

## 1.2 Opium / Heroin Market

### 1.2.1 Summary trend overview

Record levels of supply of illicit opiates from Afghanistan continue to threaten the stabilisation of demand which has occurred in all of the illicit drug's major consumer markets. With 82 per cent of global opium cultivation now concentrated in Afghanistan the supply side of the market is determined by production in and distribution from this country. This level of supply side concentration is unique amongst the four illicit markets and occurred over the last decade mainly due to sustained success in reducing cultivation in South-East Asia - the area known as the Golden Triangle - where poppy cultivation declined by 87 per cent over the last decade. Between 2005 and 2006, poppy cultivation in South-East Asia declined from 35,000 ha to 24,000 ha. The significance of the contraction in opium cultivation in Myanmar and Laos cannot be underestimated. Although opium poppy cultivation in Afghanistan increased massively in 2006, the global area under illicit poppy cultivation was still 10 per cent lower in 2006 - slightly more than 200,000 ha - than in 2000, and more than 20 per cent lower than in 1996.

Despite successes in the reduction of cultivation and production in the Golden Triangle, the global production of opium has increased by one half since 1998. Afghanistan now accounts for 92 per cent of global illicit opium production, up from 70 per cent in 2000 and 52 per cent a decade earlier. Exacerbating the problem, higher yields in Afghanistan as compared to other opium producing regions, have brought global opium production to a new record high of 6,610 mt in 2006, a 43 per cent increase over 2005. This level of production concentration and the potential for a damaging supply push are two reasons to continue monitoring and understanding opiates trafficking patterns and routes. The global opiate interception rate rose from just 9 per cent in 1990 to 15 per cent in 1995, 21 per cent in 2000 and 26 per cent in 2005 – reflecting the increased efforts made by Member States to curb trafficking in opiates. The strong expansion in seizures meant that the actual amount of opiates available for consumption in 2005 was 5 per cent lower than in 2000 and 8 per cent lower than a decade earlier.

Recently, one of the defining characteristics of this market has been that price behaviour and other indicators were less indicative of supply and demand fluctuations than one would expect. With a surge in supply and stable demand, a price decline would be expected near the source, but opi-

ates prices are not easy to predict, because the global dynamics of this market are not well understood. Despite the 49 per cent increase in production in Afghanistan 2006, opium prices fell by just 17 per cent in country. This could suggest there is significant stock piling, but there is little evidence as to where and how this is occurring.

Afghan opiates supply the markets of neighbouring countries, Europe, the Near and Middle East and Africa. Opiates produced in South-East Asia mainly supply the markets of China and other South-East Asian countries as well as Oceania. Opiates produced in Latin America are mainly destined for the North American market. However, it appears that cross-regional trafficking is gaining in importance. There are indications that a small but increasing proportion of opiates from Afghanistan are being trafficked to North America, either via eastern and western Africa, or via Europe.

Overall, the consumer market has remained encouragingly stable despite important increases in consumption in the countries along major trafficking routes. Opiate consumption is increasing in the countries surrounding Afghanistan: Pakistan, Iran and Central Asia. Abuse is also increasing in some transit and consumer countries, including Russia, India, and countries of eastern, southern and western Africa.

Though the bulk of opiates for the Chinese market continue to originate in Myanmar, there are reports of rising levels of Afghan opiates being trafficked to China, presumably to replace declining production in Myanmar. This supply loss is unlikely to have been completely offset by new Afghan supplies and overall demand in China is heading towards stabilization. In several of the other South-East Asian and Pacific countries, which relied heavily on supplies from the Golden Triangle, demand for opiates is falling.

Despite the overall increase in the global supply of opiates there is an ongoing stabilization, or slow-down, in most of the main consumer markets, including West and Central Europe, North America, East and South-East Asia and the Oceania region. The consumer market for heroin in North America seem to be stable to declining, possibly reflecting a lower supply push from producer countries in South America and the shortage of opiates from South-East Asia.

## 1.2.2 Production

### **The sixth straight year of decline in opium cultivation in South-East Asia could not offset an increase in cultivation in Afghanistan**

Worldwide, the estimated area under illicit opium poppy increased by 33 per cent in 2006, mainly due to a sharp increase in Afghanistan. Opium poppy cultivation in South-East Asia continued to decline for the sixth consecutive year, but could not offset the increase in Afghanistan. Since 1998, global opium poppy cultivation has decreased by 15 per cent to 201,000 ha in 2006.

The area under opium poppy cultivation in Afghanistan increased by 59 per cent from 104,000 ha in 2005 to 165,000 ha in 2006. This is the largest area under opium poppy cultivation ever recorded in Afghanistan. As cultivation around the world declines, the share of Afghanistan in global opium poppy cultivation has consequently increased: an overwhelming 82 per cent of global opium cultivation took place in just one country in 2006.

Sixty-two per cent of cultivation in Afghanistan was concentrated in the southern region. Opium cultivation spread again at the provincial level with only six out of Afghanistan's 34 provinces being found free of opium poppy cultivation in 2006. In the 12 years since the start of the UNODC opium surveys in 1994, opium cultivation increased in eight years, and decreased in only four. In Pakistan, where opium poppy is grown in the Afghan-Pakistan border region, the Government reported a 59 per cent reduction of opium poppy cultivation bringing the total to just 1,545 ha.

Cultivation in South-East Asia continues to decline. Since 1998, South-East Asia's share of world opium poppy cultivation has fallen from 67 per cent to only 12 per cent in 2006. Much of this has been due to large declines in cultivation in Myanmar, where cultivation declined a further 34 per cent to 21,500 ha in 2006. There are several important elements to this decline. Remarkably, no opium cultivation was observed in the Wa region in 2006, which had accounted for 30 per cent of national opium poppy cultivation in the previous year. Also, contrary to the national trend, a large increase in cultivation was observed in the South Shan State, which increased its share of national cultivation

from 34 per cent in 2005 to 73 per cent in 2006. Based on 2006 figures, Myanmar now represents only 11 per cent of the world opium poppy cultivation. In Lao PDR, opium poppy cultivation remained at very low levels in 2006 despite a 700 ha increase to 2,500 ha.

In the Americas, opium poppy continues to be cultivated for use in the illicit markets in North America, although at a much lower level compared to South-West and South-East Asia. Estimates by the Government of Colombia put the area under opium poppy cultivation at about 1,000 ha. The situation as regards opium poppy cultivation in Peru is difficult to quantify as the UNODC supported national illicit crop monitoring system has not yet established a reliable methodology for the detection of opium poppy. The Governments of Colombia, Mexico and Peru all continue to eradicate opium poppy cultivation.

Low levels of opium poppy cultivation continue to exist in many regions and countries such as the Caucasian region, Guatemala, Russian Federation, Thailand, India, Ukraine and Viet Nam.

### **Opium production continues to increase due to higher yields**

Contrary to the downward trend in opium poppy cultivation, global opium production has increased by one half since 1998. In 2006, global opium production increased by 43 per cent, over 2005, to 6,610 mt. The increase in global opium production is more pronounced due to the higher yields achieved by opium poppy farmers in Afghanistan compared to other growing regions. In 2006, Afghanistan alone accounted for 92 per cent of global production, producing 6,100 mt of opium at an average opium yield of 37 kg/ha.

Opium yields in Myanmar ranged from 8.9 kg/ha in East Shan State to 16.6 kg/ha in South Shan State, where the trend towards improved cultivation techniques seems to continue. The national average is 14.6 kg/ha. Yield increases over the last years have kept production figures stable despite the decreases in cultivation. At 315 mt in 2006, therefore, the level of opium production remained close to 2005 levels.

### Prices decrease overall in Afghanistan and increase in contracting markets

In Afghanistan, farm-gate prices for dry opium declined slowly but steadily, reaching US\$ 125/kg in December 2006 compared to US\$ 150/kg one year earlier. Regional price differences continued to exist with considerably higher prices in eastern Afghanistan than in the South, where the bulk of production takes place. Price in all regions except the North decreased in the course of the year 2006. The overall price decrease, although moderate when compared to the large production increase, is thought to reflect the increased supply of opium in the market.

In Myanmar, the farm-gate price for opium increased by 23 per cent from US\$ 187/kg in 2005 to US\$ 230/kg in 2006 at harvest time. Lao PDR has by far the highest price level for opium with over US\$ 500/kg, reflecting the scarcity of opium in the country.

### Most laboratories dismantled in the Russian Federation, Republic of Moldova and Afghanistan, with the number increasing in Afghanistan

In 2005, eight countries reported the destruction of laboratories involved in the illicit manufacture of opiates with a total of 844 laboratories destroyed. As in 2004, most laboratories were reported destroyed by the Russian Federation (43 per cent) followed by the Republic

of Moldova (33 per cent) and Afghanistan (22 per cent). Laboratories in the Russian Federation and the Republic of Moldova mostly produced acetylated opium from locally cultivated opium poppy straw, whereas laboratories in Afghanistan produced morphine and partly heroin. Smaller numbers of destroyed opium/heroin laboratories were reported by Colombia (6), Myanmar (4), Belarus, India, and Latvia (all one each).

The increasing number of heroin laboratories dismantled in Afghanistan and the virtual disappearance of heroin laboratories from the statistics of other countries on the trafficking route seems to confirm that Afghan opium is increasingly being processed into morphine and heroin within Afghanistan. Preliminary reports of an even higher number heroin laboratories destroyed in Afghanistan in 2006 further corroborate this hypothesis. Seizures of acetic anhydride, a precursor for converting opium into heroin, confirm the availability of this substance in Afghanistan. As acetic anhydride is not produced locally and given the evidence of heroin production within Afghanistan, it can be assumed that the substance is trafficked into the country. Still, none of the countries bordering Afghanistan, with the exception of China, reported seizures of acetic anhydride during 2005 and 2006. Large seizures of morphine in some neighbouring countries (notably Pakistan and Iran) suggested, however, that significant amounts of morphine are still being processed into heroin in countries outside Afghanistan as well.

**Table 2: Significant opium poppy eradication reported (hectares), 1995-2006**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Afghanistan</b>	-	-	-	-	400	121	-	-	21,430	*	5,103	15,300
<b>Colombia</b>	3,466	6,885	6,988	2,901	8,249	9,254	2,385	3,577	3,266	3,866	2,121	569
<b>Egypt</b>	-	-	-	-	-	-	-	15	34	65	45	50
<b>Guatemala</b>	-	-	-	-	-	-	-	-	-	-	48	47
<b>Lao PDR</b>	-	-	-	-	-	-	-	-	4,134	3,556	2,575	1,518
<b>Mexico</b>	5,389	14,671	17,732	17,449	15,461	15,717	15,350	19,157	20,034	15,926	20,803	6,831
<b>Myanmar</b>	3,310	1,938	3,093	3,172	9,824	1,643	9,317	7,469	638	2,820	3,907	3,970
<b>Pakistan</b>	-	867	654	2,194	1,197	1,704	1,484	-	4,185	5,200	391	354
<b>Peru</b>	-	-	-	4	18	26	155	14	57	98	92	88
<b>Thailand</b>	580	886	1,053	716	808	757	832	507	767	122	110	153
<b>Venezuela</b>	-	-	-	-	-	-	-	-	-	87	154	-
<b>Vietnam</b>	477	1,142	340	439	-	426	-	-	-	32	-	-

\* Although eradication took place in 2004, it was not officially reported to UNODC.

