

1.4 Cannabis market

1.4.1 Production

Cannabis is a plant that grows well in virtually every inhabited region of the world, and can be cultivated with little maintenance in small plots, or even indoors. In addition, unlike most other street drugs, it can be consumed with little processing after harvesting. As a result, users can feasibly cultivate their own supply, and consequently production is highly decentralized. While substantial international trafficking of cannabis does occur, it is unclear what share of the total market this comprises. Thus, our most reliable sources of information on the extent of production (crop surveys, satellite monitoring, and international seizure data) are of limited use in estimating the size of the cannabis market.

The matter is further complicated by the fact that there are also two main forms in which cannabis is consumed as a drug, which constitute fairly distinct market chains:

- “Cannabis herb” is comprised of the flowering tops and leaves of the plant, which are smoked like tobacco using a variety of techniques. While this drug is consumed throughout the world, the largest market for cannabis herb appears to be North America, where 60% of global seizures occurred in 2003.
- “Cannabis resin” is popularly referred to as “hashish”, and consists of the secretions of the plant emitted in the flowering phase of its development. This resin can be gathered by hand (“hand rubbing”, the traditional practice in India), or by sieving the herbal material using some form of screen (the traditional practice in

Afghanistan and Morocco). It is also possible to produce “hashish oil”, although this form of the drug is not widespread. Western Europe is the largest market for cannabis resin, responsible for nearly 70% of global seizures in 2003, and 80% of this hashish was produced in Morocco.¹⁹

1.4.1.1 Cannabis herb

Production is globally dispersed.

The unique properties of the cannabis plant have led to its widespread and diffuse cultivation. Over the 1993-2003 period, 86 countries provided UNODC with cannabis production estimates. For comparison, only 40 countries provided estimates for opium-poppy cultivation, and only six provided estimates for coca-leaf production. But the fact that a country did not provide an estimate does mean that no cultivation exists, as some countries simply lack the capacity to come up with accurate estimates. Luckily, there are other ways of identifying cannabis producing countries.

Member states were also asked to identify the national source of the cannabis consumed in their countries. On this basis, 114 producer countries can be identified. A third list of producer countries can be generated by singling out those that report the seizure of whole cannabis plants. It is extremely inefficient to transport whole plants internationally, as only certain parts are useable as a drug. Thus, when a whole plant is seized, it is very likely that it was locally produced. Seizures of whole

¹⁹ France reported that 82% of the cannabis resin found on its market in 2002 originated in Morocco. Similar estimates have been made for Belgium (80%), Sweden (85%), and the Czech Republic (70%). Spain, Italy, Denmark, Finland and Ireland reported that almost all of the cannabis resin originated in Morocco.

cannabis plants were reported in 144 countries during the 1993-2003 period. Combining these three lists results in the identification of some 163 countries and territories where cannabis is produced, out of 197 countries reporting (83%).

Most of these countries produce solely to satisfy local demand, but there are a number of countries that produce for export. For example, Paraguay produces much of the cannabis consumed in its neighbouring countries, and European production hubs include Albania and the Netherlands. Other significant exporters include:

- In Africa: Nigeria, South Africa, Malawi, Lesotho, and Swaziland
- In the Americas: Mexico, Canada, Jamaica and Columbia
- In Central Asia: Kazakhstan and Kyrgyzstan
- In the Middle East: Egypt and Lebanon
- In South Asia: India
- In Southeast Asia: Cambodia, Thailand, and the Philippines

A number of indicators suggest that North America produces more cannabis than any other region, and this market is largely self contained: most of production is consumed domestically. US authorities have reported that about two thirds of the cannabis consumed in the country is domestically produced, while over half (56%)

of the cannabis imported to the US comes from Mexico and another 20% comes from Canada.

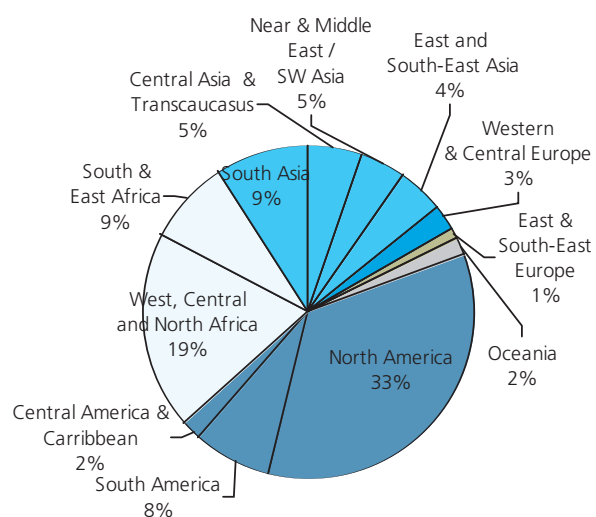
In terms of gross volumes, estimates made available to UNODC suggest that North America accounts for about one third of global production, or 14,000 metric tons. The second largest producer is Africa: 12,000 metric tons of cannabis herb, or about 28% of global production. Other important cannabis producing areas are South Asia (9%) and Central Asia (5%).

Production has been rising and may have exceeded 40,000 mt in 2003.

Estimating the volume of global cannabis production is extremely difficult. The last *World Drug Report* provided an estimate of about 32,000 mt of cannabis herb production at the global level, but new calculations suggest that the true figure may be even larger, perhaps as much as 42,000 mt. Since the methods used in arriving at these two calculations are different, this should not be interpreted as a trend. There are other indications, however, that global cannabis production has been increasing. Both estimates of the number of cannabis consumers globally and the quantities of cannabis seized by law enforcement have increased in the past decade. Out of the 42,000 mt produced, UNODC estimates that only about 30,000 mt actually reach the end consumers. The rest is either seized or otherwise lost in transit.

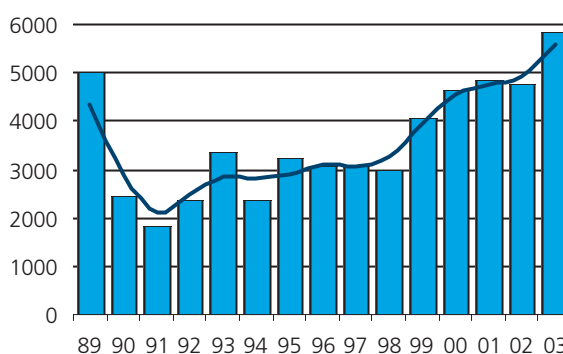
It would also appear that cannabis is becoming more potent in a number of markets. In the USA, for instance, the average THC content (potency) rose from less than 2% in the 1970s to 6.3% in 2003.²⁰ Increases

Fig. 35: Distribution of cannabis herb production in 2003/2004 (42,100 mt)



Source: UNODC, Annual Reports Questionnaire Data, other Govt. reports and UNODC estimates.

Fig. 36: Global cannabis herb seizure



Source: UNODC, Annual Reports Questionnaire Data.

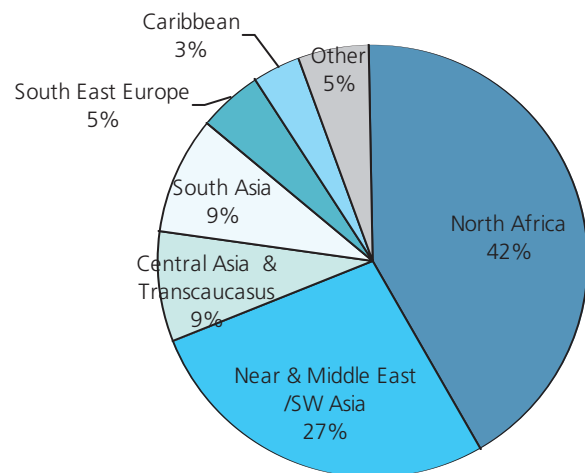
in the THC content were also reported from Canada and from the Netherlands.²¹

1.4.1.2 Cannabis resin

Morocco is the world's most significant resin exporter, feeding the Western European market. The UNODC and the Government of Morocco conducted comprehensive cannabis resin surveys of the country in 2003 and 2004. The 2003 survey placed total resin production at about 3,070 mt, cultivated on 134,000 hectares of land in the Rif region by some 96,600 families. The 2004 survey showed a 10% decline in the land dedicated to cannabis cultivation (120,500 ha), with an estimated production of 2,760 mt²².

