

Chapter 1

Introduction

Cannabis as an issue

Marijuana is the most widely used illegal drug in the world. The United Nations Office of Drugs and Crime (UNODC) estimates that, across all nations, 160 million people used cannabis in the course of 2005, 4% of the global adult population – far more than the number that used any other illicit drug, though far less than the number that consumed alcohol or tobacco. The number of cannabis users in 2005 was 10% higher than estimated global use in the mid 1990s (UNODC, 2007). The numbers are particularly striking because fifty years ago cannabis was a very uncommon drug, with pockets of traditional use in India, Jamaica and a few other developing nations and use otherwise largely confined to fringe bohemian groups in a few rich countries.

All nations prohibit both the production and use of cannabis and have been committed to do so at least since ratifying the 1961 Single Convention on Drugs. The spread of cannabis use among adolescents and young adults led to a strong reaction in much of the developed world, which still results in large rates per capita of arrests for cannabis possession and use in nations such as Switzerland, Australia and the United States. The emergence of a new stream of research findings documenting that cannabis can trigger adverse mental health consequences for some users has recently increased popular concern.

On the other side of the policy debate there is a concern, dating back to the 1970s, that the state is intruding too much into personal life in its efforts to control cannabis use, and that criminal penalties are not justified for an offence that risks harm largely only to the user. There has been a long-term trend toward less punitive policies in such countries as Australia, Great Britain, the Netherlands and France, although actual patterns of policing have often undermined the trend. Now the direction of trends is less clear, in part influenced by new evidence on cannabis and mental disorders.

Using cannabis: who, where, why?

Cannabis, like other psychoactive substances such as alcohol, tobacco and opiates, is used for a variety of reasons. For some users it is simply the pleasure

of an altered state and a social experience. For others, it is a way of coping with the troubles of everyday life, a source of solace or, indeed, a source of cognitive benefits and enhanced creativity (Iversen, 2008). For yet other users it has a therapeutic value for some physical or mental health problem. Though the medical value of cannabis is not well researched, it is plausible that it does in fact provide relief for a number of conditions, such as AIDS wasting syndrome or glaucoma (Joy *et al.*, 1999).

Cannabis first became popular in the West in the 1960s, when its use emerged as part of the general youth rebellion of that decade. From North America it spread, over the next twenty years, to most of Western Europe, as well as to Australia. After the collapse of the Soviet Union, it also spread in the 1990s to many countries in Eastern Europe. There is, however, substantial variation in rates of use across these nations: Finland and Sweden, for example, have rates of users on a lifetime basis that are about two-fifths the rate in Great Britain (EMCDDA, 2007: Table GPS-8). In the countries with high rates of cannabis use, roughly half of all adults born since 1960 have used the drug.

Cannabis is now used in every region of the world. The percentage of adults who report use in the past year was higher than the global average in Oceania (16%), North America (11%), Africa (8%) and Western Europe (7%). It was at or below the global average in Eastern Europe (4%), South America (2%), South-East Europe (2%) and Asia (2%) (UNODC, 2007). Because of their larger populations, Asia and Africa accounted for 31% and 24% of global cannabis use respectively, followed by the Americas (24%), Europe (19%) and Oceania (2%).

The United States and Australia have conducted surveys of drug use since the mid-1970s and mid-1980s respectively (AIHW, 2007; SAMHSA, 2006). In the United States in 2005, 40% of the adult population reported trying cannabis at some time in their lives, with 13% of adolescents reporting use in the past year (SAMHSA, 2006). In Australia in 2007, 34% of persons over the age of 15 reported that they had used cannabis at some time in their lives (AIHW, 2008).

Rates are highest among youth, particularly young adults, and use tails off slowly in the mid-30s. At the other end of the age of use spectrum, the age of first use has fallen since about 2000 in some countries, but not others (Hibell *et al.*, 2004; Degenhardt *et al.*, 2000).

Cannabis use in the USA typically begins in the mid to late teens, and is most prevalent in the early 20s (Bachman *et al.*, 1997). Most cannabis use is intermittent and time-limited, with very few users engaging in daily cannabis use over a period of years (Bachman *et al.*, 1997). In the USA and Australia, about 10% of those who ever use cannabis become daily users, and another 20% to

30% use weekly (Hall & Pacula, 2003). Cannabis use declines from the early and mid-20s to the early 30s, reflecting major role transitions in early adulthood (e.g. entering tertiary education, entering full-time employment, marrying, and having children) (Anthony, 2006; Bachman *et al.*, 1997). The largest decreases are seen in cannabis use among males and females after marriage, and especially after childbirth (Bachman *et al.*, 1997; Chen & Kandel, 1995).

