

Assessing the Harms of Cannabis Cultivation in Belgium

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Cannabis: shift in cultivation, shift in policy?

- Since the 1980s domestic production of cannabis herb (i.e., marijuana) has risen in most consumer countries
 - Shift was particularly far-reaching in The Netherlands and has later invested neighbors
- Large-scale cannabis cultivation is said to produce large revenues for organized crime groups and to be source of violence and corruption
- Law enforcement efforts primarily aim to reduce availability but also to reduce organized crime profits and harms
- Cannabis is only drug for which thorough policy change is possible in mid-term

**How does cannabis cultivation in Belgium take place?
Which harms are associated with it
and what are their severity, incidence and causes?**

Outline

- Project aims, methods and samples
- The harm assessment framework (Greenfield & Paoli, 2013)
- Identifying the harms associated with cannabis cultivation and its accompanying activities
- Assessing the severity and incidence of the harms and establishing their causes
- Concluding remarks

Outline

➤ **Project aims, methods and samples**

- The harm assessment framework (Greenfield & Paoli, 2013)
- Constructing the business model of cannabis cultivation and identifying the related harms
- Assessing the severity and incidence of the harms and establishing their causes
- Concluding remarks

Project aims

- 1. To describe the organization of cannabis production in Belgium**
2. To create typologies of different types of cannabis producers in Belgium and identify their modi operandi and aims
3. To assess the market significance of different types of cannabis producers in Belgium (i.e. market segments)
- 4. To estimate the harms associated with different types of producers** and
5. To evaluate the impact of the Belgian drug policy strategies on them