Despite this recent local decline, both resin seizures and consumption estimates suggest that the long-term trend is towards a growth in global production since the early 1990s. Last year's *World Drug Report* placed global production between 5,100 and 7,400 mt. Production in 2003 was likely on the high end of this range. It would appear that more than 40% of the global cannabis resin supply is being produced in Northern Africa and more than a quarter in the Near East and Middle East. These

Fig. 37: Distribution of global cannabis resin production (N = 7,400 mt in 2003/04)



Source: UNODC, Annual Reports Questionnaire Data, other Govt. reports and UNODC estimates.

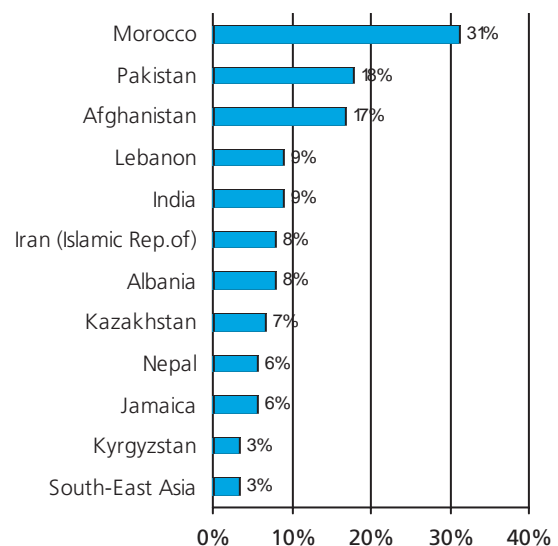
two regions account for more than two thirds of global cannabis resin production. Other cannabis resin producing regions of importance are Central Asia, South Asia and, to a lesser extent, South-East Europe and the Caribbean.

Cannabis resin production is concentrated in Morocco as well as in Pakistan and Afghanistan.

When Member States were asked about the source of cannabis resin in their countries, Pakistan and Afghanistan were the most often cited as source countries after Morocco over the period 1999–2003. Other important source countries identified are India, Lebanon, Albania, the Central Asian countries (notably Kazakhstan and Kyrgyzstan), Nepal, South-East Asia and a number of African countries. The only country in the Americas cited as an important country of origin for cannabis resin was Jamaica.

Fig. 38: Main source countries of cannabis resin, 1999-2003

(based on information from 90 countries)



Source: UNODC, Annual Reports Questionnaire Data, other Govt. reports and UNODC estimates.

²⁰ University of Mississippi, Cannabis Potency Monitoring Project Report #85, May 2004.

²¹ Second Technical Conference on Drug Control Research, Vienna, July 19-21, 2004. A review of the potency evidence undertaken by EMCDDA in 2004 was, however, less conclusive.

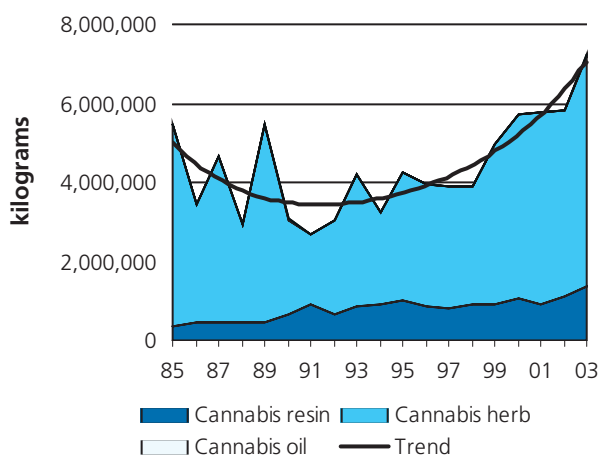
²² Some of the decline appears to have been a consequence of an earthquake, resulting in increased attention being given by the national authorities and the international community to the region concerned.

1.4.2 Trafficking

The increase in cannabis trafficking continues

Cannabis herb and cannabis resin remain the two most extensively trafficked drugs worldwide. Cannabis herb seizures amounted to 5,845 mt, cannabis resin to 1,361 mt and cannabis oil to 14 mt in 2003. Seizures of the three cannabis products taken together increased by 24% in 2003 to 7,220 mt, the highest level since 1984 (21,000 mt), more than twice the seizures reported in the early 1990s and an increase of 46% since 1999. In addition, 55 million cannabis plants and 7,600 mt of cannabis plant material were seized worldwide in 2003, which corresponds²³ to an increase of about 24% in 2003 and more than 50% over the 1999-2003 period.

Fig. 39: Cannabis seizures, 1985-2003



Source: UNODC, Annual Reports Questionnaire Data/DELTA.

1.4.2.1 Cannabis herb

Cannabis herb is the most widely trafficked drug - and seizures rose again in 2003...

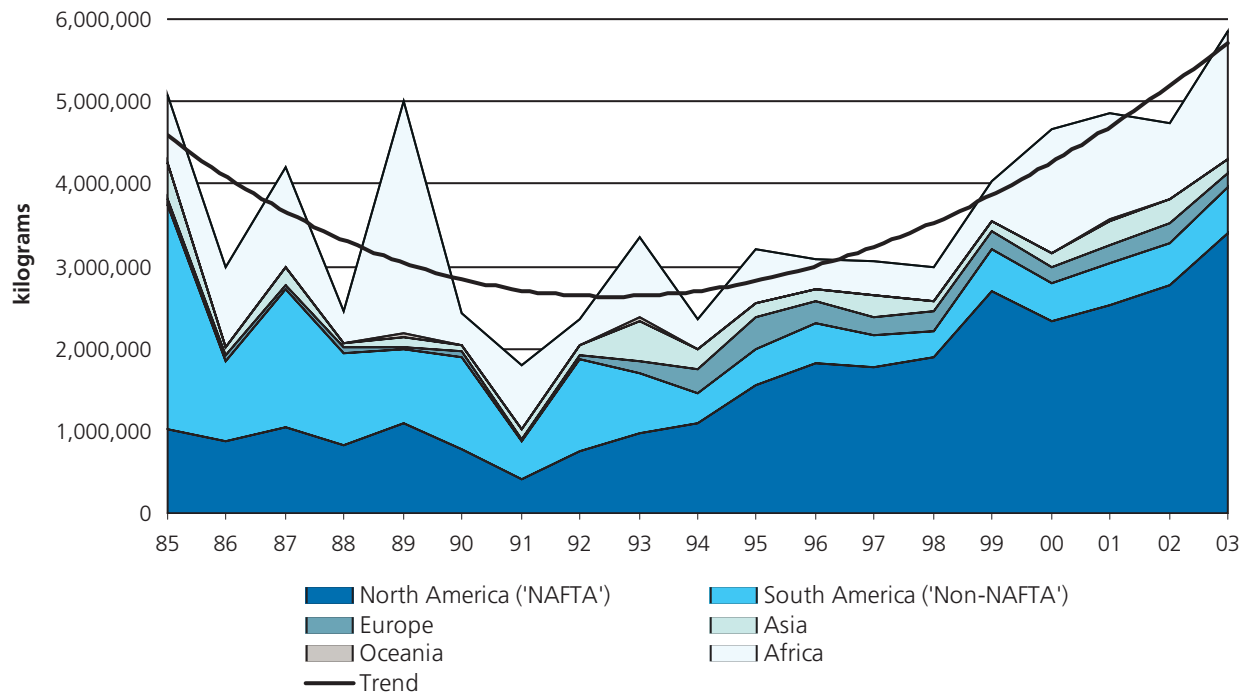
In terms of both volume and geographic spread, cannabis herb is the most interdicted drug in the world. Out of 181 countries and territories reporting seizures to UNODC over the 2001-2003 period, 166 reported seizures of cannabis herb, more than for heroin (148), cocaine (140), cannabis resin (118), amphetamines (96) or ecstasy (88). Cannabis herb seizures rose 25% in 2003 and were 112% higher than in 1990.

...with trafficking increasingly concentrated in the Americas and in Africa.