While marijuana use, once it is established in a society, seems never to fall to very low rates, there has been substantial variation in prevalence over the last decades. For example, whereas in 1979 50.8% of American high school seniors had used marijuana in the previous twelve months, by 1992 that figure had fallen to 21.9%; it then rose again to 37.8% in 1999 (Johnston *et al.*, 2007). Interestingly, there seems to be a common pattern over time across countries. For most western nations between 1991 and 1998 there was an increase of about half in the proportion of 18 year olds reporting that they had tried cannabis. Since 1998 in the same countries there has been a substantial decline in that figure, though in 2006 it still remained well above the 1991 level.

The common patterns across countries with very different policy approaches reinforce the general impression that penalties for personal use have very little impact on the prevalence of cannabis use in a society. What does explain the changes remains essentially a mystery, but popular youth culture, including representation of the drug in music, films and magazines, probably plays an important role. The linked patterns of fluctuation in use in different countries suggest the influence across borders of a global youth popular culture.

Marijuana use can be thought of as a 'career'. Most users try the drug a few times, and are at very low risk of suffering or causing any substantial harm. However recent research has confirmed that a substantial fraction will use the drug regularly over the course of ten or more years, and that perhaps 10% of those trying cannabis at some stage will become dependent upon it. Among those who begin to use in their early teens, the risk of developing problem use may be as high as one in six (Anthony, 2006). It is worth comparing the drug's use in these respects to alcohol and tobacco on the one hand, and to cocaine and heroin on the other. Cannabis is most like alcohol, in that most users do not become dependent but many do have using careers that stretch over years, although in current circumstances not for as long as for alcohol.

Forms of cannabis: the plant and the preparations

Cannabis preparations are primarily derived from the female plant of *Cannabis sativa*. The plant contains dozens of different cannabinoids (ElSohly, 2002; Iversen, 2007), but the primary psychoactive constituent in cannabis products

is delta-9-tetrahydrocannabinol (THC) (Iversen, 2007; Pertwee, 2008). Administration of THC in pure form produces psychological and physical effects that are similar to those users report when they are smoking cannabis (Wachtel *et al.*, 2002), and drugs that block the effects of THC on brain receptors also block the effects of cannabis in animals (Pertwee, 2008) and humans (Heustis *et al.*, 2001). The effects of THC may also be modulated by cannabidiol (CBD), a nonpsychoactive compound that is found in varying amounts in most cannabis products (Iversen, 2007).

The THC content is at its highest in the flowering tops of the female cannabis plant. Marijuana (THC content in the range of 0.5% to 5%) comprises the dried flowering tops and leaves of the plant. Hashish (THC content in the range of 2% to 20%) consists of dried cannabis resin and the compressed flowers. Hash oil is an oil-based extract of hashish that contains between 15% and 50% THC (UNODC, 2006). Some varieties of marijuana such as Sinsemilla (skunk) and 'Nederwiet' ('Netherweed') may have THC content as high as 20% (EMCDDA, 2006).

Cannabis is usually smoked in a 'joint', the size of a cigarette, or in a water pipe, with tobacco sometimes added to assist with burning. A typical joint contains between 0.25 and 0.75g of cannabis. The amount of THC delivered to the lungs varies between 20% and 70%, and 5% to 24% reaches the brain (Hall & Solowij, 1998; Heustis, 2005; Iversen, 2007). A dose of around 2 to 3 mg of bioavailable THC will produce a 'high' in occasional users, who usually share a joint between multiple users. More regular users can use three to five joints of highly potent cannabis a day (Hall *et al.*, 2001). Smokers typically inhale deeply and 'hold' their breath to maximise absorption of THC. Marijuana and hashish may also be eaten, mixed in cakes or cookies (Wikipedia, 2008), or drunk in a liquid infusion (e.g. *bhang lassi* in India), but cannabis is most often smoked because this is the most efficient way to achieve the desired psychoactive effects (Iversen, 2007).

Because of uncertainties about the THC content of cannabis, 'heavy' cannabis use is often defined as daily or near daily use (Hall & Pacula, 2003). Regular use over a period of years increases users' risks of experiencing adverse health and psychological effects (Hall & Pacula, 2003). Daily cannabis users are more likely to: be male, be less well educated, and regularly use alcohol, tobacco, amphetamines, hallucinogens, psychostimulants, sedatives and opioids (Hall & Pacula, 2003).