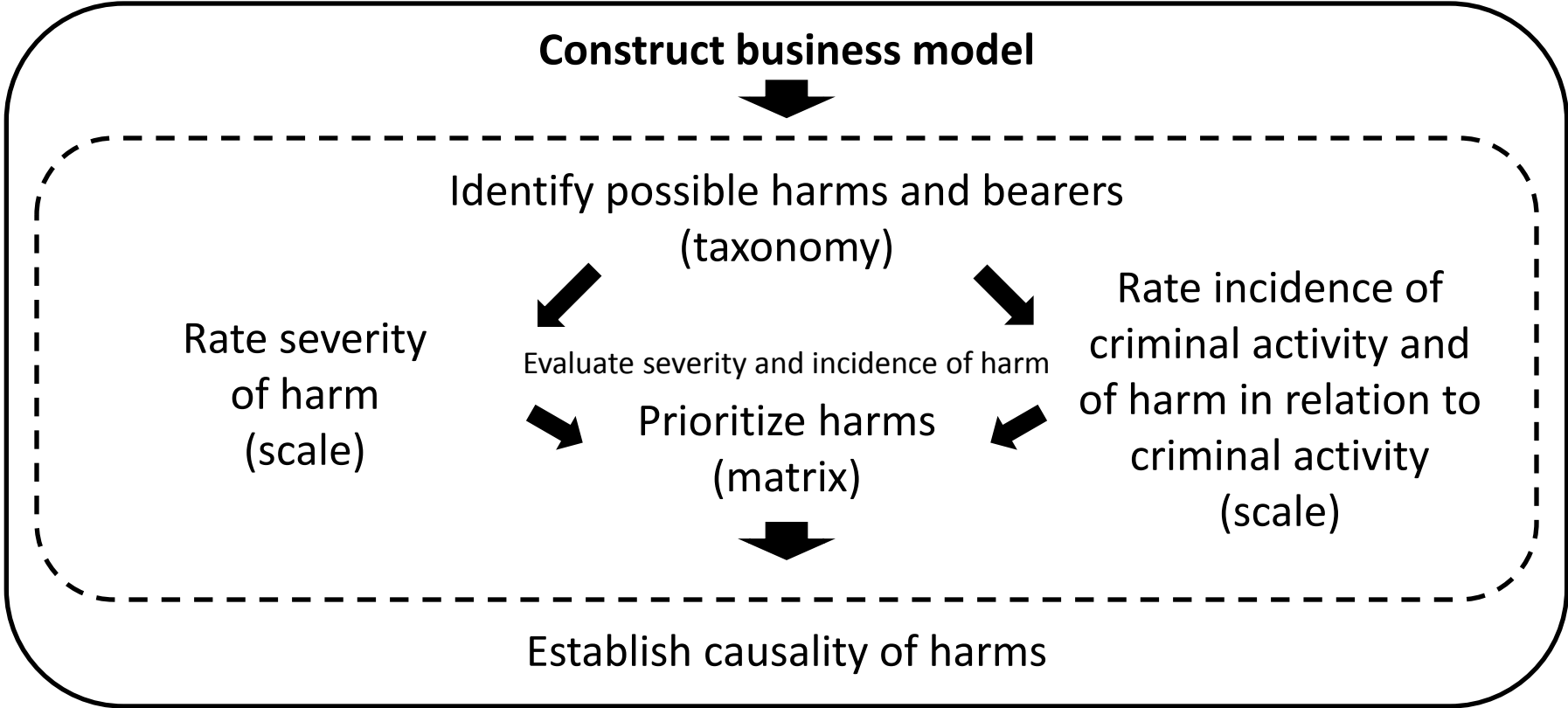
Methods and samples

- Research design combines quantitative and qualitative methods
- Ghent team was responsible for internet survey, part of GCCRC
 - 1,293 valid surveys from whole of Belgium: age 18-81, mostly males (90.9%), mostly small-scale (73.4% < 5 plants; 98.3% <49 plants)
- Leuven team was responsible for qualitative data collection focusing on large-scale cultivators
 - 20 interviews with imprisoned cultivators: aged 24-63, all males, 17 Belgian, 3 Dutch
 - 28 interviews with experts, mostly but not exclusively from law enforcement
 - Analysis of 34 criminal cases opened in 2005-2011: 1-46 suspects per case, aged 18-69, mostly males (85.5%), Dutch and Belgian, all large-scale
- Data have obvious limitations, which are only partially alleviated by triangulation

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Harm assessment framework



“Compare” harms associated with different criminal activities

Identify “harmful” perpetrators

Assess current and proposed policy measures

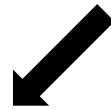
Harm assessment framework

Construct business model



Identify possible harms and bearers
(taxonomy)

Rate
severity
of harm
(scale)



Evaluate severity and
incidence of harm



Rate
incidence of
criminal activity
and of harm in
relation to
criminal activity
(scale)

Prioritize harms
(matrix)



Establish causality of harm

Harm assessment framework

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Establish causality of harm

Taxonomy delineates type & bearers

	BEARER OF HARM			
	Individuals	Private-Sector Entities	Government Entities	Environment
TYPE OF HARM				
Functional integrity	X*	X**	X**	X***
Material interest	X	X	X	n/a
Reputation	X	X	X	n/a
Privacy	X	X	X	n/a

Source: authors drawing from von Hirsch and Jareborg (1991) and others.

Notes: X = applicable; n/a = not applicable;

* Functional integrity = Physical and psychological integrity;

** Functional integrity = Operational integrity;

*** Functional integrity = Physical, operational, and aesthetic integrity

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(matrix)**



Establish causality of harm

Common benchmarks gauge severity

SEVERITY RATING	Level of individual's living standard at which damage occurs	Level of entity's mission capability at which damage occurs
Catastrophic	1°: Subsistence, consisting of survival, but with maintenance of no more than elementary capacities to function	1°: Viability, consisting of survival, but with maintenance of no more than elementary capacities to function
Grave	2°: Minimal standard of living	2°: Minimal mission capabilities
Serious	3°: Adequate standard of living	3°: Adequate mission capabilities
Moderate	4°: Enhanced standard of living	4°: Enhanced mission capabilities
Marginal	Marginal or no effect at any level	Marginal or no effect at any level

- Drawn from von Hirsch and Jareborg's (1991) living-standard approach
- Extended to other bearers by analogy, e.g., from living standard to capability to achieve mission for private-sector and government entities
- Used to assess effects of intrusions upon different interests (functional integrity, material interest, reputation, and privacy), levels of analysis require specification

Incidence provides grounding for prioritizing harms

Matrix of severity, incidence, and priorities

SEVERITY	INCIDENCE				
	Always	Persistently	Occasionally	Seldom	Rarely
Catastrophic	H	H	H	H/M	M/H
Grave	H	H	H/M	M/H	M
Serious	H	H/M	M/H	M	L
Moderate	H/M	M/H	M	L	L
Marginal	M/H	M	L	L	L

Source: authors based on Greenfield and Camm, 2005.