58% of global cannabis herb seizures occurred in North America in 2003. The remainder took place in Africa (26%), South America (10%) (non-NAFTA), Asia (3%) and Europe (3%). The world's largest cannabis herb seizures were made – once again – by the law enforcement agencies of Mexico (2,160 mt or 37% of the total), followed by those of the United States (1,224 mt or 21% of the total). The proportion of seizures made in North America rose from 32% in 1990 to 58% in 2003, while the proportion of seizures made in South America ('non-NAFTA') declined over the same period from 46% to 10%. In 2003, cannabis herb seizures increased in both Central America (33%) and in South America (18%) but declined in the Caribbean (-25%). The proportion of seizures made in Africa increased from 16% of global cannabis herb seizures in 1990 to 20% in 2002 and 26% in 2003. The increase in cannabis herb seizures in Africa in 2003 (+65%) was mainly due to rising seizures in East Africa. In contrast,

²³ Expressed in kg equivalents.

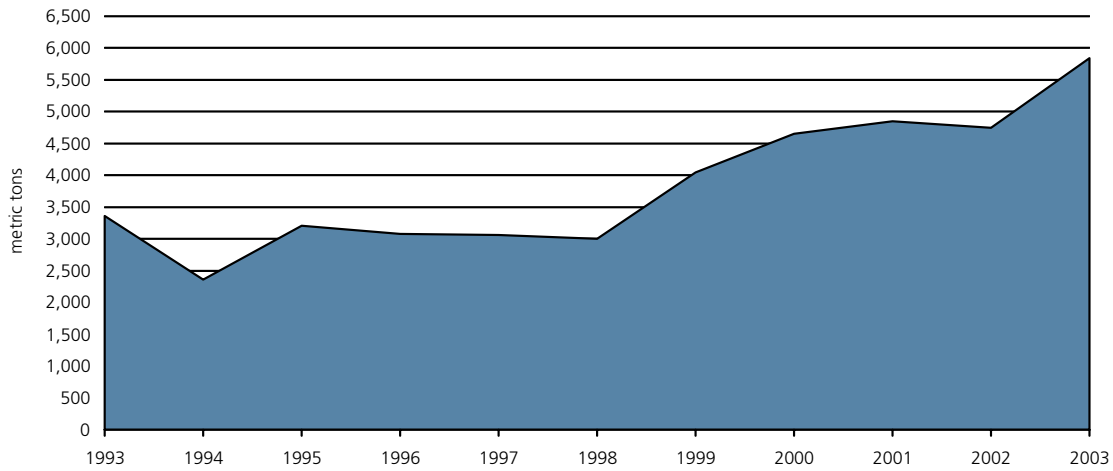
Fig. 40: Seizures of cannabis herb - regional breakdown, 1985-2003



Source: UNODC, Annual Reports Questionnaire Data/DELTA.

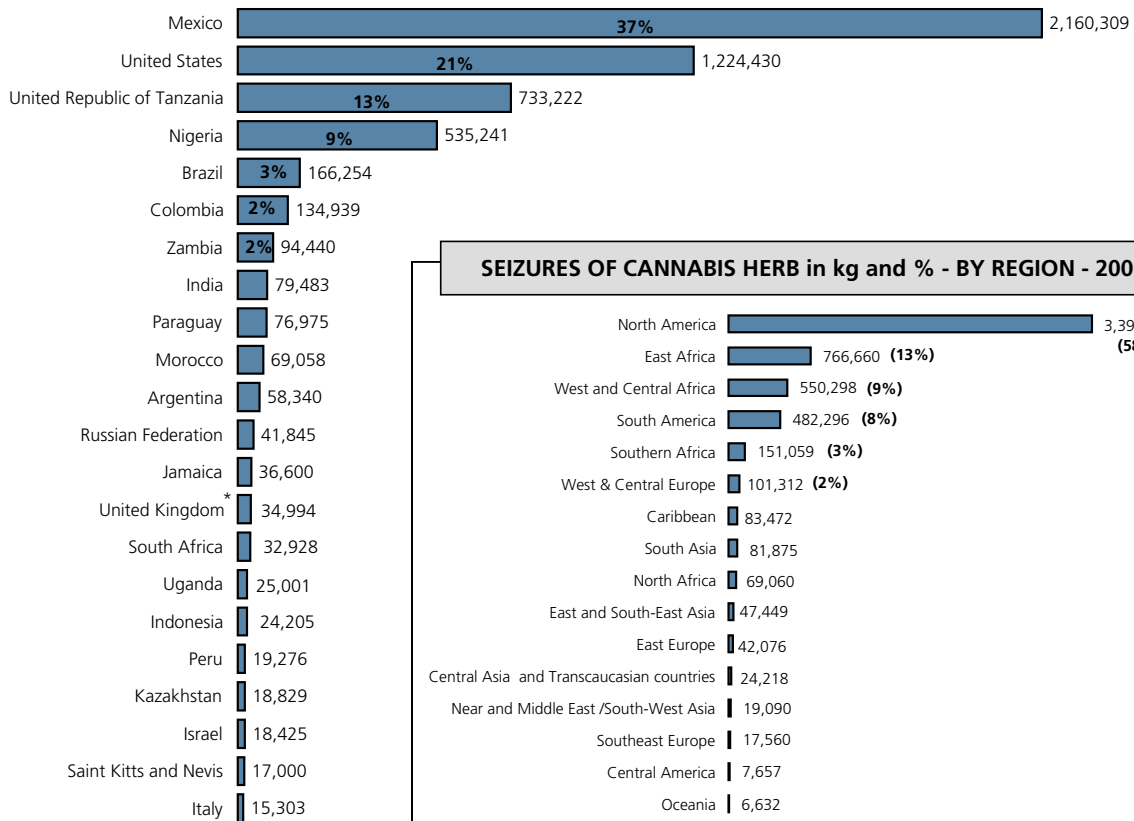
cannabis herb seizures declined in both Asia (-40%) and in Europe (-32%). Declines in Asia were highest in East and South-East Asia. Shifts in law enforcement priorities seem to have been largely responsible for the decline in Western and Central Europe (-40%). Cannabis herb seizures in Eastern Europe, in contrast, increased by 40%.

Fig. 41: Global seizures of cannabis herb, 1993 -2003

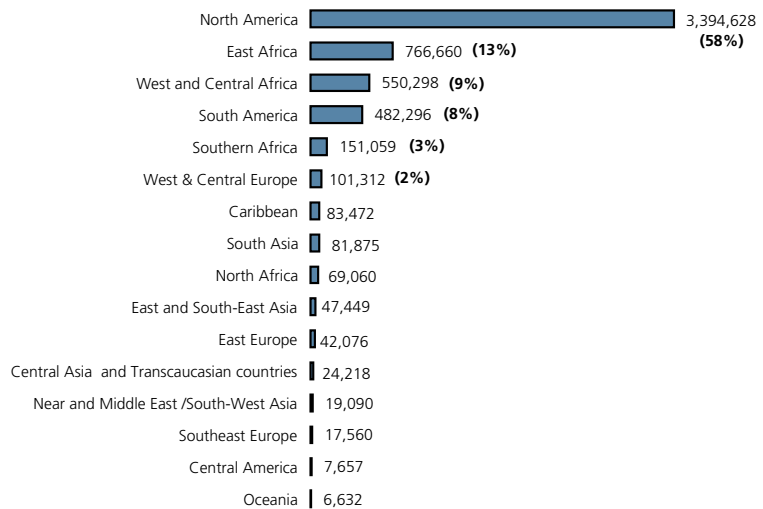


Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Metric tons	3,360	2,358	3,209	3,077	3,059	2,998	4,042	4,656	4,849	4,745	5,845

SEIZURES OF CANNABIS HERB in % of world total and kg- HIGHEST RANKING COUNTRIES - 2003