Prohibiting a plant that grows almost anywhere

Prohibition may reduce cannabis use by making the drug more expensive and harder to get. We review the evidence on this in Chapter 3. It may also shorten

use careers. It is also clear that cannabis prohibition has adverse consequences for society by creating large-scale black markets and preventing the effective regulation of a product which can come in forms of varying potency and possibly dangerousness. Though cannabis markets generate less violence than the markets for other prohibited drugs (why is not clear, and would be worth researching), they do generate some tens of billions of dollars in revenues to criminals, and at least modest levels of corruption in some countries. The active enforcement of the prohibitions also leads to very large numbers of arrests and other penalties, each of which can cause considerable harm to the individual beyond any formal sanction that may be imposed, and which are often applied in a discriminatory manner. It is a concern about the disproportionality of these social harms relative to the dangers of the drug itself that is at the heart of many efforts to reform current policies.

Cannabis can be grown almost anywhere, given that it is also very suitable for indoor cultivation. While cocaine and heroin are produced in poor countries and constitute an important source of income for a few source countries, cannabis is produced in many countries, rich and poor, primarily for domestic consumption. The international trade is a much smaller component of the cannabis market than it is for heroin and cocaine.

Cannabis in the international prohibition regime

Almost all countries are signatories to the 1961 and 1988 drug control Conventions, and are required under these conventions to criminalize production, distribution, use or possession of cannabis. Cannabis was brought into the emerging international drug control system in 1925, at the instance of the Egyptian delegate to the Second Opium Conference, but only with respect to medical preparations from the resin (Bruun *et al.*, 1975:183). Cannabis preparations had had wide medical use at the end of the 19th century (Fankhauser, 2008), and in 1952 1000 kg. per year was still used for this purpose (Bruun *et al.*, 1975: 201). Primarily under urging from the US (Bruun *et al.*, 1975: 195–203; Edwards, 2005:153), cannabis was included in the strictest prohibition regime category in the 1961 Single Convention on Narcotic Drugs. This decision was premised on a conclusion that cannabis had no medical value; it was agreed that in the new treaty ‘it should ... be made clear that the use of cannabis should be prohibited for all purposes medical and nonmedical alike’ (10th Session of the CND, quoted in Bruun *et al.*, 1975:199). The fundamental decisions on the status of cannabis in the international regime were thus taken prior to the much wider modern experience with its nonmedical use. The effect of the 1961 Convention was broadened by the provision in the

1988 Convention requiring the production, distribution, possession or purchase of cannabis to be treated ‘as criminal offenses under [each country’s] domestic law’.

The organs of the international regime

There are three main international bodies with responsibility under the drug control conventions (Room & Paglia, 1999). The Commission on Narcotic Drugs, with 53 nations elected as members by the Economic and Social Council (ECOSOC) of the United Nations, meets annually as the policy-making body. The International Narcotics Control Board (INCB), composed of 13 persons chosen as experts, has a dual role as the manager of the international supply of plant-derived medicines, particularly opiates, and as the watch-dog of the prohibition system for drugs covered by the treaties. The UN Office on Drugs and Crime serves as the secretariat for the system, with a broad international program of work. A fourth international body, the World Health Organization, also has a technical role in evaluating drugs and recommending on how they should be classified under the system.

The place of cannabis in the system

Cannabis is by far the most commonly used substance subject to the system’s prohibitions, but it has never been central to the concerns and activities of the system. The discussions of production and trafficking of cannabis in the UNODC’s *World Drug Report* 2000, for instance, lacked the specificity of the discussions of opium and coca trafficking. ‘Available cultivation and production estimates are not sufficient to determine whether production at the global level has increased or decreased in recent years’, the Report remarks (UNODC, 2000:32). The Report went on to note that cannabis seizures rose in the early 1990s, but ‘have not increased since the mid-1990s’, but added that it is difficult to judge if this reflects ‘a real stabilization in global production and trafficking’ or shifts in law enforcement priorities. By 2008, a substantial effort had been made to make the global picture for cannabis more concrete. Discussion of the global cannabis situation occupied about one-fifth of the space devoted to specific drug classes (UNODC, 2008:37–169). But this allocation might be compared with the Report’s estimate that 65% of global seizures, and 67% of the ‘doses’ of drugs seized, were of cannabis, and that the estimated global rates of drug use were 3.9% for cannabis, 0.6% for amphetamines, 0.4% for cocaine, and 0.4% for opiates (UNODC, 2008:26, 31).