Notes: H = Highest priority; M = Medium priority; L = Lowest priority; we use “non applicable” for harms that are irrelevant in a particular context.

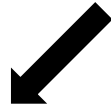
Matrix offers preliminary basis for addressing incommensurability, using quantitative and qualitative data

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Prioritize harms
(matrix)



Establish causality of harm

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Working through harm assessment process

Construct business model



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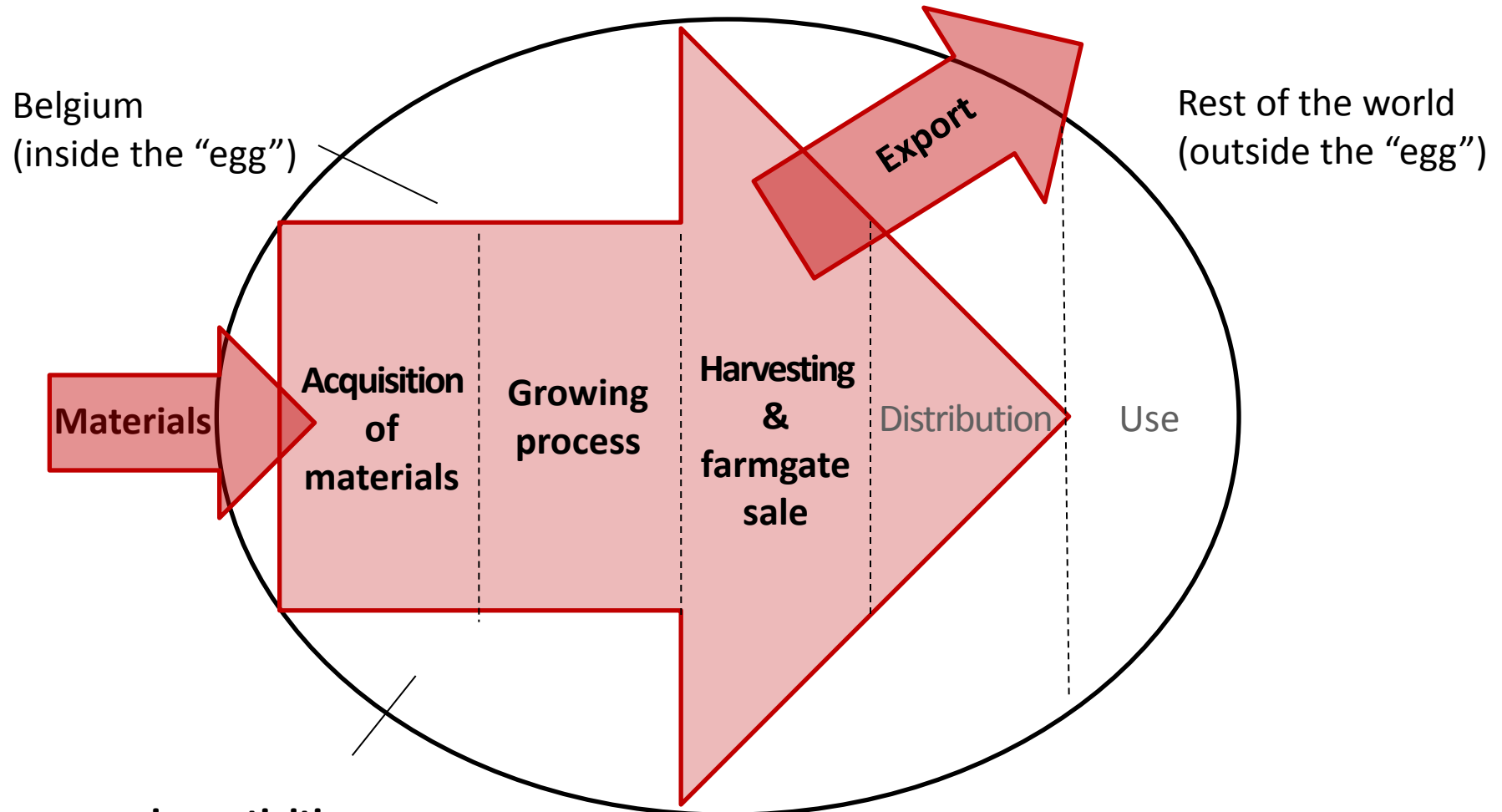
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Establish causality of harm

