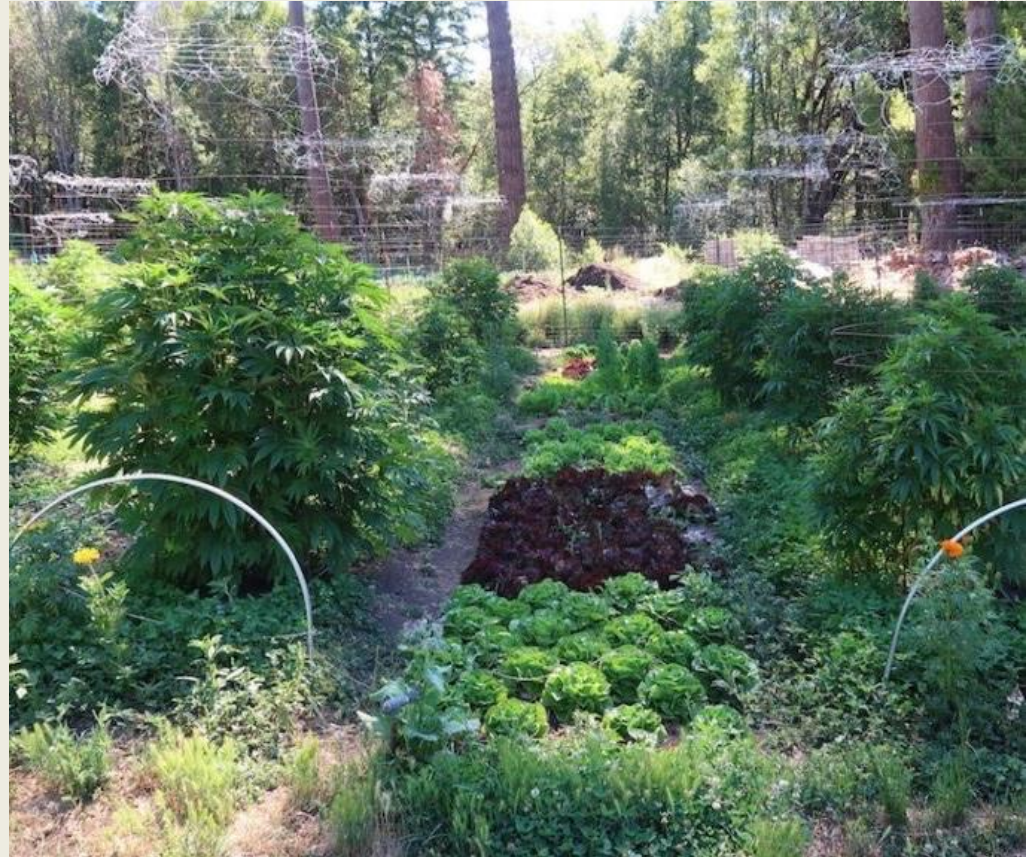
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FOUNDATION

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Adult Use of Marijuana Act (2016)

Aims :

- Transition to Legality
 - License & Regulate
 - Impose Taxes
 - Save Law Enforcement Resources
 - Establish Low Barriers to Entry
 - Address Prior Sentences & Records (Expungement)
- 
- Support Small & Medium Size Businesses
 - Protect Public Health, Safety & Environment

Key Features of CA Legalization

- Licensing System
- Mandatory Distribution & Testing
- Flat Cultivation Tax, State Excise Tax, Sales Tax & Local Tax
- “Track and Trace”
- Compliance (Labor, Environment, Safety, etc)
- Protect Personal Use & Supply

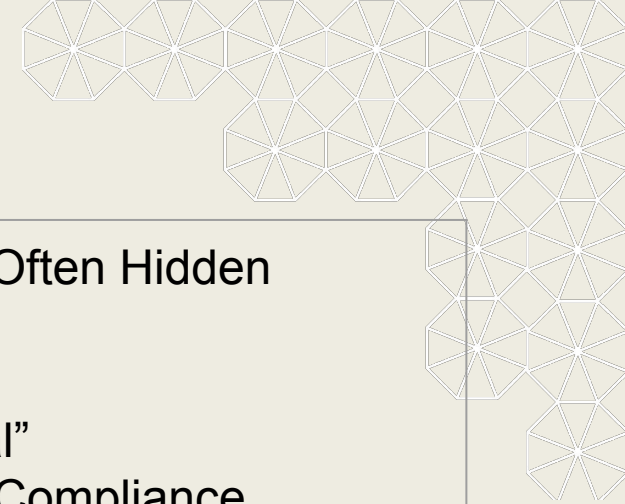


- Revenue Distribution (state agencies, research, prevention, environment, enforcement)
- Delay Large Licenses (undermined)

Some Outcomes of Legal Program

- 2021: \$5.8bn; 2022: \$4.9bn; 2023: \$5.9bn
 - Larger than Canada; largest legal market in world
- 2023: \$1.1bn in state revenue
- Expunged 90% of cases (2023)
- Significant Environmental Compliance
- Local Equity Programs
- Local Bans Prevalent
- Low retail density (3 shops/100,000 residents)
- Low per capita sales
- Market Expansion (2018–2020) & Crash (2020–2023)
- Decline of licensees:
 - 2022: 8380 cultivators → 2024: 5498 cultivators

Regulatory Challenges



Licensing/Compliance	<ul style="list-style-type: none">- High Barriers to Entry, Often Hidden- State/Local Approval- Shifting Rules- Gray area - “Provisional”- Punitive Orientation to Compliance- Repelled Many “Legacy” Operators
Testing	<ul style="list-style-type: none">- Inexact Testing Standards- Variable Results
Distribution	<ul style="list-style-type: none">- Bottleneck & Producer Abuse- Uneven Geography & Firm Failure- Favors Large Companies- Illegal Distribution (“Burner”)

Regulatory Challenges

“Track and Trace”	<ul style="list-style-type: none">- Mis-Reporting & Diversion- Opaque Data
Taxes	<ul style="list-style-type: none">- Approximately 30-50% tax- Cultivation Tax Suspended- Inability to Deduct Business Expenses- Belief in Sustained High Prices
Equity	<ul style="list-style-type: none">- Localized & Uneven Aims / Definitions- Capital Disadvantages