Table 3: Global illicit cultivation of opium poppy and production of opium, 1990-2006

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>CULTIVATION<sup>(a)</sup> IN HECTARES</b>																	
<b>SOUTH-WEST ASIA</b>																	
Afghanistan	41,300	50,800	49,300	58,300	71,470	53,759	56,824	58,416	63,674	90,583	82,171	7,606	74,100	80,000	131,000	104,000	165,000
Pakistan	7,488	7,962	9,493	7,329	5,759	5,091	873	874	950	284	260	213	622	2,500	1,500	2,438	1,545
Subtotal	48,788	58,762	58,793	65,629	77,229	58,850	57,697	59,290	64,624	90,867	82,431	7,819	74,722	82,500	132,500	106,438	166,545
<b>SOUTH-EAST ASIA</b>																	
Lao PDR	30,580	29,625	19,190	26,040	18,520	19,650	21,601	24,082	26,837	22,543	19,052	17,255	14,000	12,000	6,600	1,800	2,500
Myanmar	150,100	160,000	153,700	165,800	146,600	154,070	163,000	155,150	130,300	89,500	108,700	105,000	81,400	62,200	44,200	32,800	21,500
Thailand <sup>(b)</sup>	1,782	3,727	3,016	998	478	168	368	352	716	702	890	820	750				
Viet Nam <sup>(b)</sup>	18,000	17,000	12,199	4,268	3,066	1,880	1,743	340	442	442							
Subtotal	200,462	210,352	188,105	197,106	168,664	175,768	186,712	179,924	158,295	113,187	128,642	123,075	96,150	74,200	50,800	34,600	24,000
<b>LATIN AMERICA</b>																	
Colombia		1,160	6,578	5,008	15,091	5,226	4,916	6,584	7,350	6,500	6,500	4,300	4,100	4,100	3,950	2,000	1,000
Mexico <sup>(c)</sup>	5,450	3,765	3,310	3,960	5,795	5,050	5,100	4,000	5,500	3,600	1,900	4,400	2,700	4,800	3,500	3,300	n/a
Subtotal	5,450	4,925	9,888	8,968	20,886	10,276	10,016	10,584	12,850	10,100	8,400	8,700	6,800	8,900	7,450	5,300	4,300
<b>OTHER</b>																	
Combined <sup>(d)</sup>	8,054	7,521	2,900	5,704	5,700	5,025	3,190	2,050	2,050	2,050	2,479	2,500	2,500	3,000	5,190	5,162	6,155
<b>GRAND TOTAL</b>	<b>262,754</b>	<b>281,560</b>	<b>259,686</b>	<b>277,407</b>	<b>272,479</b>	<b>249,919</b>	<b>257,615</b>	<b>251,848</b>	<b>237,819</b>	<b>216,204</b>	<b>221,952</b>	<b>142,094</b>	<b>180,172</b>	<b>168,600</b>	<b>195,940</b>	<b>151,500</b>	<b>201,000</b>
<b>POTENTIAL PRODUCTION IN METRIC TONS OPIUM<sup>(e)</sup></b>																	
<b>SOUTH-WEST ASIA</b>																	
Afghanistan	1,570	1,980	1,970	2,330	3,416	2,335	2,248	2,804	2,693	4,565	3,276	185	3,400	3,600	4,200	4,100	6,100
Pakistan	150	160	181	161	128	112	24	24	26	9	8	5	5	52	40	36	39
Subtotal	1,720	2,140	2,151	2,491	3,544	2,447	2,272	2,828	2,719	4,574	3,284	190	3,405	3,652	4,240	4,136	6,139
<b>SOUTH-EAST ASIA</b>																	
Lao PDR	202	196	127	169	120	128	140	147	124	124	167	134	112	120	43	14	20
Myanmar	1,621	1,728	1,660	1,791	1,583	1,664	1,760	1,676	1,303	895	1,087	1,097	828	810	370	312	315
Thailand <sup>(b)</sup>	20	23	14	17	3	2	5	4	8	8	6	6	9				
Viet Nam <sup>(b)</sup>	90	85	61	21	15	9	9	2	2	2							
Subtotal	1,933	2,032	1,862	1,998	1,721	1,803	1,914	1,829	1,437	1,029	1,260	1,237	949	930	413	326	335
<b>LATIN AMERICA</b>																	
Colombia		16	90	68	205	71	67	90	100	88	88	80	76	76	56	28	14
Mexico <sup>(c)</sup>	62	41	40	49	60	53	54	46	60	43	21	91	58	101	73	71	n/a
Subtotal	62	57	130	117	265	124	121	136	160	131	109	171	134	177	129	99	85
<b>OTHER</b>																	
Combined <sup>(d)</sup>	45	45	-	4	90	78	48	30	30	30	38	32	32	24	68	59	51
<b>GRAND TOTAL</b>	<b>3,760</b>	<b>4,274</b>	<b>4,143</b>	<b>4,610</b>	<b>5,620</b>	<b>4,452</b>	<b>4,355</b>	<b>4,823</b>	<b>4,346</b>	<b>5,764</b>	<b>4,691</b>	<b>1,630</b>	<b>4,520</b>	<b>4,783</b>	<b>4,850</b>	<b>4,620</b>	<b>6,610</b>
<b>HEROIN</b>																	
<b>Potential HEROIN<sup>(f)</sup></b>	<b>376</b>	<b>427</b>	<b>414</b>	<b>461</b>	<b>562</b>	<b>445</b>	<b>436</b>	<b>482</b>	<b>435</b>	<b>576</b>	<b>469</b>	<b>163</b>	<b>452</b>	<b>478</b>	<b>495</b>	<b>472</b>	<b>606</b>

(a) Opium poppy harvestable after eradication.

(b) Due to small production, cultivation and production were included in the category "Other", for Viet Nam as of 2000 and for Thailand as of 2003.

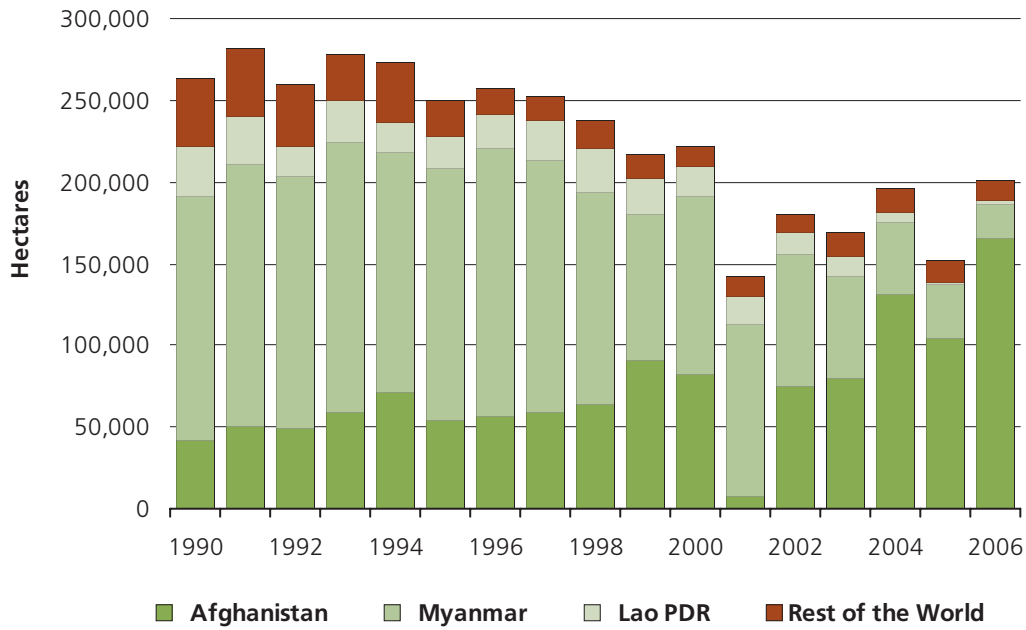
(c) As its survey system is under development, the Government of Mexico indicates it can neither provide cultivation estimates nor endorse those published by UNODC, which are derived from US Government surveys.

(d) Includes Russia, Ukraine, Central Asia, Caucasus region, other C.I.S. countries, Baltic countries, Guatemala, Peru, Viet Nam (as of 2000), Thailand (as of 2003), India, Egypt and Lebanon.

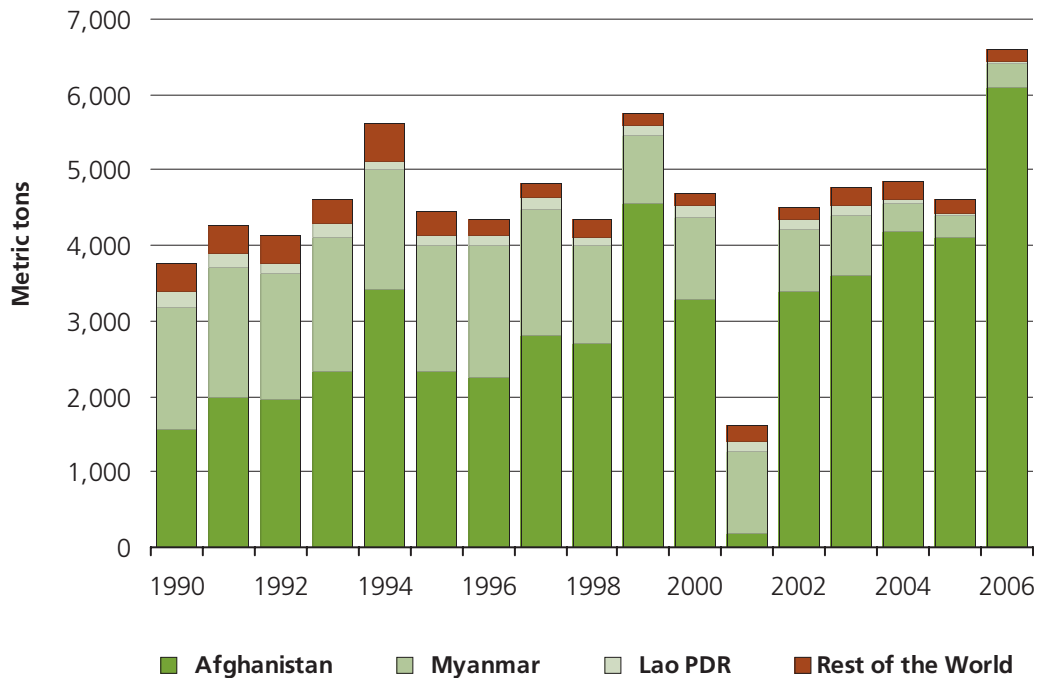
(e) All figures refer to dry opium.

(f) Heroin estimates for Afghanistan are based on the Afghanistan Opium Survey (since 1994). For other countries, a 10:1 ratio is used for conversion from opium to heroin.