The business model of cannabis cultivation



Accompanying activities:

- Theft and destruction of plants/harvest/equipment
- Use or threat of violence
- Corruption
- Money laundering

The growing process and related harms

- Most survey respondents (74.1%) cultivate on/in their own property, outdoor and indoor, and hence cause no harm to others
- Interviewed large-scale cultivators grow indoor, in rented properties, occasionally buying owners off or using false IDs
- Electricity theft is source of largest harm in this phase
 - 7% of survey respondents (18.4% >20 plants, n=13) and almost all interviewed cultivators admit theft
 - Harms assessed in €4,000 to €98,000 per plantation in criminal cases
 - According to Eandis, 80% of recorded thefts are cannabis-related; 1,040 cases in 2003-2010; average harm is € 22,018 per case
 - Electricity theft also occasionally sets up fires
- Harms sometimes result also from the destruction of property and water overflow
 - Survey provides no data on this, but according to police 3 to 5 plantations were discovered each year in 2006-11 due to water damages

Harvesting and sale and related harms

- Small-scale cultivators (< 20 plants) harvest plant themselves and produce no harm
- Very large-scale cultivators sometimes recruit “cutting teams”
 - In six criminal cases Eastern Europeans were recruited, were paid regular salaries but also “surveilled”
 - Some interviewed cultivators report good treatment of cutters but others and experts suggest exploitation
 - E.g., hard work, no pay, transport in shuttered buses
- Only 8.1 % of survey respondents (36.1% > plants) but all cultivators interviewed and charged in criminal cases are interested in monetary profits
- Some interviewed cultivators admit considerable earnings
 - “Farmgate” price is around €3.500 per Kg
 - 250 plants deliver at least 30 Kg per harvest, thus can be sold at €100,000

Theft and destruction of plants/harvest/equipment

- Theft and destruction of plants/harvest/equipment may occur to all cultivators but especially to those cultivating more than 20 plants
 - 13.7% of survey respondents (17.7% > 20 plants) admit having been involved in theft of plants, 5.6% (18.2% > 20 plants) in theft of harvest, 1.8% in theft of equipment (9.4% > 20 plants) and 12.3% in destruction of plants (30.3% > 20 plants)
 - 4 interviewed cultivators and 4 criminal cases also report theft of cannabis
- These activities often lead to violence but in our framework, they produce *per se* no harm, as they involve illegal property
- Experts speak of booby traps to discourage theft but other sources provide no supporting evidence

Use or threat of violence and related harms

- Only 6.8% of survey respondents have direct experience of verbal conflicts, only 1.5% of actual violence
 - Those cultivating more than 20 plants are more frequently involved: 12.9% in verbal conflicts, 6.5% in physical conflicts
 - Some physical conflicts reported have had serious consequences
 - Eight injuries, one permanent injury, one death
 - Counterparts are relatives, friends but also customers/suppliers or thieves
- Other sources also report little violence
 - Only three out of 20 interviewed cultivators have direct experience of physical violence
 - Consequences can be serious,: in one case a paralysis
 - Counterparts are mostly unknown thieves
 - Two out of 34 criminal cases report a kidnapping and two shoot-outs, seven others threats
 - Experts report no violence
 - Violence is probably underreported in criminal justice sources

Corruption and related harms

- According to all sources there is very limited, low-level governmental corruption
 - 64 survey respondents report contacts with police officers, 20 with other officials
 - Two interviewed cultivators report contacts with law enforcement officers
 - Criminal cases mention small (suspected) favors
 - It is unclear if anyone was really bribed
- Private-sector representatives are more frequently involved as facilitators
 - 15.6% of survey respondents report receiving help from (Dutch) grow- and coffee-shops, 10% from electricians or lawyers
 - Those cultivating more than 20 plants report more frequently help from electricians and lawyers (25.8%)
 - Interviewed cultivators and criminal cases also highlight role of growshops and electricians but also report favors from real estate agents and involvement of car rentals and other logistics enterprises
 - Some of these facilitators work independently, some harm their companies