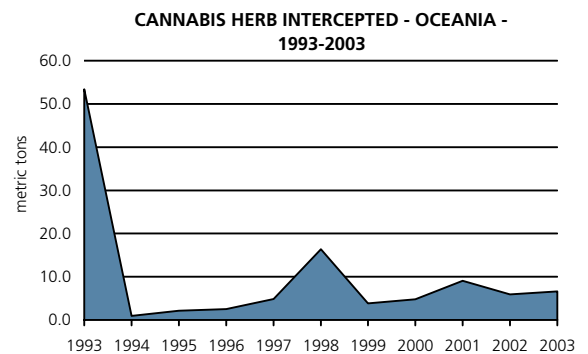
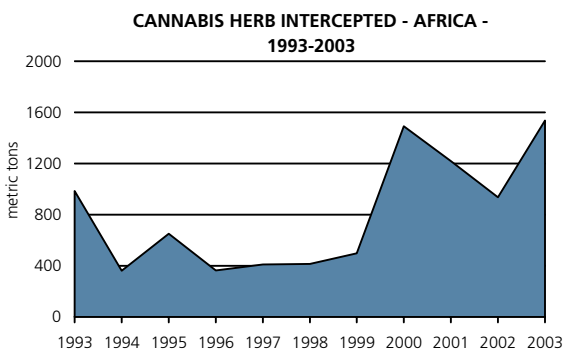
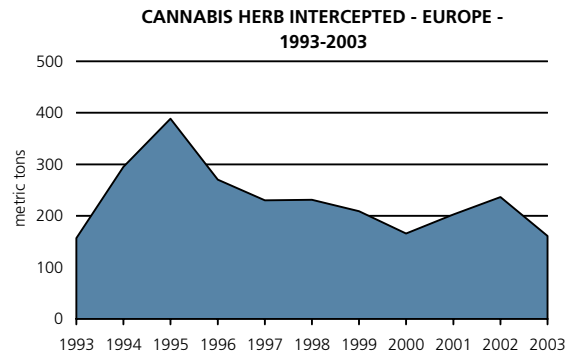
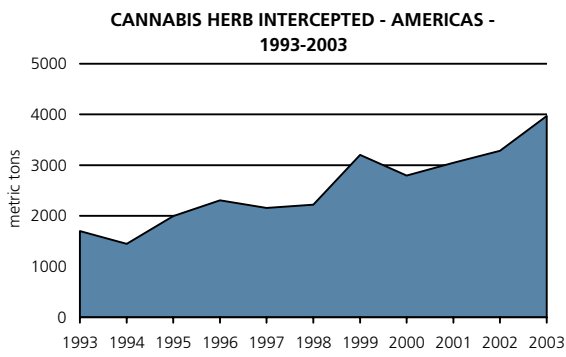
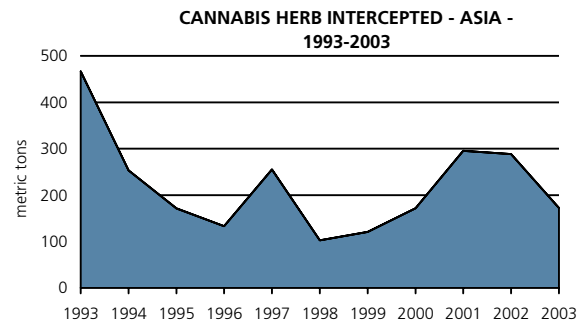
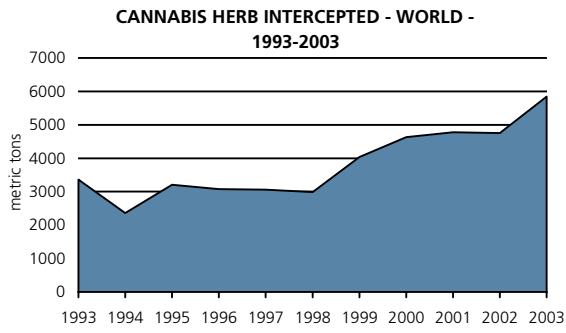


SEIZURES OF CANNABIS HERB in kg and % - BY REGION - 2003

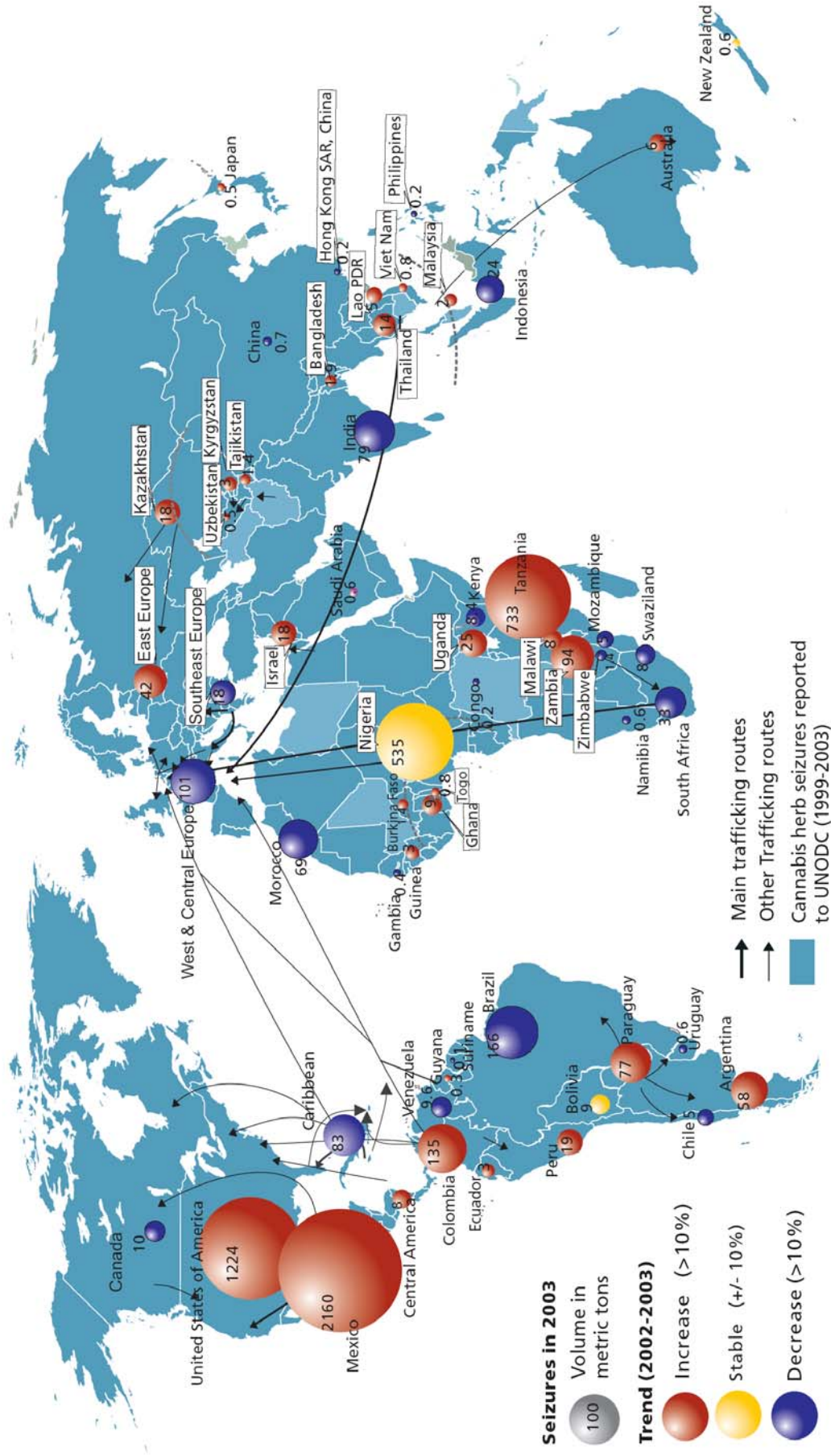


* data refer to 2002

Fig. 42: Global seizures of cannabis herb, 1993 -2003



Map 14: Cannabis herb seizures 2002 - 2003: extent and trends (countries reporting seizures of more than 10 kg.)



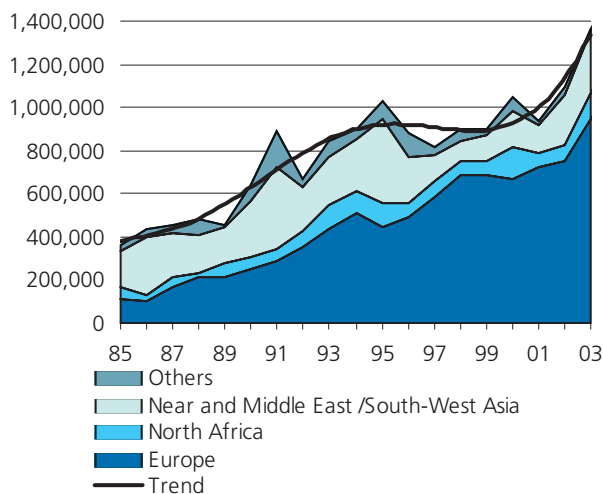
Note: Routes shown are not necessarily documented actual routes, but are rather general indications of the directions of illicit drug flows.

1.4.2.2 Trafficking in cannabis resin

Cannabis resin seizures also increased to a new all time high in 2003.