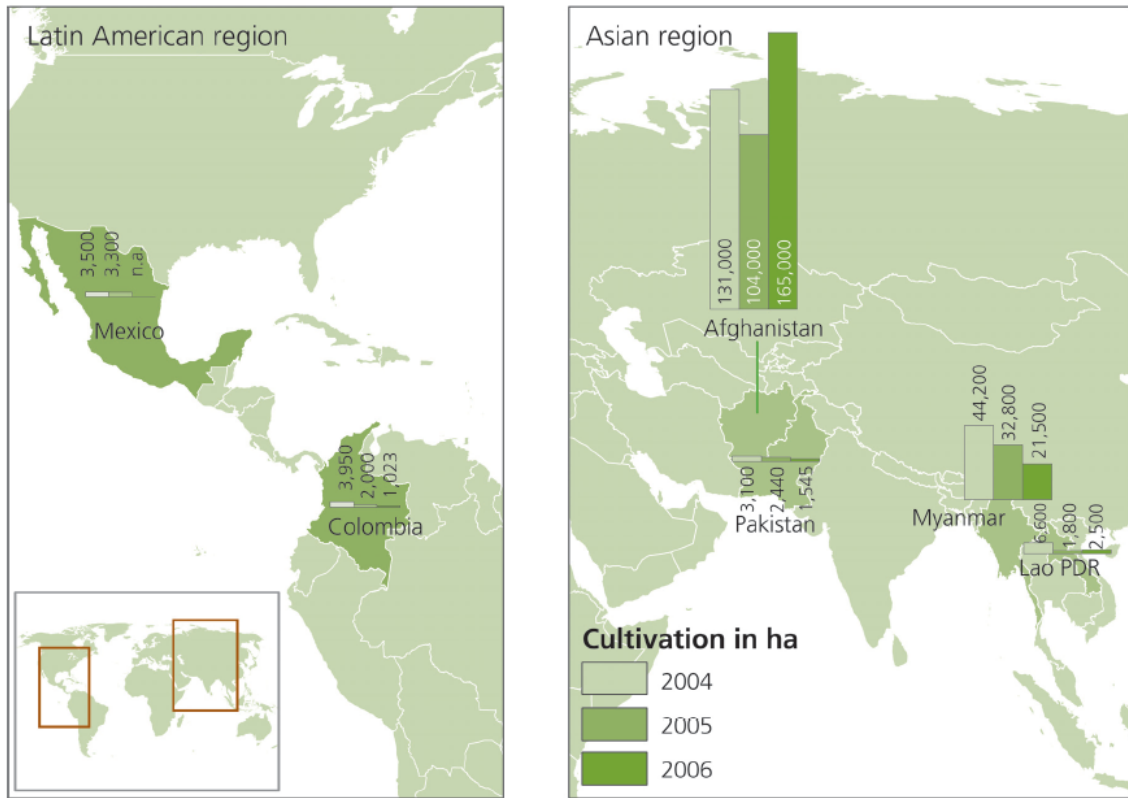
**Fig. 14: Global opium poppy cultivation (hectares), 1990-2006**



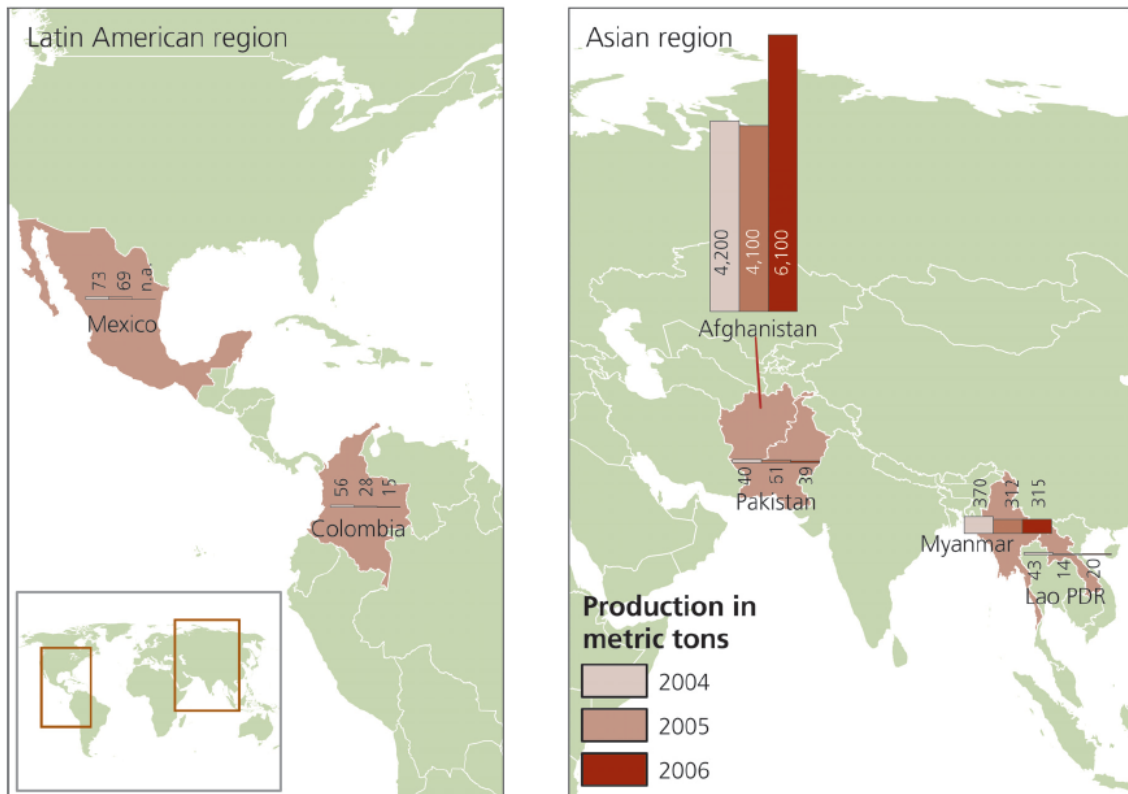
**Fig. 15: Global opium production (metric tons), 1990-2006**



Map 2: Opium poppy cultivation, 2004 -2006

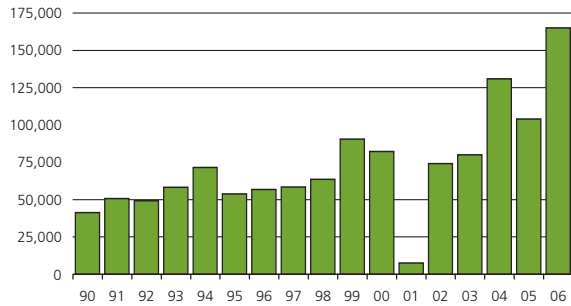


Map 3: Opium poppy production, 2004 -2006

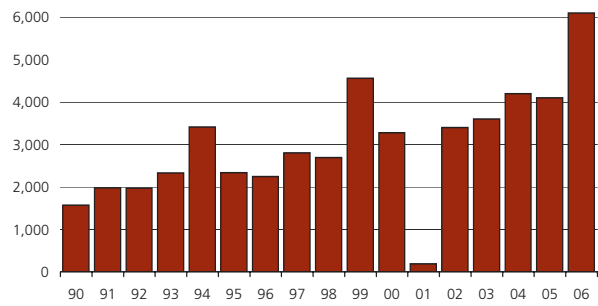


**Fig. 16: Annual opium poppy cultivation and opium production in main producing countries, 1990-2006**

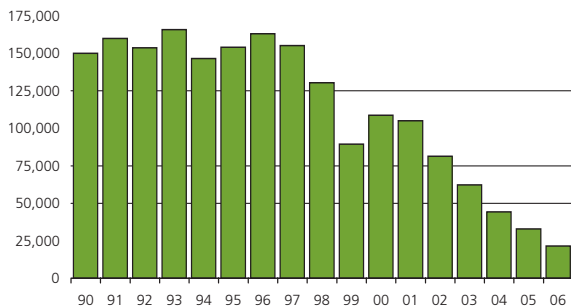
**AFGHANISTAN - OPIUM POPPY CULTIVATION (hectares), 1990-2006**



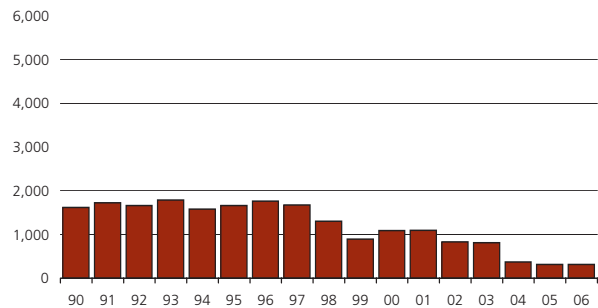
**AFGHANISTAN - OPIUM PRODUCTION (metric tons), 1990-2006**



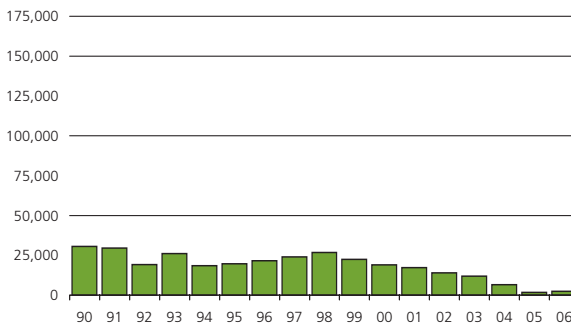
**MYANMAR - OPIUM POPPY CULTIVATION (hectares), 1990-2006**



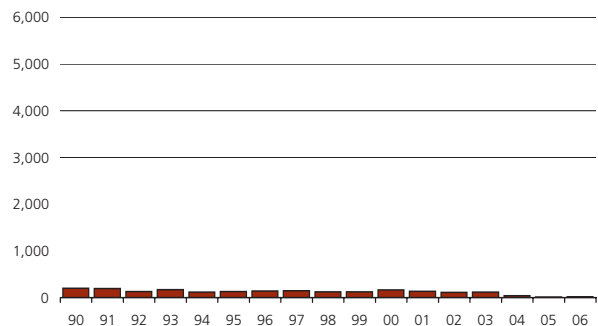
**MYANMAR - OPIUM PRODUCTION (metric tons), 1990-2006**



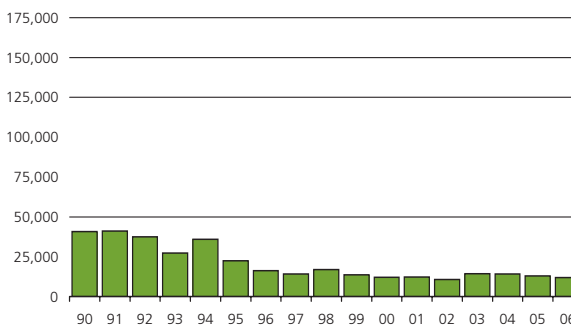
**LAO PDR - OPIUM POPPY CULTIVATION (hectares), 1990-2006**



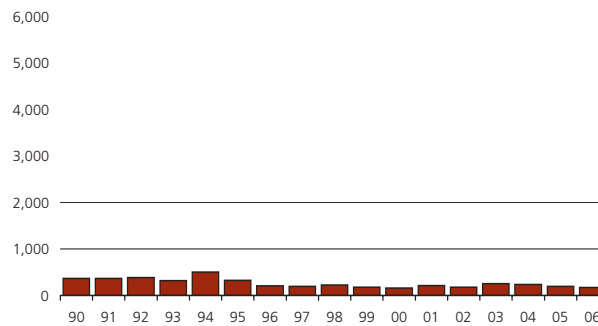
**LAO PDR - OPIUM PRODUCTION (metric tons), 1990-2006**