Money laundering and related harms

- According to all sources, earnings are primarily used to buy luxury goods and support lush lifestyle but are also reinvested in cannabis cultivation and, more rarely, in other illegal activities
- Earnings suggest that crime pays, thus tainting government's reputation
- Private-sector facilitators are sometimes used to launder money
 - Survey respondents admitted receiving help from lawyers (33), notaries (9), bank officials (8), accountants (5), insurance companies officials and tax advisors (2 each)
 - A few criminal cases provide evidence of “sophisticated” laundering techniques

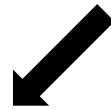
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**Identify possible harms and bearers
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Establish causality of harm

Possible harms touch upon many interests

	Growing	Harvesting & sale	Corruption	Violence	Money laundering	Bearers
HARMS TO INDIVIDUALS, specifically to their:						
Functional integrity						
<i>Loss of life</i>	n/a	n/a	n/a	X	n/a	- Cultivators, their relatives, friends, suppliers/customers and thieves, if targeted by use of violence
<i>Other: physical & psychological</i>	n/a	n/a	n/a	X	n/a	- All persons targeted by use of violence
<i>Only psychological</i>	n/a	X	n/a	X	n/a	- All persons targeted by threats - Member of cutting teams, if intimidated
Material interest	X	n/a	n/a	X	n/a	- Ancillary to functional harms, for those targeted by use or threat of violence - Owners of property, if this is damaged
Reputation	n/a	X	n/a	X	n/a	- All persons targeted by use or threat of violence - Owners of property, if this is misused w/o their knowledge
Privacy	X	X	n/a	X	n/a	- Same two categories as for reputation - Member of cutting teams, if controlled

	Growing	Harvesting & sale	Corruption	Violence	Money laundering	Bearers
HARMS TO PRIVATE-SECTOR ENTITIES, specifically to their:						
Functional integrity	n/a	n/a	X	n/a	X	- Specialized shops, electrical companies, farms and law and logistics firms, if corrupt employees misuse assets w/o their knowledge
Material interest	X	n/a	X	n/a	n/a	- Ancillary to functional harms (property) - Electrical companies, if electricity is stolen - Owners of property, if this is damaged
Reputation	X	n/a	X	n/a	X	- Specialized shops, electrical companies, farms and law and logistics firms, if corrupt employees misuse assets w/o their knowledge - Owners of property, if this is damaged
“Privacy”	X	n/a	X	n/a	n/a	- Same two categories as for reputation
HARMS TO GOVERNMENT, specifically to its:						
Functional integrity	n/a	n/a	X	n/a	n/a	- Government agencies, if representatives engage in corrupt practices, incl. neglect of duties
Material interest	n/a	n/a	X	X	n/a	- Ancillary to functional harms (health) - Wages associated with neglect of duties
Reputation	n/a	n/a	X	n/a	n/a	- Government agencies, if representatives engage in corrupt practices, incl. neglect of duties
	X	X	X	X	X	- Government writ large, if it cannot enforce its laws
“Privacy”	n/a	n/a	X	n/a	n/a	- Government agencies, i.e., if officials/representatives engage in corrupt practices, incl. neglect of duties
HARMS TO ENVIRONMENT, specifically to its:						
Functional integrity	n/a	n/a	n/a	n/a	n/a	

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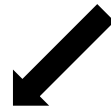
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Establish causality of harm

Cannabis production occurs always

- Sharp increase in number of plant seizures and detected “plantations” (> 2 plants) in Belgium since 2000
 - From 73,334 plants and 35 plantations in 2003 to 337,955 plants and 1,069 plantations in 2011

Plantations detected by the Belgian Federal Police, by scale, 2007-2011

Year	2007	2008	2009	2010	2011
Micro scale: 2-5 plants	66	136	134	209	190
Mini scale: 6-49 plants	130	219	226	313	376
Small scale: 50-249 plants	62	125	166	163	187
Middle scale: 250-499 plants	40	58	72	93	101
Large scale: 500-999 plants	44	63	65	106	119
Industrial scale: >1000 plants	51	45	66	86	88
Seedling farms	5	2	8	9	8
Total	398	648	737	979	1069

Source: Belgian Federal Police, 2012.