Global cannabis resin seizures increased by 25% in 2003 to 1,361 mt, reaching a new all time high. Resin seizures increased most significantly in North Africa (63%), in the Near and Middle East/South-West Asia (21%) (following an increase by 74% a year earlier) and in Europe (26%).

Fig. 43: Cannabis resin seizures, 1985-2003



Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Cannabis resin seizures are concentrated in West and Central Europe...

Out of global cannabis resin seizures of 1,361 mt, Europe accounted for 950 mt, of which 947 mt or 70% of the total, was seized in West and Central Europe, 21% in the Near and Middle East /South-West Asia and 8% in North Africa. The largest seizures worldwide were reported by Spain (727 mt or 53% of the total), followed by Pakistan (99 mt or 7%), Morocco (96 mt or 7%) and Afghanistan (81 mt or 6%). Authorities in Iran seized 77 mt (6% of total).

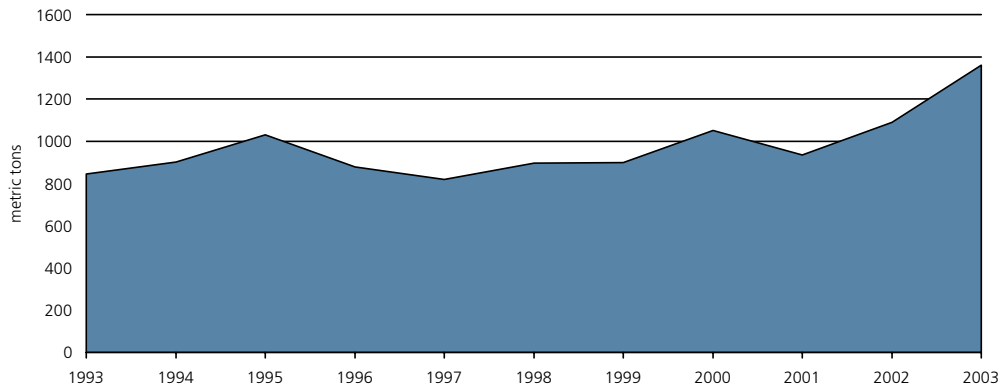
...and Europe continues to be the main destination of cannabis resin.

The main destination of cannabis resin is West and Central Europe. About 80% of the cannabis resin destined for the West and Central European market is estimated to originate in Morocco including large shares of the markets of Spain (100%) and Portugal, France (82%), Belgium (80%), Sweden (85%), the Czech Republic (70%). Much of the cannabis resin transits Spain and the Netherlands before being shipped to other countries. The remainder of the resin supply originates from Afghanistan/Pakistan (e.g. 10% in Belgium, 30% in the Czech Republic), from Central Asia (mostly in the Russian Federation, other CIS states and some of the Baltic countries) or from within Europe (mainly Albania, supplying the markets of various Balkan countries and Greece).

The second largest destination of cannabis resin is the Near and Middle East / South-West Asia region. This region is mainly supplied by cannabis resin produced in Afghanistan and Pakistan and, to a lesser degree, by cannabis resin originating in Lebanon. Some of the cannabis resin from Afghanistan/Pakistan is also being shipped to Canada and to countries in Eastern Africa.

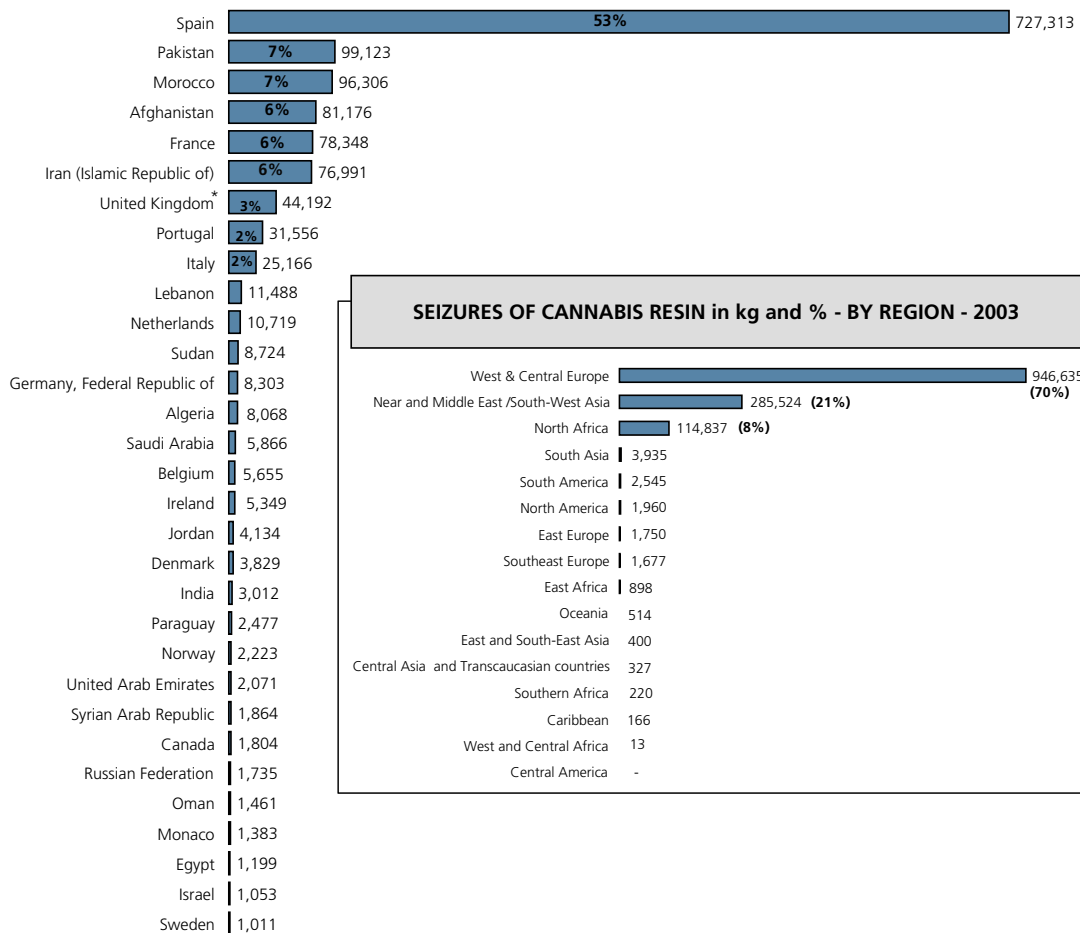
North Africa makes up the third largest market and is predominantly supplied by cannabis resin produced in Morocco. The importance of other markets is limited. Nepal is a source country for cannabis resin exports to India and to some other countries and Jamaica is a source country for cannabis resin exports to some other countries in the Americas.

Fig. 44: Global seizures of cannabis resin, 1993 - 2003

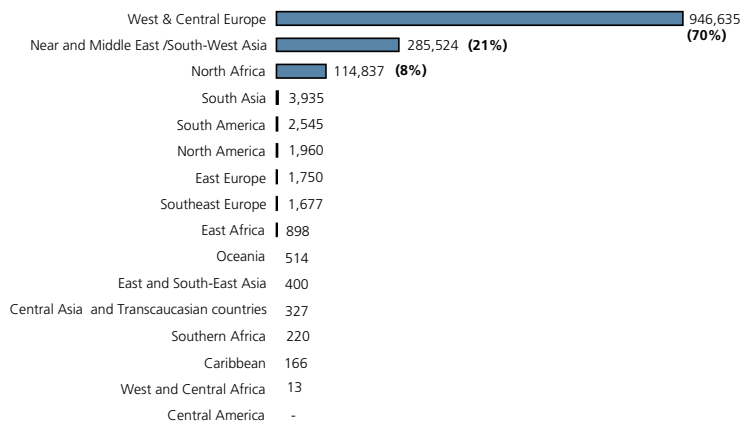


Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Metric tons	846	901	1,030	877	818	896	898	1,052	934	1,091	1,361

SEIZURES OF CANNABIS RESIN in % of world total and kg- HIGHEST RANKING COUNTRIES - 2003