**REST OF THE WORLD - OPIUM POPPY CULTIVATION (hectares), 1990-2006**

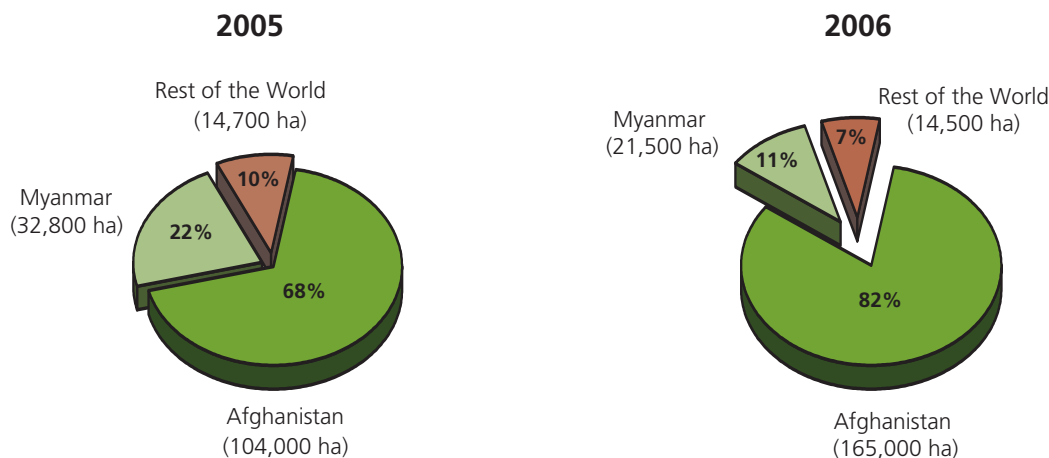


**REST OF THE WORLD - OPIUM PRODUCTION (metric tons), 1990-2006**

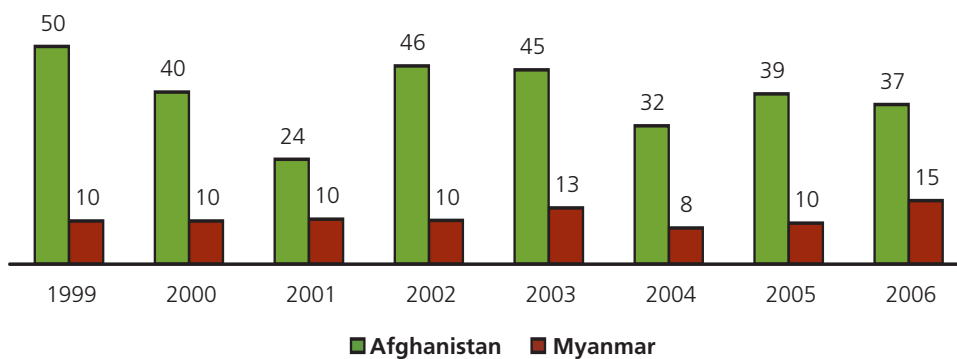




**Fig. 17: Opium poppy cultivation**

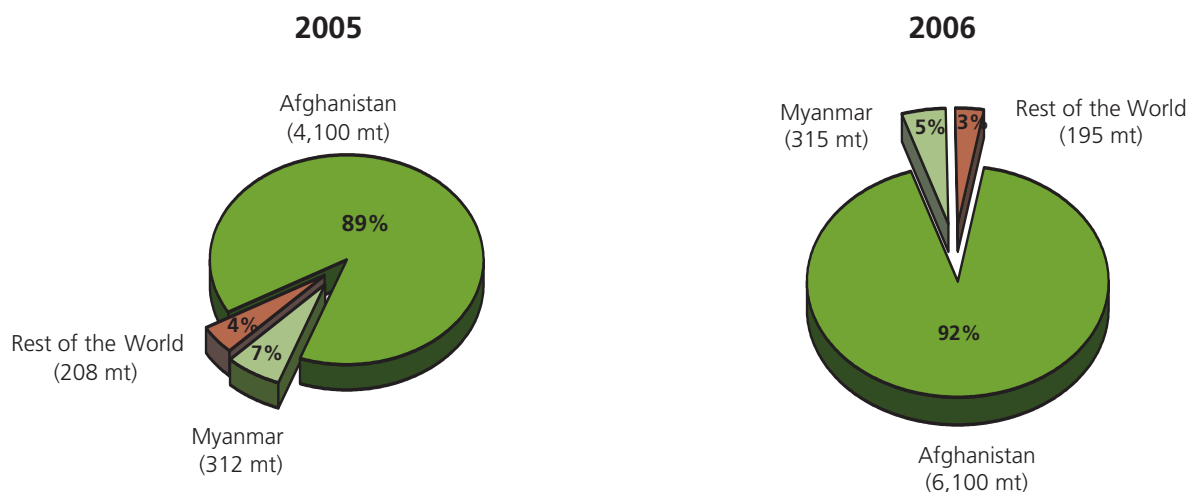


**Fig. 18: Opium yields in Afghanistan and Myanmar (kg/ha), 1999-2006**



Differences in opium yield between Afghanistan and Myanmar are due to differences in opium poppy varieties and growing conditions. Variations of yields from year to year in the same country are mostly caused by changes in weather conditions and/or, as in the case of Afghanistan in 2001, by a shift in the relative distribution of cultivation from irrigated to rain-fed land.

**Fig. 19: Opium production**





### 1.2.3 Trafficking

#### Opiates are trafficked along three major routes

There are three distinct production centres for opiates which supply three distinct markets, namely:

- Afghanistan supplying neighbouring countries, the Middle East, Africa and, in particular, Europe;
- Myanmar/Lao PDR supplying neighbouring countries, in particular China, and Oceania (mainly Australia); and,
- Latin America (Mexico, Colombia, Guatemala and Peru) supplying North America, in particular the USA.

In 2006, out of all opiates that left Afghanistan, 53 per cent went via Iran, 33 per cent via Pakistan and 15 per cent via Central Asia (mainly Tajikistan). If only heroin and morphine are considered, the bulk is estimated to have left Afghanistan via Pakistan (48%), followed by Iran (31%) and Central Asia (21%).<sup>1</sup>

The route from Afghanistan continues to go mainly via Pakistan, Iran, Turkey and the Balkan countries to distribution centres in West Europe. However, alternative routes have also been established to circumvent the border between Turkey and Bulgaria, some via Ukraine to Romania and along the Balkan route to West Europe.

While seizure data and intelligence information suggested that the West Balkan route gained significance over the 2000-2004 period, this trend did not appear to continue in 2005. Furthermore, seizures rose along the East Balkan route, mainly reflecting rising seizures reported by Romania and Hungary, while seizures made in both Bulgaria and Turkey declined.

The route to the Russian Federation and other C.I.S. countries goes mainly via Central Asia; heroin destined for the Baltic and Nordic countries is also shipped along this route. Other direct air routes go to Europe via Pakistan (notably to the UK), via the Middle East, eastern and western Africa, as well as (according to Interpol) via western Africa to North America.

In 2005/06, new heroin routes have emerged from

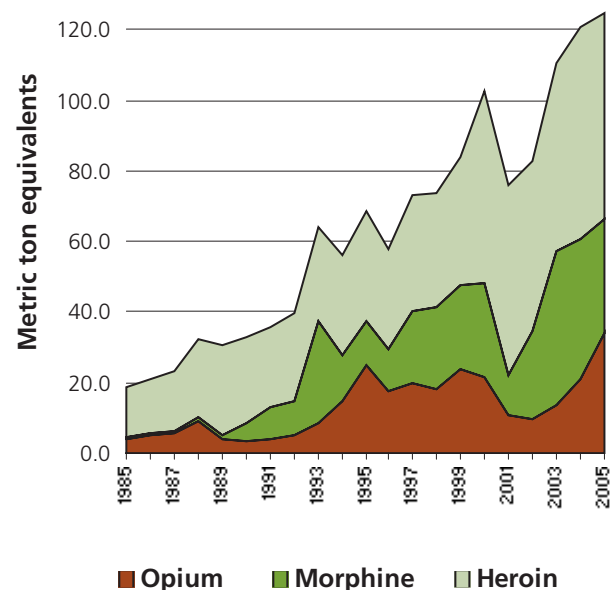
Afghanistan via Pakistan to China and India, as well as via Central Asia to China. This has partly offset a decline in the supply of heroin from Myanmar to China.

#### The global interception rate for opiates continues to increase ...

In 2005, global seizures were: 342 mt opium (up from 212 in 2004), 32 mt morphine (down from 39 in 2004) and 59 mt heroin (60 in 2004). All opiate seizures combined (heroin, morphine and opium, as expressed in heroin equivalents<sup>2</sup>), amounted to 125 mt in 2005, representing a 3 per cent increase from 121 mt in 2004.

Over the last decade, the annual growth in opiates-seizures averaged 6 per cent, which exceeded growth in global opium production and resulted in an increase in the global interception rate for opiates from 15 per cent in 1995 to 26 per cent in 2006.

Fig.20: Global opiate seizures, expressed in heroin equivalents, by substance, 1985-2005



Source: UNODC, Annual reports Questionnaire Data / DELTA.

<sup>1</sup> UNODC, *Afghanistan Opium Survey 2006*, October 2006.

<sup>2</sup> For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine or 1 kg of heroin.

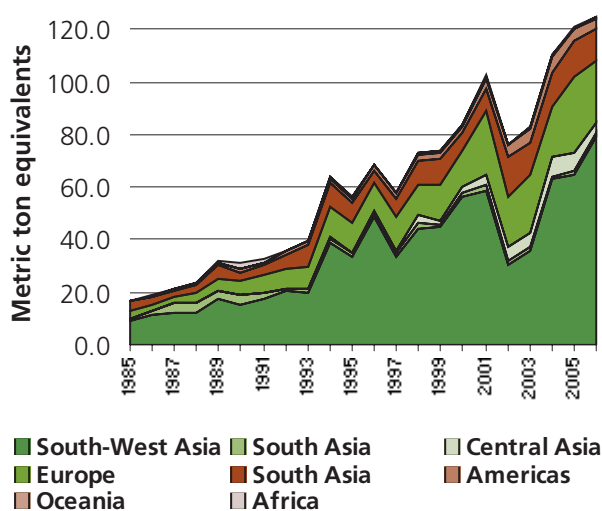
... with the bulk of seizures close to the areas of production...

In 2005, the majority of opiate seizures (67%) took place in the countries surrounding Afghanistan. When seizures made in Europe are added these seizures combined accounted for 87 per cent of the global total. The remaining seizures were made in East and South-East Asia and Oceania (10%), with the Americas accounting for 4 per cent and Africa 0.2 per cent. Africa's opiate supplies are increasingly arriving from South-West Asia.<sup>3</sup>

Opiate seizures increased in South-West Asia in 2005 (up 22%), but declined in East and South-East Asia (down 12%), reflecting the decreasing production in Myanmar and Lao PDR. The strong increase in seizures in South-West Asia also helped stabilize the European market, where opiate seizures declined by 10 per cent.

Meanwhile, opiate seizures rose by 17 per cent in East Europe (defined as the European C.I.S. countries), which is supplied with Afghan opiates via Central Asia. Seizures in Central Asia declined by 38 per cent in 2005, mostly because of Tajikistan (down 51 per cent). This decline was associated with the transitional arrangements following the transfer of border control to the Tajik authorities. Nonetheless, Tajikistan seized the

**Fig. 21: Global opiate seizures, expressed in heroin equivalents\*, regional breakdown, 1985-2005**

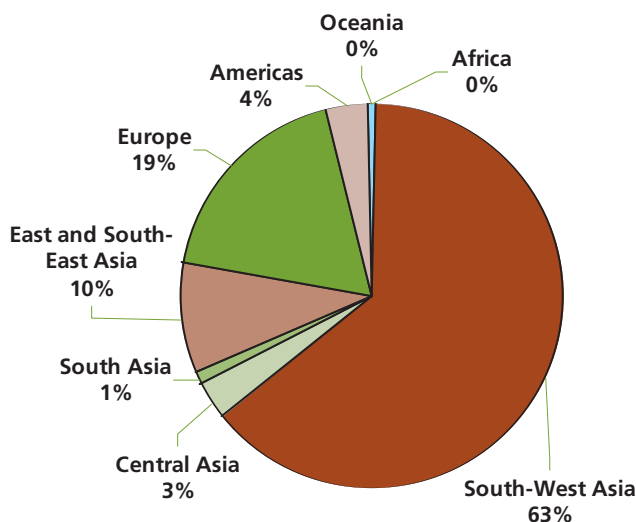


\* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin.