Indications can be found in all parts of the system of the marginality of cannabis in the system’s concerns, at least until recently. The *Bulletin on Narcotics* is a research journal published by the UNODC and its predecessors

since 1949 (<http://www.unodc.org/unodc/data-and-analysis/bulletin/index.html>). Of the 192 articles published in the journal between 1986 and 2006 (the date of the most recent issue), only 10 were on cannabis, 7 of which were in an issue devoted to cannabis in 1994, and one of which was a monograph published in 2008 reviewing the ‘world cannabis situation’ which is listed as the *Bulletin*’s entire output for 2006 (Leggett, 2008). At its annual sessions, the Commission on Narcotic Drugs passes a series of resolutions, often after heated debate in drafting committees (Room, 2005), and also recommends resolutions to be passed by ECOSOC. Of the 132 CND resolutions passed in the period 1997–2008 (<http://www.unodc.org/unodc/commissions/CND/07-reports.html>), 4 concerned cannabis (3 of them in 2008); of the 51 resolutions recommended to the ECOSOC, one concerned cannabis. A reading of the annual report for 2007 of the International Narcotics Control Board (INCB, 2008) conveys, on the one hand, the ubiquity of cannabis growing and trafficking as the Board reports on the situation region by region, and, on the other hand, the marginality of cannabis to the system’s central concerns. Thus none of the report’s 48 recommendations is specifically concerned with cannabis.

At the rhetorical level, however, cannabis has lately come to play an important role in the international drug control regime. The annual statements of the UNODC always mention the estimated share of the world population that use illegal drugs. That number is dominated by cannabis. For example, in the 2005 *World Drug Report* the UNODC stated that there were 200 million drug users globally; of these 160 million (80%) used cannabis. The other drugs listed (ATS, cocaine and opiates) had user populations totaling only 40 million, less than 1% of the world’s population. Without cannabis, the totals would suggest that illegal drug use is not a global population-level issue. Thus the drug helps give breadth to the drug issue globally; the same is true in many member nations.

The international system and national and local laws

In its self-conscious role as the ‘guardian of the conventions’ (Bewley-Taylor & Trace, 2006), the INCB periodically mounts the ramparts on cannabis in defense of the system, for instance by issuing an admonitory press release (UNIS, 2008) in response to press reports of experiments with computerized vending machines by California dispensaries for medical cannabis to be used in accordance with a doctor’s letter. A prominent feature of the international drug control system, in fact, is the extensiveness and detail of its concerns with domestic matters in nations which are parties to the treaties.

The level of control over domestic decisions to which the system aspires exceeds, for instance, the level of ambition of the European Union to control

national arrangements in the same areas (e.g. concerning the Dutch ‘coffee shops’ for cannabis), or the power of national governments in federal states to control state or provincial matters (e.g. concerning medical marijuana availability in California and other US states).

In addition to mandating controls on markets in psychoactive substances, the conventions require criminalization of the drug user, if and when the user is in possession of substances that have not been legally obtained. This is an unusually strong requirement even in the context of national laws on contraband commodities, let alone as a requirement of parties to an international treaty; there was no such provision, for instance, in the US alcohol Prohibition laws. The 1961 Convention includes specific provisions that possession of cannabis and other substances controlled by the Convention without legal authority shall not be permitted, and that, where constitutionally allowed, it shall be a punishable offence. As has been mentioned, the 1988 Convention adds the requirement that possession must be made a criminal offence.

A system in stalemate: the system and dronabinol

As noted, the World Health Organization (WHO) plays a technical role under both the 1961 and 1971 Conventions in recommending whether particular substances should be scheduled under either of the conventions, and in which Schedule of the conventions they should be placed. These recommendations are made by an Expert Committee on Drug Dependence, which is now reconstituted for a meeting every two years.

However, the international control system is increasingly inclined to disregard the scientific advice it receives from the WHO. Perhaps the most dramatic instance of this is the turning back by the CND in 2007 of a recommendation for a rescheduling of dronabinol (Δ -9 tetrahydrocannabinol, THC), the principal psychoactive constituent of cannabis, under the 1971 Convention on Psychoactive Substances. Dronabinol is prescribed particularly in the USA under the brand name Marinol as an appetite stimulant, primarily for AIDS and chemotherapy patients. While the plant cannabis and its natural products are included in the 1961 Convention among the substances which are considered the most dangerous and without any therapeutic usefulness (Schedules I & IV), dronabinol was listed under Schedule I of the 1971 Convention (the most restrictive schedule) at the time of that Convention’s adoption. The 1989 WHO Expert Committee on Drug Dependence recommended that dronabinol be transferred to Schedule II of the 1971 Convention. The CND initially rejected this, but after a reconsideration by the next Expert Committee made the same recommendation, the CND assented in 1991 (IDPC, 2007).