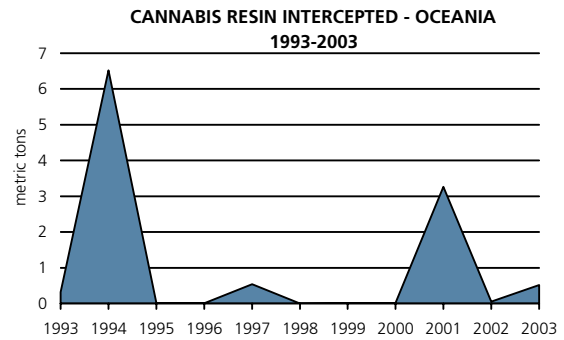
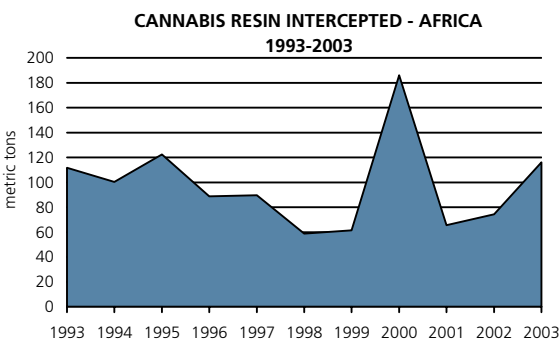
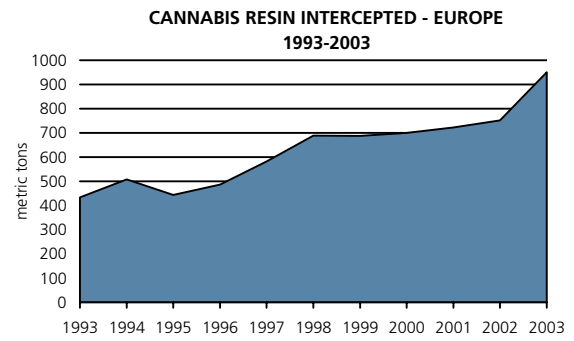
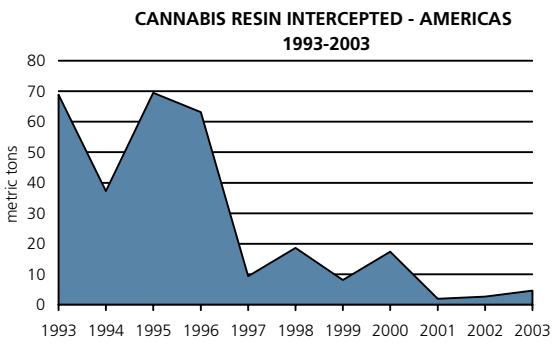
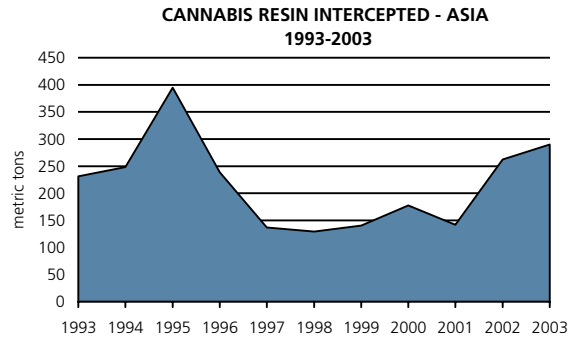
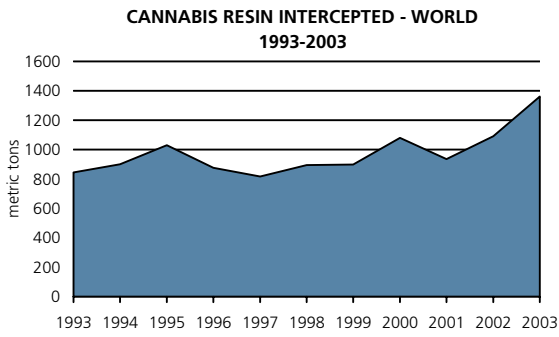


SEIZURES OF CANNABIS RESIN in kg and % - BY REGION - 2003

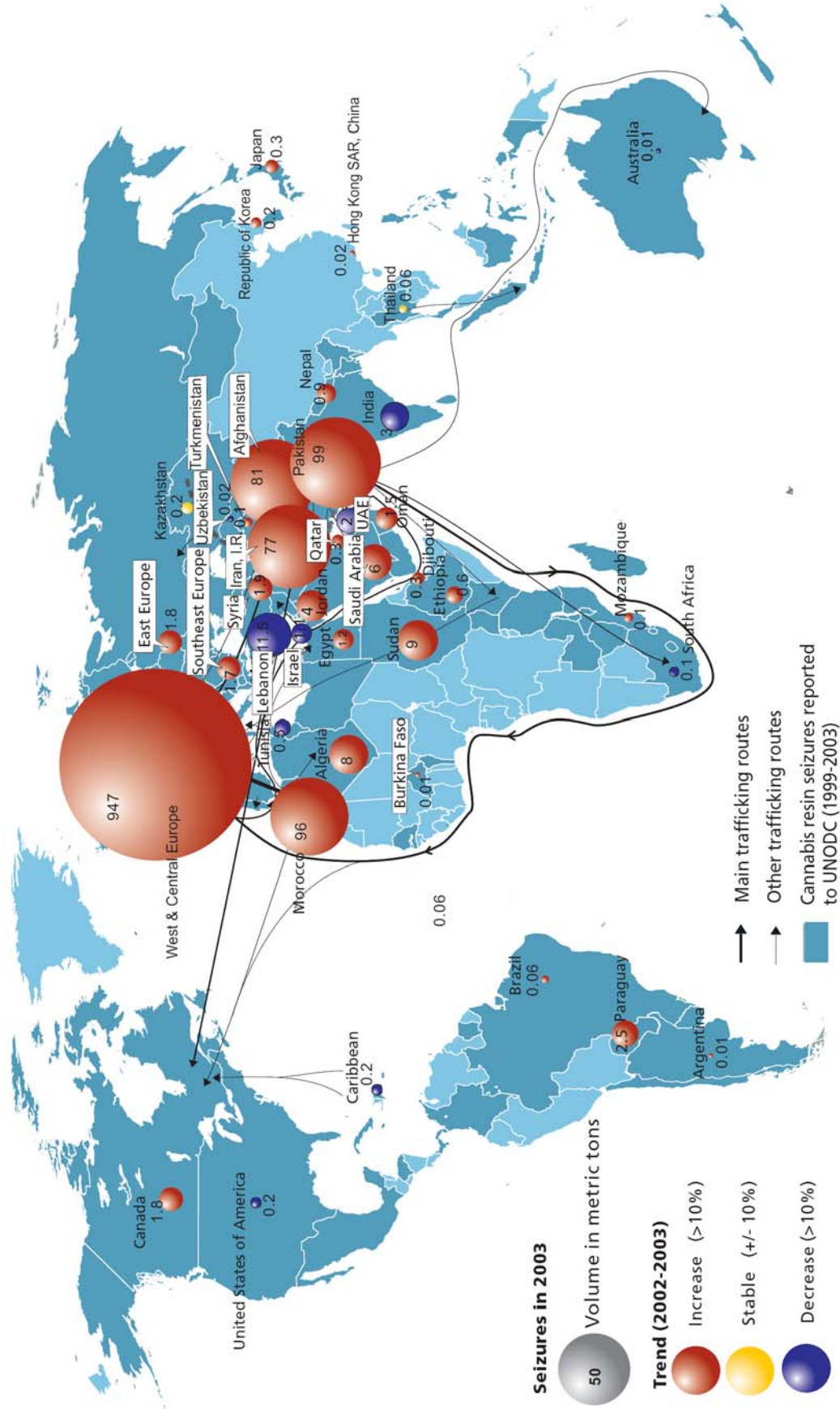


* Data refer to 2002

Fig. 45: Global seizures of cannabis resin, 1993-2003



Map 15: Cannabis resin seizures 2002 - 2003: extent and trends (countries reporting seizures of more than 10 kg.)



Note: Routes shown are not necessarily documented actual routes, but are rather general indications of the directions of illicit drug flows.

1.4.3 Abuse

Cannabis is far and away the most commonly consumed street drug in the world. An estimated 161 million people used cannabis in 2003, equivalent to 4% of the global population between the ages 15 and 64. In some parts of the world, herbal cannabis is most popular, while others prefer cannabis resin, but most member states say it is the most widely used illicit substance in their countries. Cannabis use is most prevalent in the Oceania region, followed by North America and Africa. It is less common in Asia, but due to the size of the population, Asia still contains about a third of global cannabis users.