Source: UNODC, Annual Reports Questionnaire Data / DELTA

bulk of all opiates in Central Asia (almost 60 per cent in 2005). Kyrgyzstan, Uzbekistan and Kazakhstan all reported increases in seizures, as did the Russian Federation.

**Fig. 22: Global opiate seizures, expressed in heroin equivalents\*, regional breakdown in 2005**



Source: UNODC, Annual Reports Questionnaire Data / DELTA

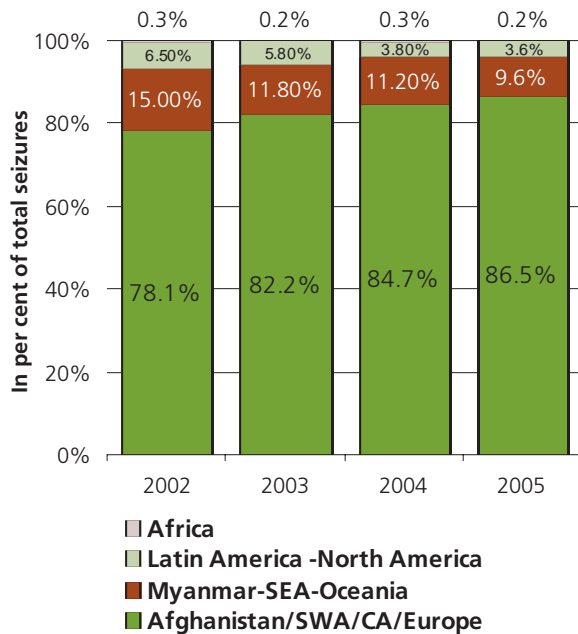
\* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin.

... and primarily along the Afghanistan-Europe trafficking route.

Between 2002 and 2005, the proportion of opiate seizures along the Afghanistan-Europe trafficking route increased from 78 to 87 per cent, reflecting rising opium production in Afghanistan. Seizures along the other two main routes decreased, from 15 to 10 per cent for South-East Asia/Oceania and from 7 to 4 per cent from Latin America to North America. These reflect production declines in South-East Asia and Latin America.

Opiate trafficking levels from South-East Asia to North America and Europe, as well as from Latin America to Europe, remained low. As of 2005/06, however, Afghan-produced opiates were trafficked to China in increasing amounts.

<sup>3</sup> UNODC, Annual Reports Questionnaire data.

**Fig. 23: Distribution of opiate seizures (expressed in heroin equivalents\*), 2002-2004**

\* applying a conversion ratio of 10 kg of opium equivalent to 1 kg of morphine and 1 kg of heroin

Source: UNODC, Annual reports Questionnaire Data / DELTA.

### The world's largest opiate seizures are made by Iran and Pakistan

In 2005, Iran made the world's largest opiate (heroin, morphine and opium in heroin equivalents) seizures (29%), followed by Pakistan (20%), Afghanistan (15%), China (7.5%), Turkey (7%), the Russian Federation (4%) and Tajikistan (2%). The UK<sup>4</sup> accounted for 1.8 per cent, the USA 1.4 per cent and Italy 1.1 per cent of global opiates seizures.

Although Afghanistan accounted for only 2 per cent of global opiate seizures in 2002, this proportion rose to 4 per cent in 2004 and to 15 per cent in 2005, representing the largest increase globally that year.

If the opiate seizures of 2005 are broken down by substance, the following picture emerges:

- Opium (342 mt): Iran 68 per cent (reflecting large domestic consumption), Afghanistan 27 per cent and Pakistan 2 per cent.
- Heroin and morphine together (91 mt): Pakistan

27 per cent, Iran 14 per cent, China, Afghanistan and Turkey 10 per cent each, the Russian Federation 5 per cent and Tajikistan 3 per cent.

- Morphine (32 mt): Pakistan 69 per cent, Iran 22 per cent, Afghanistan 6 per cent and Turkey 2 per cent. As drug users do not typically consume morphine, the large seizures indicate subsequent heroin manufacturing. The large seizures of morphine reported by Afghanistan's neighbours also indicate that significant quantities of heroin are still being produced outside Afghanistan. However, Pakistan, Iran or Turkey did not report any dismantling of clandestine heroin laboratories in 2005, thus leaving open the question of where the manufacturing is actually taking place.
- Heroin (59 mt): China 15 per cent, Turkey 14 per cent, Afghanistan 12 per cent, Iran 10 per cent, the Russian Federation 8 per cent, as well as Tajikistan, the UK<sup>5</sup> and Pakistan 4 per cent each, the USA 3 per cent and Italy 2 per cent. This shows that China is the largest heroin market in East and South-East Asia; the Russian Federation is by far the largest in East Europe; the UK and Italy are the largest markets in western Europe; and the USA is the largest market in the Americas.

### South-West Asia reports record seizures in 2006 ...

Preliminary data from Iran and Pakistan suggest a further increase of 46 per cent in total opiate seizures in 2006. While this shows continued efforts in both countries it also reflects the 49 per cent increase in Afghanistan's opium production in 2006, mainly in the southern provinces close to Pakistan and Iran. Opiate seizures also increased in Turkey in 2006, by almost 25 per cent, suggesting that the 'traditional' route via Pakistan, Iran, Turkey and the Balkan countries regained importance.

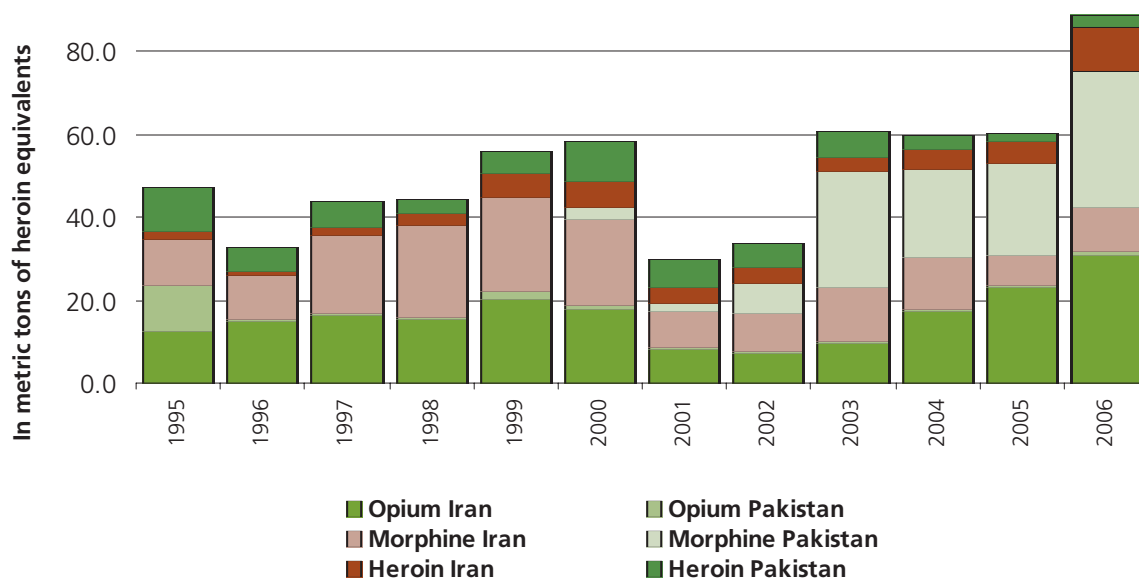
### ... while opiate seizures remain flat in Central Asia

In contrast, preliminary seizure data from the countries of Central Asia shows a stabilization of opiate seizures with a 1 per cent increase, following a 38 per cent decline in 2005. UNODC estimates suggest, however, that trafficking via Central Asia increased by some 12 per cent in 2006.

<sup>4</sup> Data reported from the UK refer to the year 2004; these data are used here as a proxy for seizures made in 2005.

<sup>5</sup> *ibid.*

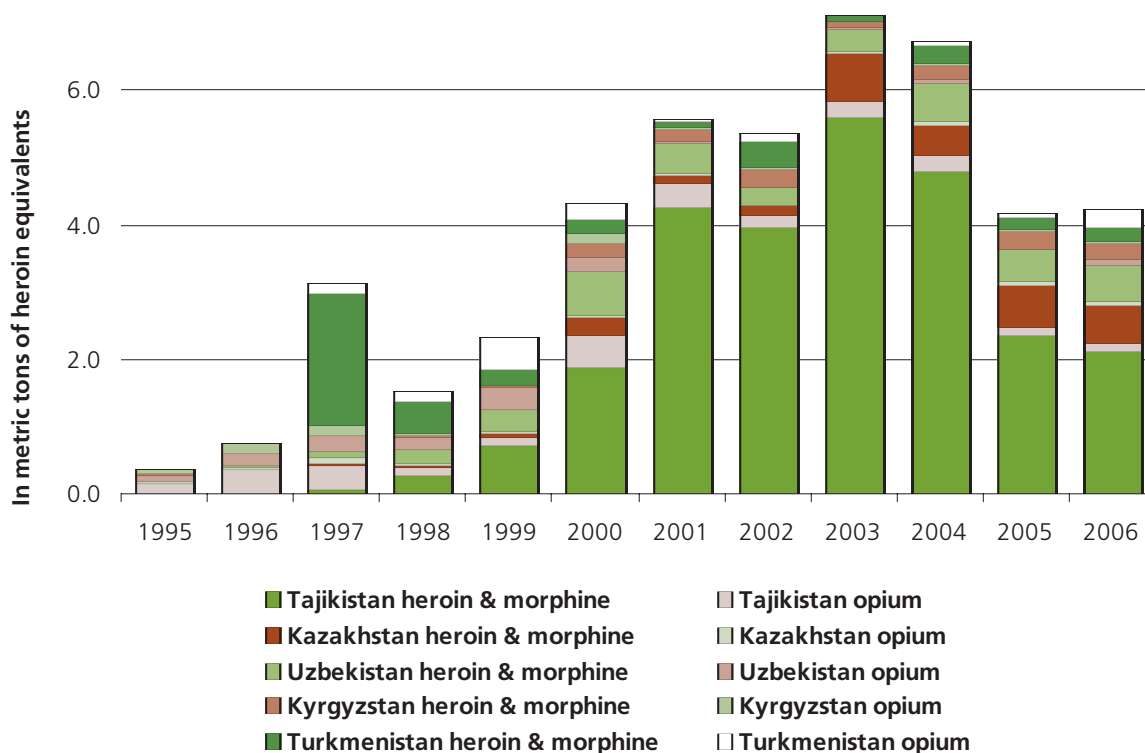
**Fig. 24: Opiate seizures in heroin equivalents\* in Pakistan and Iran, 1995-2006**



\* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin.