The 2002 WHO Expert Committee made another critical review, and partly in view of the increased medical use of dronabinol, recommended its reclassification to Schedule IV, the least restrictive schedule. The Executive Director of the UNODC persuaded the Director-General of WHO not to forward this recommendation, claiming it would 'send a wrong signal and create a tension with the 1961 Convention' (IDPC, 2007). The 2006 WHO Expert Committee reconsidered and updated the review. Hesitating between Schedules III and IV, it finally recommended transfer to Schedule III as a small step forward. In its Report for 2006 and at the 2007 CND plenary, the INCB spoke out against the recommendation, expressing concern 'about the possibility of dronabinol, the active principle of cannabis, being transferred to a schedule with less stringent control' (INCB, 2007). In the 2007 CND debate on this, the US was strongly opposed, and many other countries fell in line. Canada commended the WHO Committee for its 'excellent expert advice', but did not support rescheduling because it 'may send a confusing message with regard to the risks associated with cannabis use' (IDPC, 2007). The recommendation was sent back again for reconsideration by the WHO 'in consultation with the INCB' – although the INCB has no formal role in scheduling under the treaties.

Cannabis prohibition and its alternatives: what a policymaker needs to know

The study on which this book is based was commissioned by The Beckley Foundation to inform debate about cannabis policy in connection with the review of the resolutions taken at the 1998 United Nations General Assembly Special Session (UNGASS). UNGASS 98 committed governments to taking action to substantially reduce drug production and demand, including that of cannabis, within the next ten years. The Commission on Narcotic Drugs hosted an international meeting in 2009 to evaluate what has happened in the decade since. However, the Political Declaration painstakingly negotiated over five months and adopted by consensus at the 'high-level meeting' in March 2009 included no detailed analysis of what had actually occurred and was essentially a commitment to the status quo. Thus, at least in the short run, reconsideration of cannabis policies after a half century of international prohibition is left up to policymakers in individual countries and likeminded groups of countries.

This study summarizes what is known about the extent and patterns of cannabis use across nations and over time. It reviews the research literature on the health effects of marijuana use, as well as the little that is known about the

other harms associated with cannabis use, production and distribution under current policies. We describe those policies, distinguishing carefully between law on the books and policy as implemented. We emphasize evaluations of the effects on cannabis use and, more broadly, of various kinds of policy innovations aimed at reducing the penalties for personal use.

We give particular attention to the potential for changes in the international treaties that would give nations more flexibility in their policy responses to cannabis. In the final chapter we offer a framework for making cannabis policy decisions and offer some recommendations for policy at the national level.

Our aim is to bring together the present state of knowledge which would be relevant for discussions and decisions about cannabis policy at diverse levels. At the local, state or provincial levels, the problems arising from global policies must be picked up and managed – and much of the action on policy is here because of the stalemate at national and international levels. The national level is the locus not only of decisions about national policy, but also of decisions on national positions on issues in the international treaty system. At the international level, leadership in global efforts and initiatives is needed. We have structured the book as an effort to answer the following empirical questions that need to be answered for informed policymaking.

- ◆ What is the state of knowledge about the existence and extent of various potential harms from cannabis use? How does its profile of risk or dangerousness compare to the profiles of other psychoactive substances, licit and illicit?
- ◆ How can the present situation and trends be summarized, after half a century of a full global cannabis prohibition regime? How big is the market? How many use, and with what patterns and problems? How many users are caught and punished, and how many receive treatment? What is the evidence on the effectiveness of the prohibition regime in discouraging use and reducing problems? What role does cannabis play in the international drug control regime?
- ◆ What are the alternative ways in which the prohibition regime can be ameliorated, to reduce adverse secondary effects? What are the ways which governments have actually used, particularly in terms of reducing or eliminating punishments for possession or use?
- ◆ What is the evidence of the effects of these different cannabis policy reform initiatives, on levels and patterns of use, on problems from use, and in reducing the adverse effects of full prohibition?

- ◆ What alternatives are there under international law for a country or a group of countries wishing to move away from the full prohibition of the present international regime? What is the feasibility and what are the advantages and disadvantages of the different options?
- ◆ Lastly, we consider what conclusions and recommendations for cannabis control policy we can draw from our analysis.