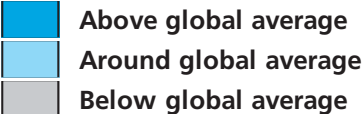
It also appears that cannabis use is increasing. According to expert opinions solicited from member states, far more countries felt that cannabis use was increasing (46% of 101 countries responding) than declining

(16%) in 2003. In the last decade, the consensus is that cannabis use has been growing faster than use of cocaine or opiates.

This year's estimate of 161 million users worldwide is about 10% higher than that published in the last World Drug Report. This is attributable to increases in prevalence estimates in South-America (including the Caribbean and Central America), in Africa, in Europe and in several countries in Asia. North American estimates have remained largely stable, while declines were reported for the Oceania region and some countries in South-East Asia.

In Europe, for example, school surveys among 15-16 year olds found that the share of students reporting having ever tried cannabis rose by an average of almost

Table 8: Annual prevalence of cannabis use, 2003/04 or latest year available

	Cannabis use	
	<i>No. of users</i>	<i>in % of population age 15-64</i>
EUROPE	30,400,000	5.6
West & Central Europe	22,900,000	7.3
South-East Europe	2,100,000	2.5
East Europe	5,500,000	3.8
AMERICAS	36,900,000	6.6
North America	28,700,000	10.2
South America	8,200,000	2.9
ASIA	53,300,000	2.2
OCEANIA	3,300,000	15.8
AFRICA	37,000,000	8
GLOBAL	160,900,000	4
		

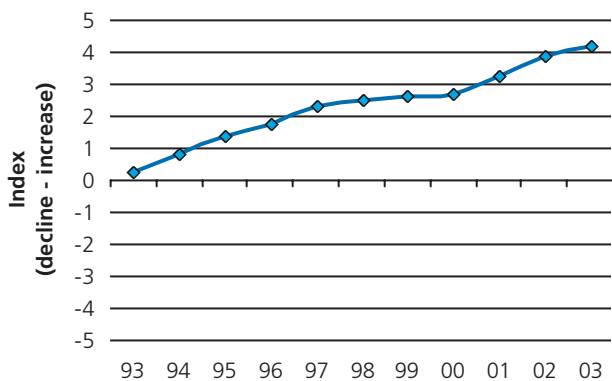
Sources: UNODC, Annual Reports Questionnaire Data, Govt. reports, reports of regional bodies, UNODC estimates.

25% between 1999 and 2003, or more than 80% between 1995 and 2003. The increase seems most pronounced in Central and Eastern Europe, where usage among young people has become almost as common as in Western Europe in recent years.

On the other hand, countries where cannabis consumption is most common, namely the USA and Australia, have not shown increases. The share of 15-16 year-old students in the USA reporting having tried cannabis fell by 14% between 1999 and 2003. Annual prevalence of cannabis use among the general population and among high-school students in the USA is about a third less than in the late 1970s.²⁴ Cannabis use among the general population in Australia has declined by almost 37% since its peak in 1998.²⁵

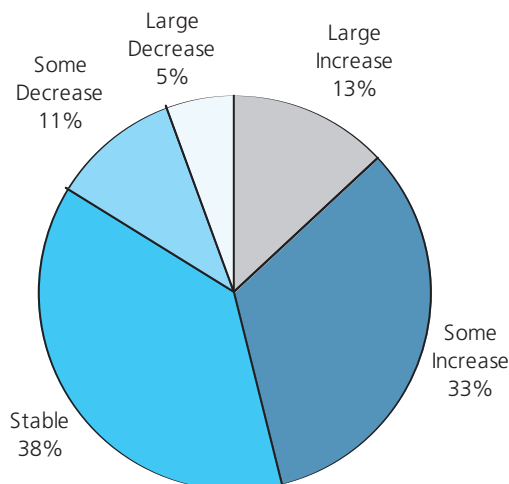
Despite its widespread use, cannabis does not generate demand for treatment at the rate of other street drugs, but more than 60% of treatment admissions in Africa are cannabis-related, compared to 45% in North America and 30% in the Oceania region.

Fig. 46: Global Drug Use Trend Index - cannabis - based on expert opinions (country results weighted by estimated number of cannabis users), 1993-2003



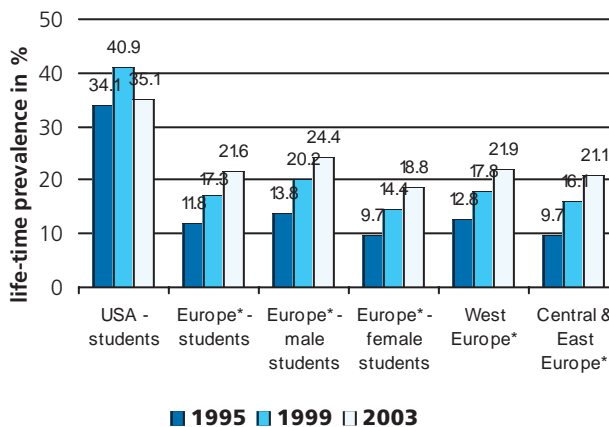
Sources: Sources: UNODC, Annual Reports Questionnaire Data, Govt. reports, reports of regional bodies, UNODC estimates.

Fig. 47: Reported trends of cannabis use at the global level in 2003 (based on expert opinion from 101 countries)



Sources: Sources: UNODC, Annual Reports Questionnaire Data, Govt. reports, reports of regional bodies, UNODC estimates.

Fig. 48: Life-time prevalence among 15-16 year olds in the USA and in Europe, 1995-2003



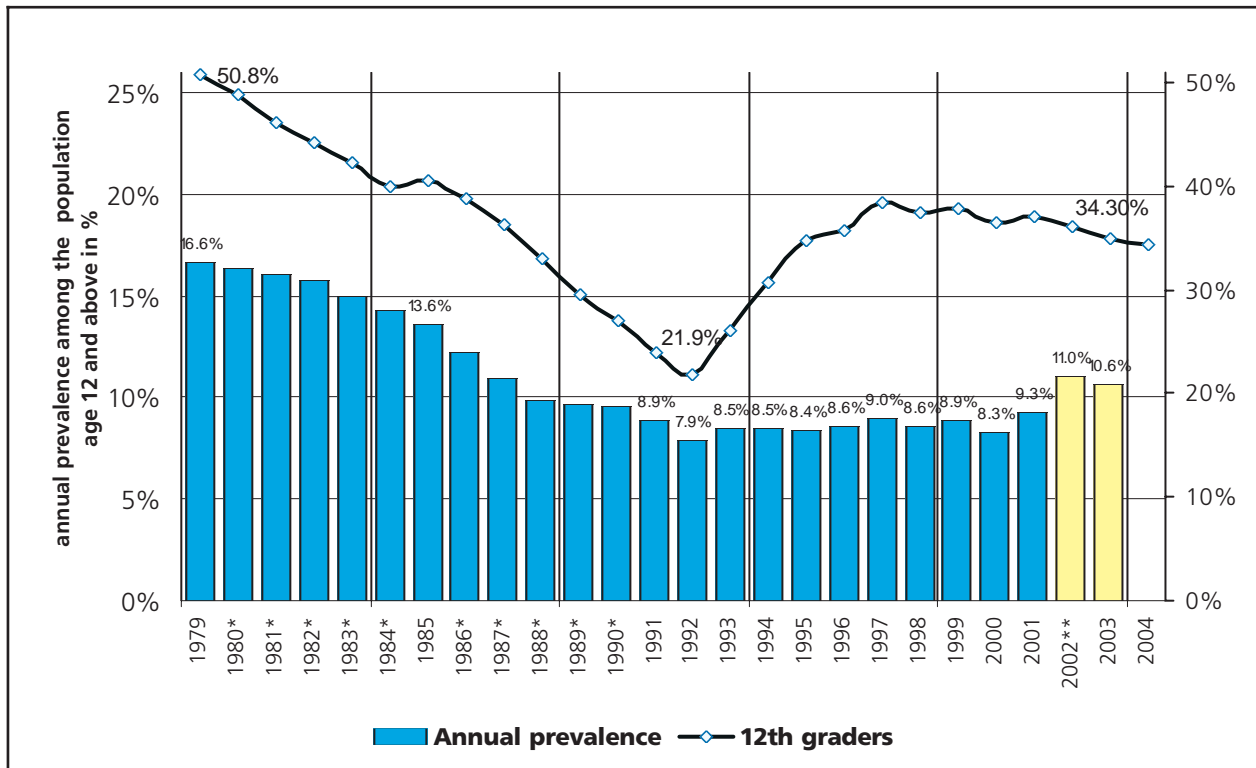
* unweighted average of ESPAD countries (35 in 2003); weighted by population age 15-19 and comparing only results from same countries: 12% in 1995 to 17.6% in 1999 and 17.5% in 1999 to 20.4% in 2003 for all students in Europe.