Source: UNODC, Annual Reports Questionnaire Data / DELTA

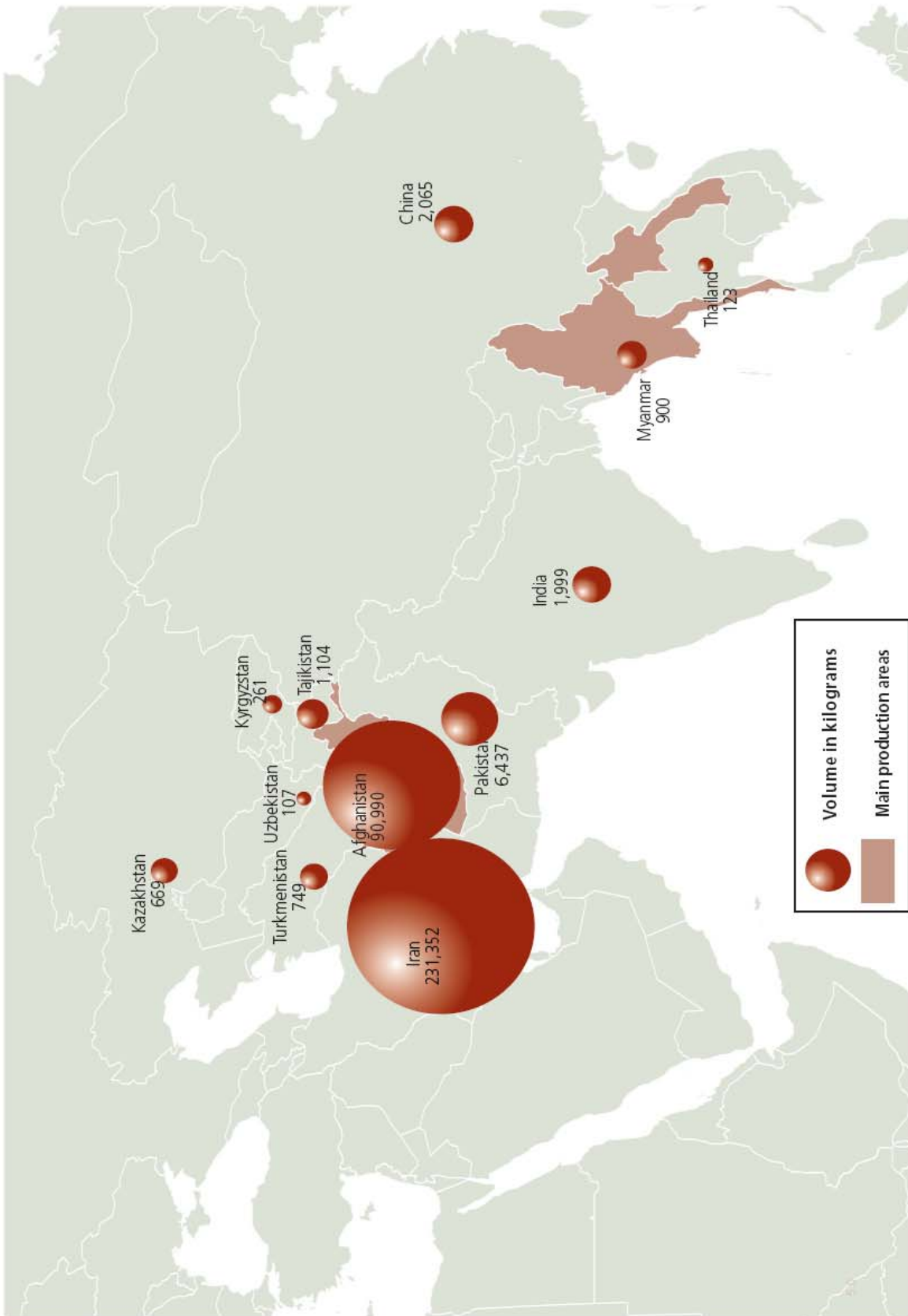
**Fig. 25: Opiate seizures in Central Asia, 1995-2006**



\* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin; there have been practically no morphine seizures reported from countries of Central Asia in recent years.

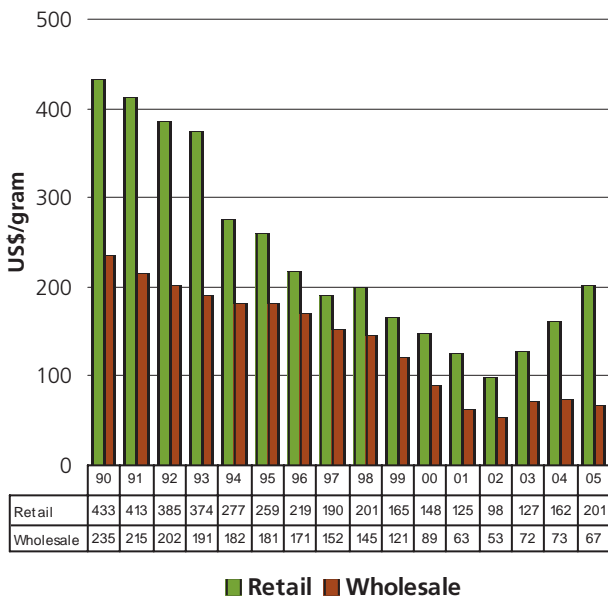
Source: UNODC, Annual Reports Questionnaire Data / DELTA

Map 4: Trafficking in opium, 2005 (countries reporting seizures\* of more than 10 kg)

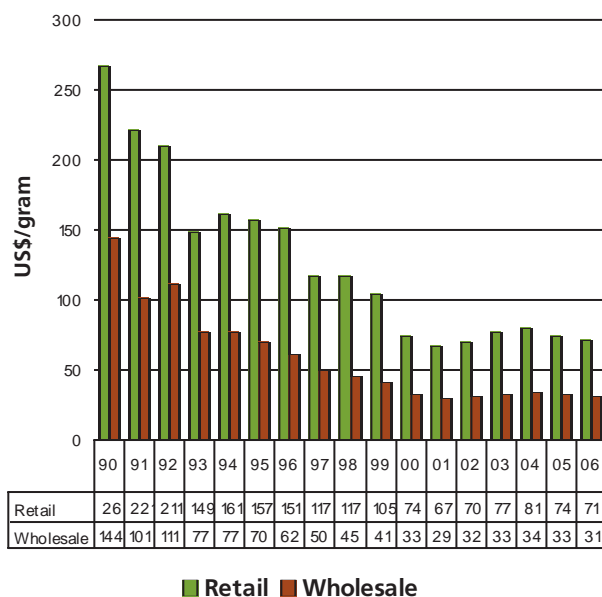


\* Seizures as reported (street purity)  
Source: UNODC Annual Reports Questionnaires data/DELTA

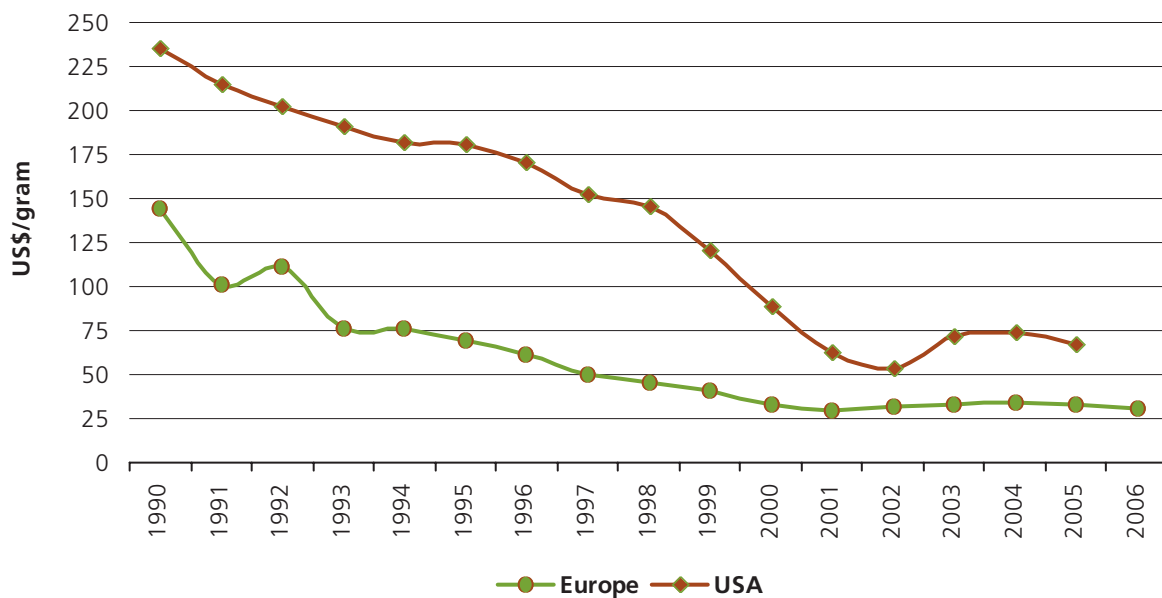
**Fig. 26: USA: Heroin retail and whole sale prices, 1990-2005 (US\$/gram)**



**Fig. 27: EUROPE: Heroin retail and wholesale prices, 1990-2006 (US\$/gram)**

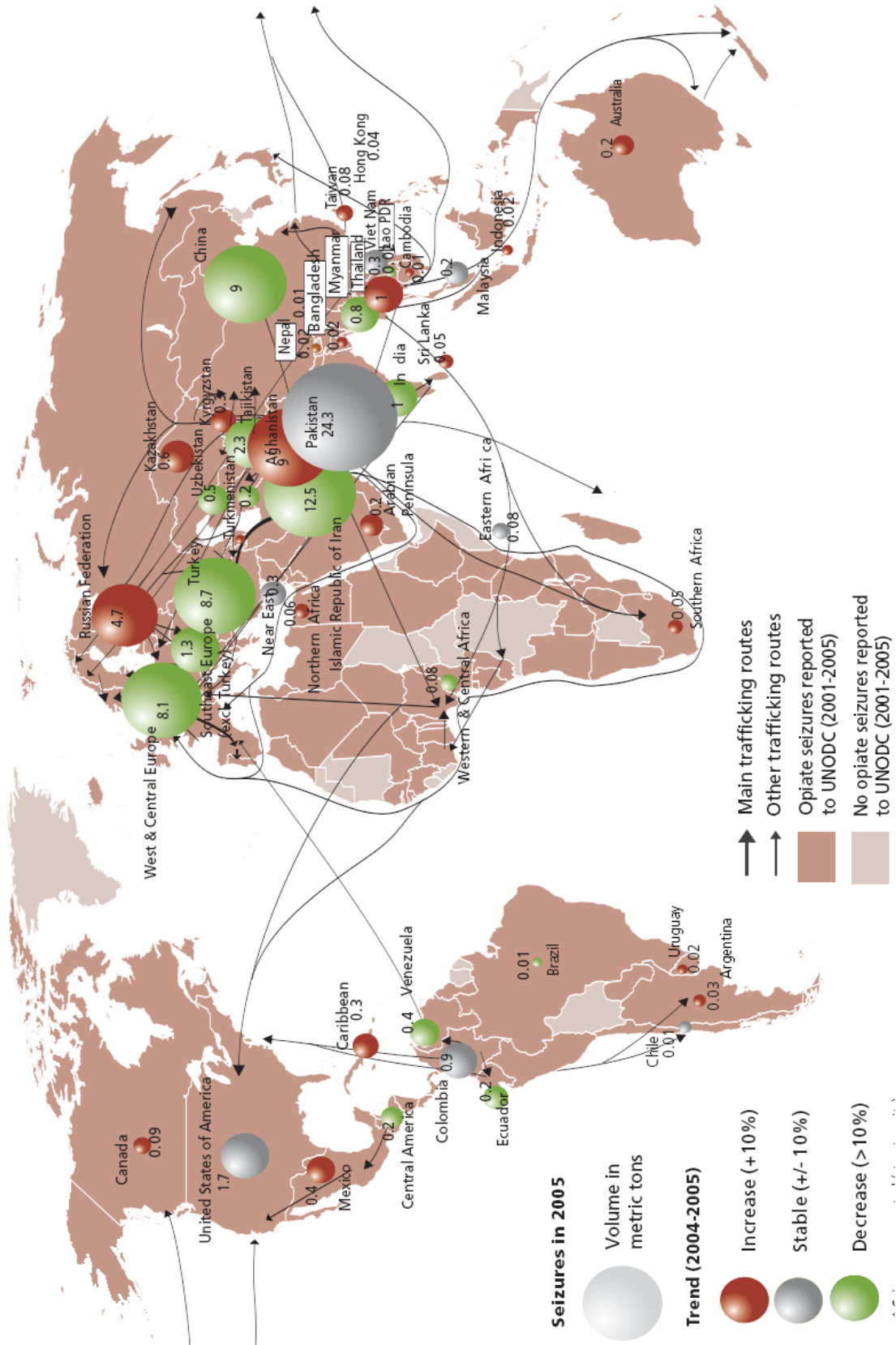


**Fig. 28: Wholesale heroin prices in Europe and the USA, 1990-2006 (US\$/gram)**





Map 5: Trafficking in heroin and morphine 2006 (countries reporting seizures\* of more than 10 kg)



\* Seizures as reported (street purity)  
Source: UNODC Annual Reports Questionnaires data/DELTA, UNODC Data for Africa Project.