- At any moment cannabis is being cultivated in Belgium
 - Belgian production feeds Belgian market and Dutch coffeeshops

Actual harms accrue to individuals*

	Severity	Incidence**	Priority	Activity
HARMS TO INDIVIDUALS, specifically to their:				
Functional integrity				
<i>Loss of life</i>	Catastrophic	Rarely	M/H_i	Violence
<i>Other physical and psychological</i>	Grave	Rarely	M_i	Violence (i.e., assault causing permanent damages)
	Serious	Rarely	L _i	Violence (i.e., assault and kidnapping)
	Moderate	Rarely	L _i	"
	Marginal	Rarely	L _i	Violence (i.e., petty assault)
<i>Only psychological</i>	Marginal	Seldom	L _i	Violence threatened (i.e., intimidation)
	Marginal	Rarely	L _i	Harvesting, if cutting teams are intimidated

*Estimates exclude harms associated with cannabis distribution and use.

**Overall incidence, accounting for incidence of activities and of harms in relation to activities.

Actual harms accrue to individuals*

	Severity	Incidence**	Priority	Activity
HARMS TO INDIVIDUALS, specifically to their:				
Material interest	Serious	Seldom to rarely	M/L _i	Growing, if rented properties are seriously damaged (e.g., fire)
	Moderate	Occasionally	M _i	Growing, if rented properties are damaged (e.g., waterflow)
	Marginal	Persistently	M _i	Growing, if rented properties are damaged (e.g., holes in walls)
Reputation	Moderate	Rarely	L _i	Violence (i.e., all forms of assault)
	Marginal	Seldom	L _i	Violence threatened (i.e., intimidation)
	Marginal	Seldom	L _i	Growing, if rented properties are misused w/o the owner's knowledge
Privacy	Moderate	Rarely	L _i	Violence (i.e., assault and kidnapping)
	Marginal	Rarely	L _i	Growing, if rented properties are misused w/o the owner's knowledge
	Marginal	Rarely	L _i	Harvesting, if cutting teams are controlled

*Estimates exclude harms associated with cannabis distribution and use.

**Overall incidence, accounting for incidence of activities and of harms in relation to activities.

Actual harms also accrue to others*

	Severity	Incidence**	Priority	Activity
HARMS TO PRIVATE-SECTOR ENTITIES, specifically to their:				
Functional integrity	Marginal	Seldom	L _{ps}	Corruption and money laundering
Reputation	Marginal	Seldom	L _{ps}	Corruption and money laundering
“Privacy”	Marginal	Seldom	L _{ps}	Corruption and money laundering
HARMS TO GOVERNMENT, specifically to its:				
Functional integrity	Marginal	Rarely	L _g	Corruption
Material interest	Moderate	Rarely	L _g	Violence (i.e., assault causing permanent damages)
	Marginal	Rarely	L _g	Violence (i.e., medical treatment of petty assaults)
	Marginal	Rarely	L _g	Corruption
Reputation	Marginal	Always	M_g	All criminal activities (non-enforcement effect)
	Marginal	Rarely	L _g	Corruption

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**Overall incidence, accounting for incidence of activities and of harms in relation to activities.

Working through harm assessment process

Construct business model



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Prioritize harms
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Establish causality of harm

Policy plays substantial role in non-use-related harms, other harms TBD

- As with cocaine trafficking, most non-use-related harms arise from illegal status and specific enforcement practices
 - Harms associated with growing and harvesting
 - Harms associated with violence, corruption and money laundering
- Use-related harms to-be-determined
 - Some harms arise from properties of drug, but policy, modes of enforcement, etc. also play part

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Concluding remarks

- Cannabis production causes more harms to Belgium than cocaine trafficking
 - Slightly more harm from violence, harm to individuals' material interest from growing and harm to private-sector entities from money laundering
- Illegal status of cannabis and enforcement practices are themselves cause of most non-use-related-harms
 - Are these harms offset by the use-related harms prevented by prohibition?
- Analysis needs to be completed but non-use-related harms seem to be not uniformly distributed across different types of cultivators
 - Large-scale cultivators seem to be largely responsible for them
 - Small-scale cultivators (< 20 plants) cause limited harms and can even be said produce “benefits,” by subtracting market share to “organized crime” groups
- What's the best policy recipe to minimize all harms?