Sources: Council of Europe, *The ESPAD Report 2003 - Alcohol and Other Drug Use Among Students in 35 European Countries*, previous ESPAD reports (1999 and 1995) and national Govt. reports.

24 SAMHSA, National Household Survey on Drug Abuse, 2000 and previous years; SAMHSA, *National Survey on Drug Use and Health, 2002-2003*, NIDA, *Monitoring the Future*.

25 Australian Institute of Health and Welfare, *The 2004 National Drug Strategy Household Survey*.

Fig. 49: USA: Cannabis use - annual prevalence among the general population (age 12 years and above) and among high-school students (12th graders), 1979-2004

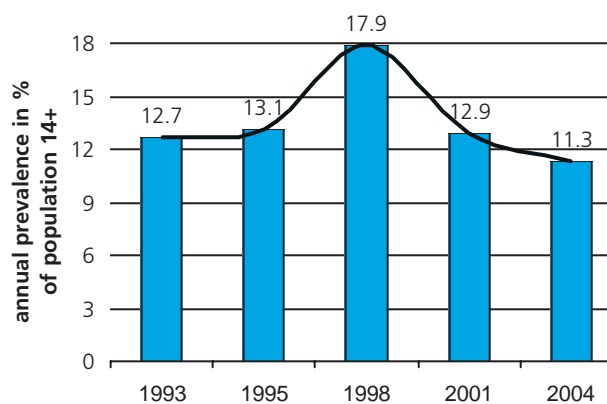


* estimates

** annual prevalence rates for 2002 and 2003 are not directly comparable with those of previous years due to changes in methodology.

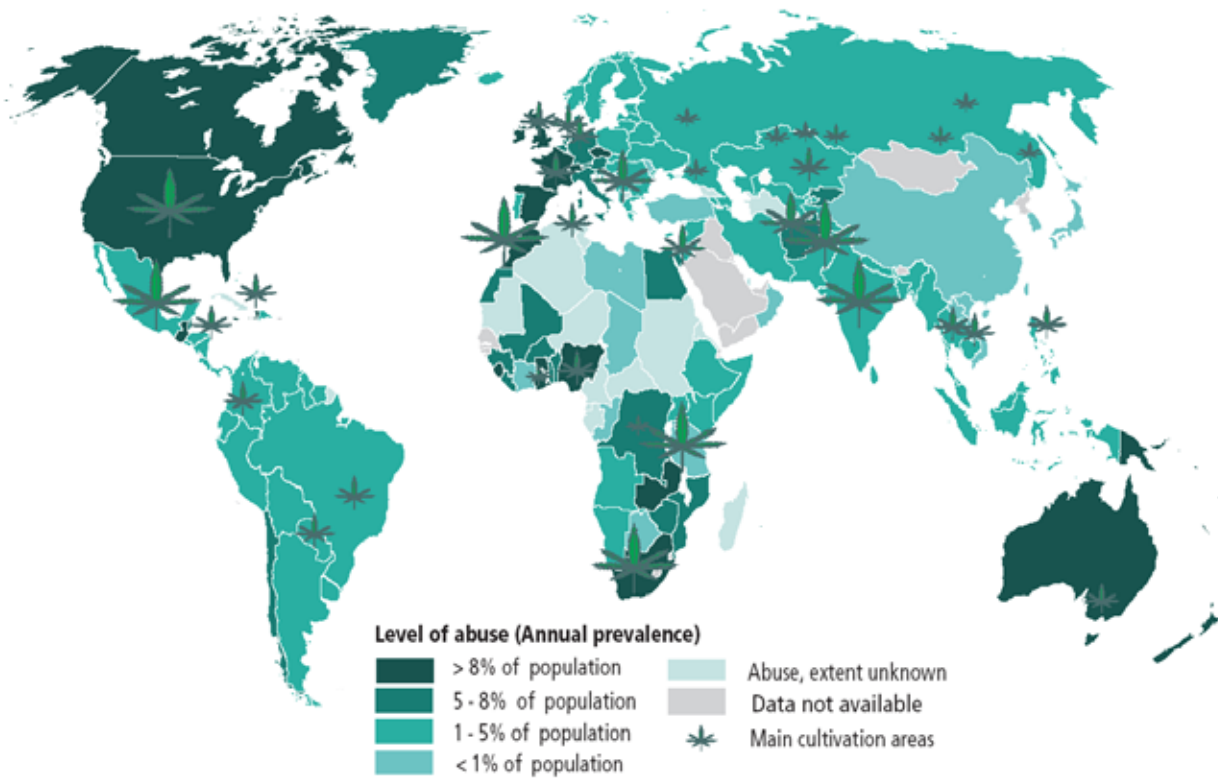
Sources: SAMHSA, National Household Survey on Drug Abuse, 2000 and previous years; SAMHSA, National Survey on Drug Use and Health, 2002-2003, NIDA, Monitoring the Future.

Fig. 50: Annual prevalence of cannabis use among the general population in Australia, 1993-2004

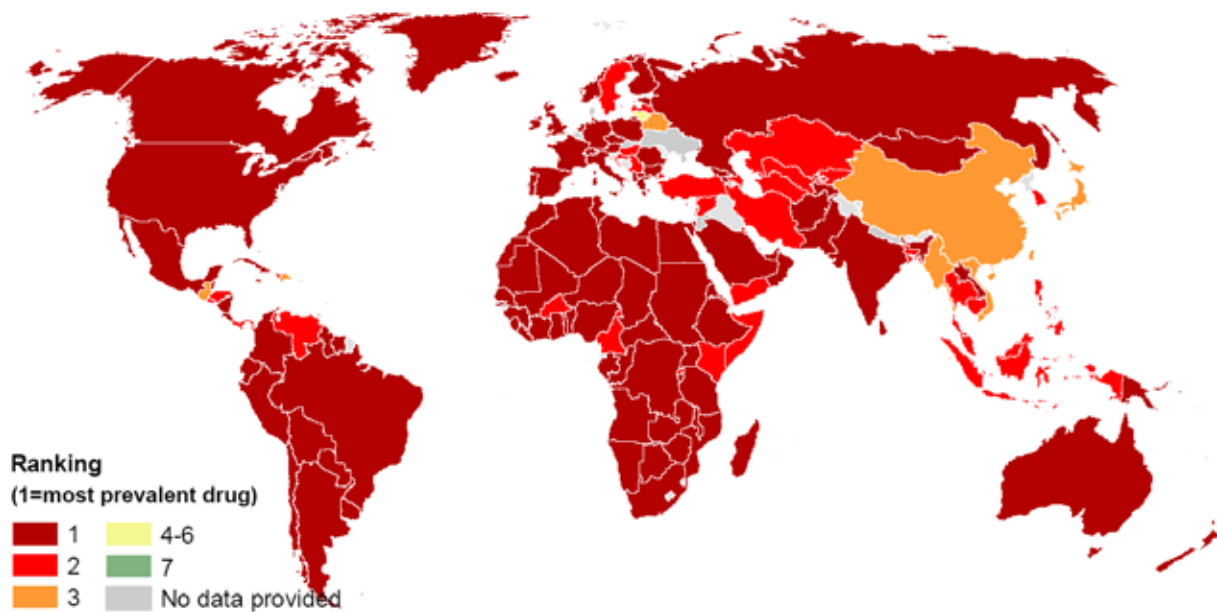


Source: Australian Institute of Health and Welfare, *The 2004 National Drug Strategy Household Survey*.

Map 16: Use of cannabis 2002-2003 (or latest year available)



Map 17: Ranking of cannabis in order of prevalence in 2003 (or latest year available)



Sources: UNODC Annual Reports Questionnaires data, SAMSHA US National Household Survey on Drug Abuse, Iranian Ministry of Health, Rapid Assessment Study and UNODC ARQ, Council of Europe, ESPAD.