Fig. 29: Global illicit supply of opiates, 1994 - 2005

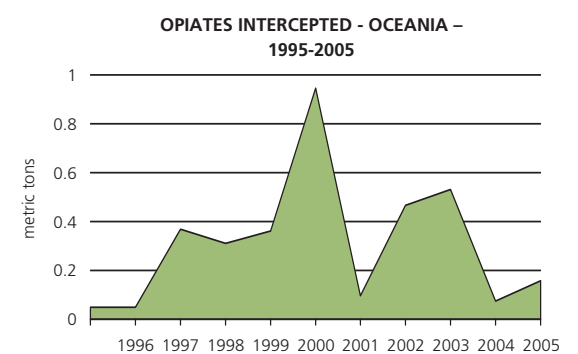
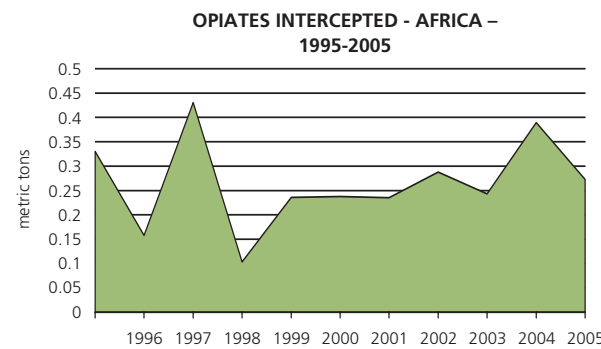
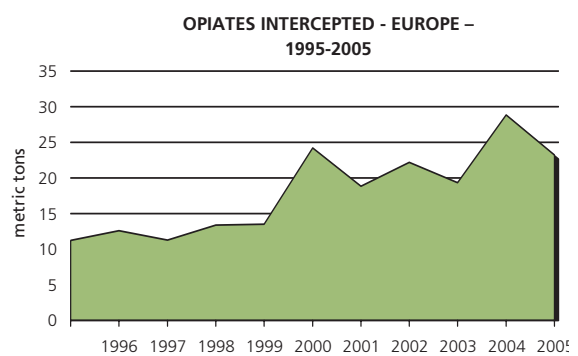
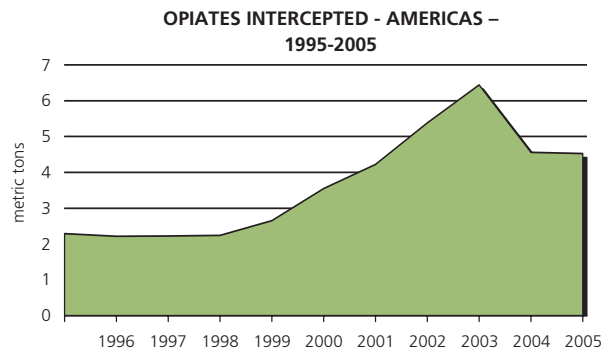
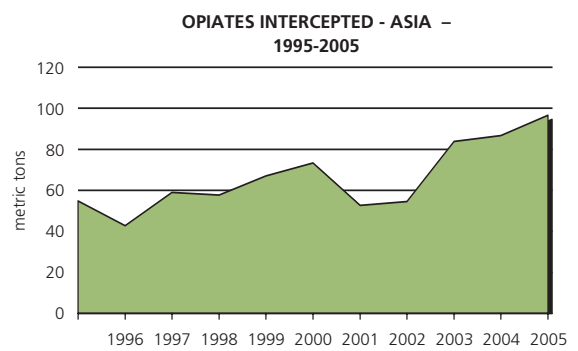
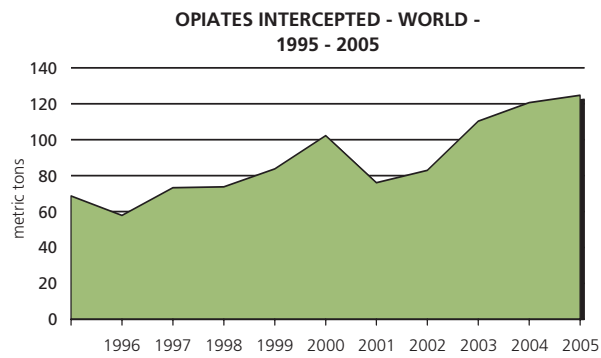
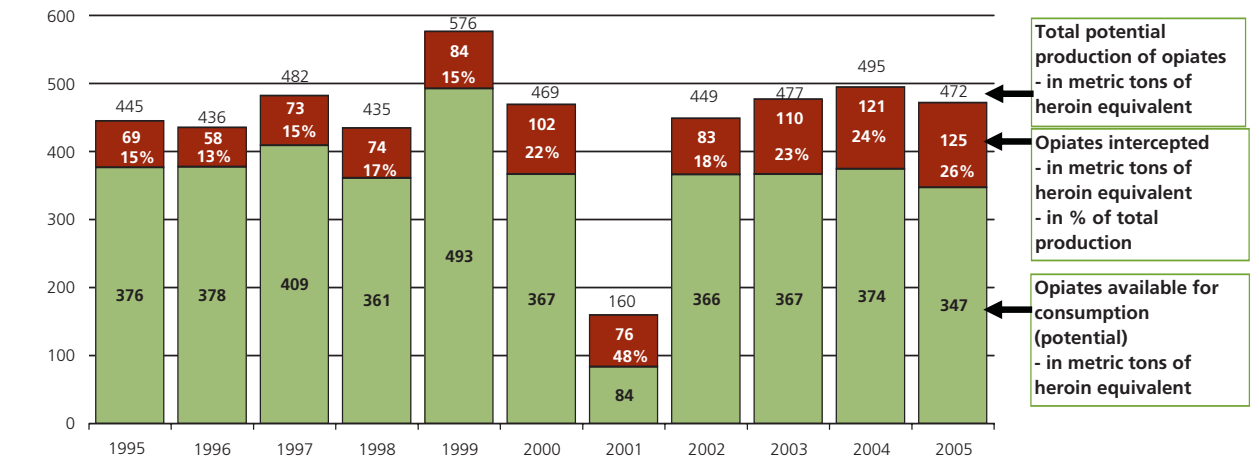
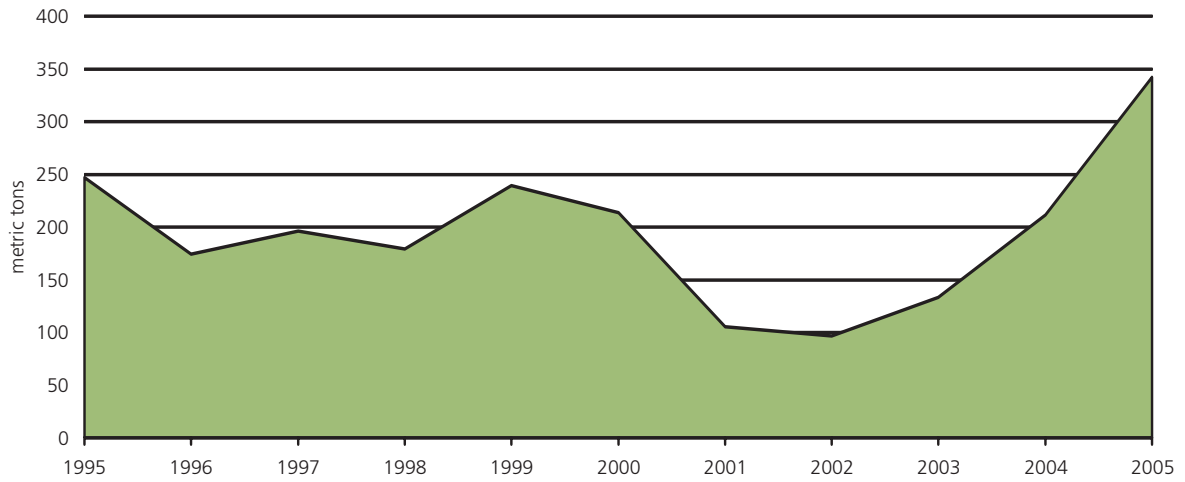


Fig. 30: Global seizures of opium 1995 - 2005



Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Metric tons	247	174	196	179	239	213	106	97	133	212	342

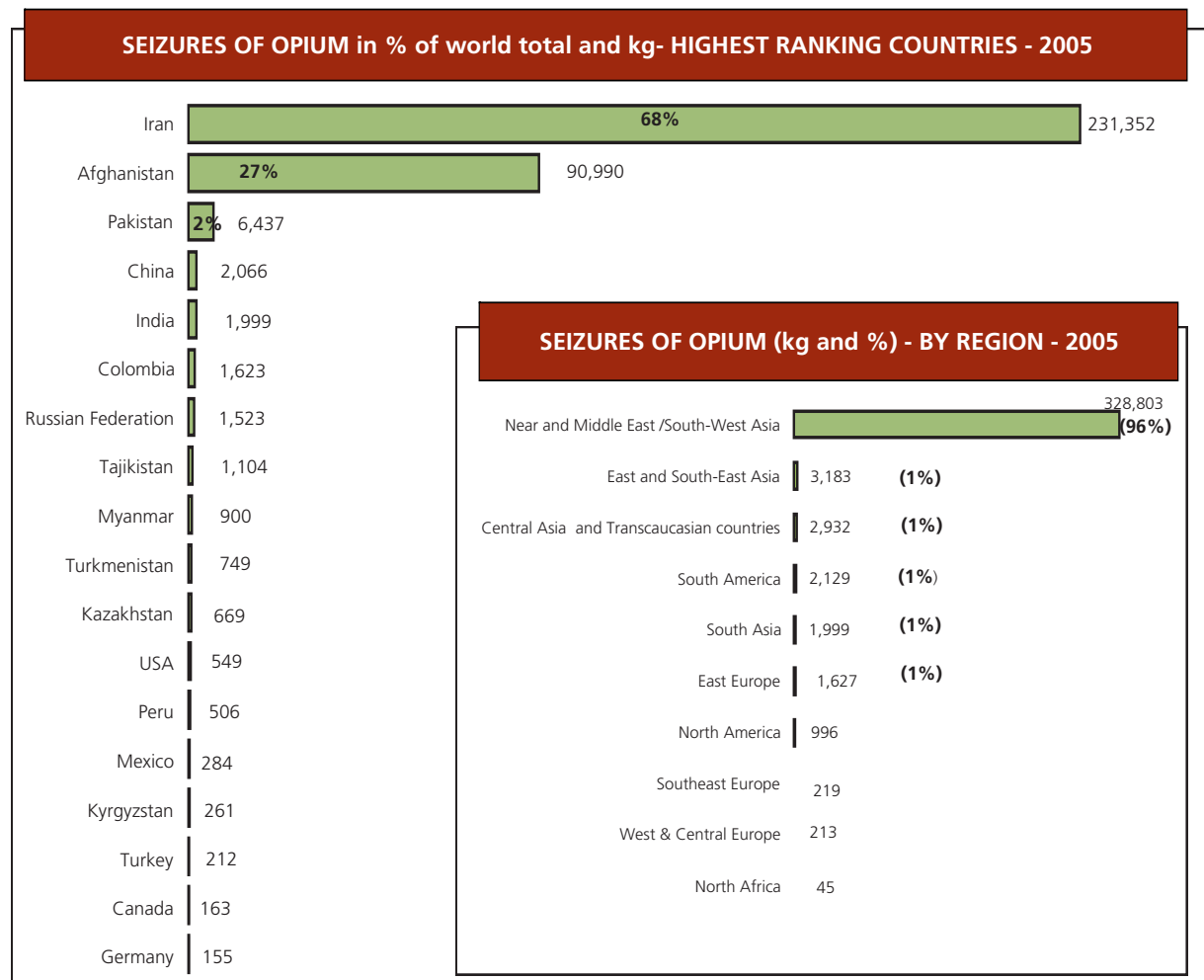
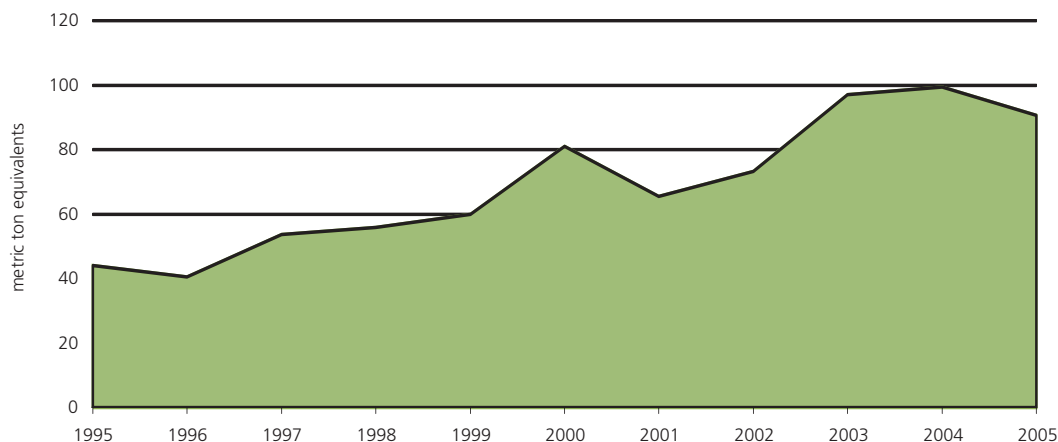


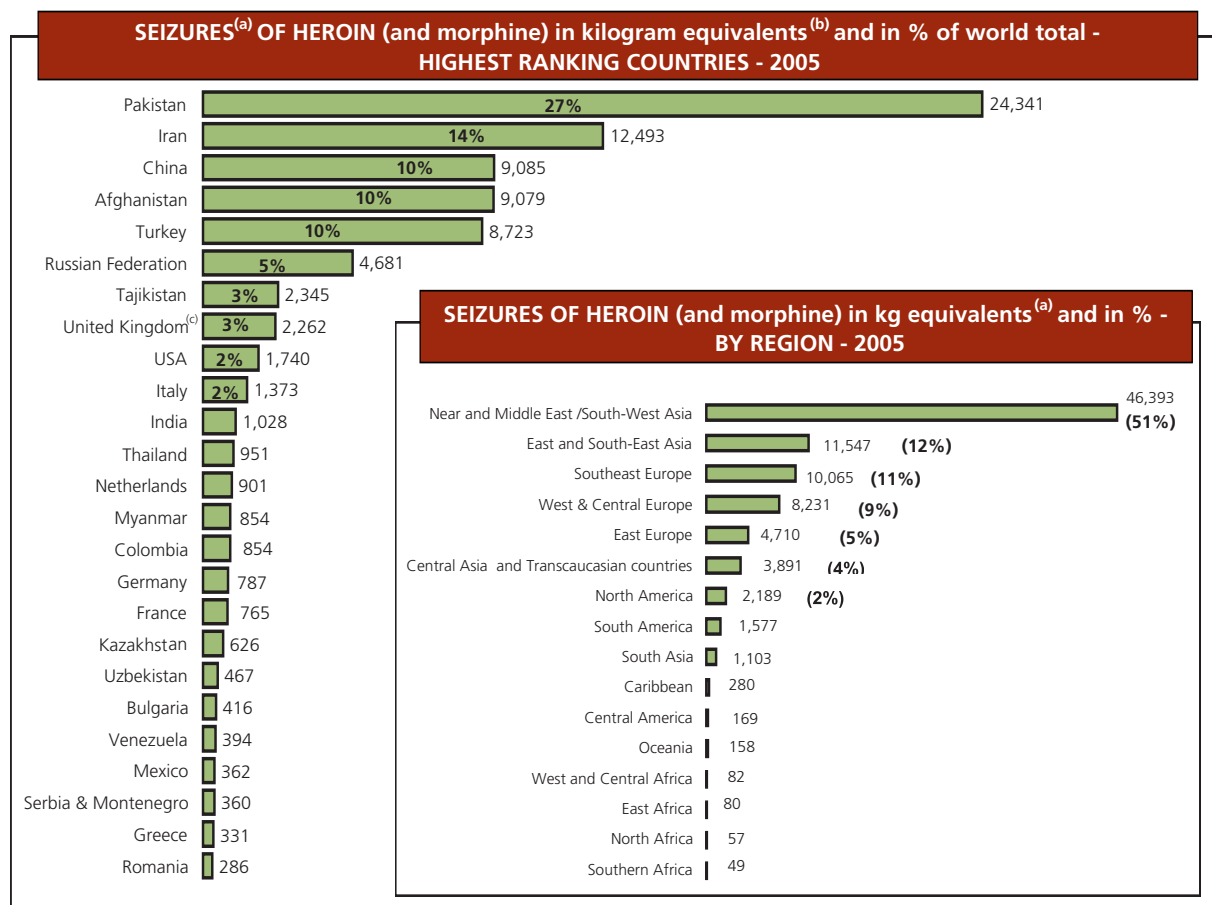
Fig. 31: Global seizures of heroin (a) and morphine (b), 1995 - 2005



(a) Seizures as reported (street purity)

(b) metric ton equivalents. 1 kg of morphine is assumed to be equivalent to 1 kg of heroin

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Metric ton Equivalents	44	40	54	56	60	78	66	73	97	99	91



(a) Seizures as reported (street purity)

(b) 1 kg of morphine is assumed to be equivalent to 1 kg of heroin

(c) data refer to 2004

### 1.2.4 Abuse

#### Global abuse of opiates remains essentially stable

Global opiate abuse has stabilised at an estimated 15.6 million people, or 0.4 per cent of the world's population aged 15-64. Opiates continue to be the main problem drug worldwide, accounting for some 60 per cent of treatment demand in Asia and in Europe.

More than half of the world's opiates using population lives in Asia, with the highest levels of abuse occurring along the main drug trafficking routes out of Afghanistan. Annual prevalence of opiates, including heroin, is high in the Islamic Republic of Iran where the number of drug abusers is said to exceed 1.2 million (2.8 percent of the general population aged 15-64). The abuse of opiates is also high in Central Asia. The latest surveys undertaken in cooperation with UNODC's Global Assessment Programme on Drug Abuse (GAP), found that prevalence rates of opiates abuse in 2006 ranged from 0.5 per cent of the population aged 15-64 in Tajikistan to 0.8 per cent in Uzbekistan and Kyrgyzstan and 1.0 per cent in Kazakhstan. The total number of opiates users in Central Asia is close to 300,000 persons.

A new study conducted in Pakistan estimated a prevalence rate of 0.7 per cent for the four main provinces of the country (range: 400,000 – 600,000 persons) in the year 2006. Extrapolating from these results, UNODC estimates that there are approximately 640,000 opiates users in Pakistan; of these about 500,000 are heroin users. These findings mirror those of a study undertaken in 2000/01. Given the massive increase of opium and heroin production in neighbouring Afghanistan this stability in prevalence rates is a notable achievement. The prevalence rates for opiates use range from 0.4 per cent in the provinces of Punjab and Sind to 0.7 per cent in the North-West Frontier Province and 1.1 per cent in Baluchistan.<sup>1</sup> The latter two provinces share a direct border with Afghanistan. While the overall rate

of abuse has not changed much in Pakistan, the proportion of injecting drug users has increased alarmingly, from 3 per cent in 1993 to 15 per cent in 2000/01 and 29 per cent in 2006.

A study published in India in 2004 revealed opiate prevalence rates of around 0.7 per cent for males<sup>2</sup>, which is equivalent to an annual prevalence of around 0.4 per cent of the general population aged 15-64, or slightly less than 3 million people. Opiate abuse in India increased in 2005, fuelled by the increasing availability of heroin smuggled from Afghanistan.

Annual prevalence in China (2004) is estimated to be less than 0.2 per cent or 1.7 million people. The number of officially registered 'active' drug users in China was 785,000 in 2005 of which 700,000 (or 78%) were heroin users, 2.28 per cent were opium users and 0.19 per cent were morphine users. The Chinese opiates market is reported to have stabilized in 2005/06.<sup>3</sup>

Opiates abuse is basically stable or declining in West and Central Europe. The annual prevalence rate remained close to 0.5 per cent of the population aged 15-64 (1.5 million people). Major opiates markets in Western Europe are the United Kingdom (some 350,000 persons) and Italy (300,000), followed by France (170,000), Germany (120,000) and Spain (70,000). Data for Spain suggest that opiates abuse has declined in recent years. These data are derived from problem drug use estimates. Household survey results in all of the countries mentioned above show substantially lower figures (with prevalence rates typically around 0.2%). Household surveys, however, may not provide the optimal measure of the number of opiates abusers as many heroin addicts do not have a fixed or permanent residence.

The largest opiates market in East Europe is most likely the Russian Federation. However, estimates of the number of opiate users vary substantially<sup>4</sup>. UNODC

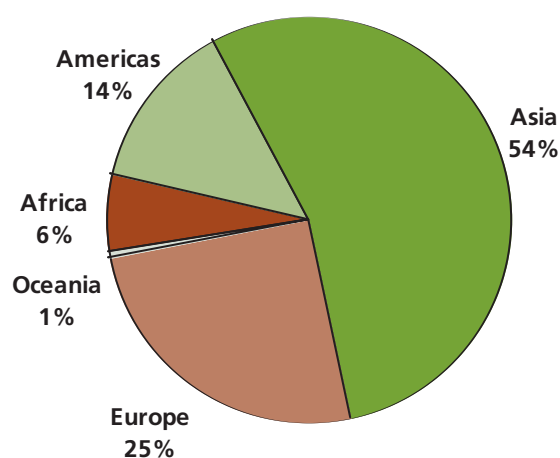
<sup>1</sup> UNODC, Global Assessment Programme on drug Abuse (GAP), National Assessment of Problem Drug Use in Pakistan 2007, preliminary results, May 2007.

<sup>2</sup> UNODC and Ministry of Social Justice and Empowerment, Government of India, *The Extent, Pattern and Trends of Drug Abuse in India, National Survey, 2004*.

<sup>3</sup> Zhao Wanpeng, Deputy Director of International Cooperation Division, Narcotics Control Bureau, Ministry of Public Security, 'Measures Implemented in China for the Prevention of Illicit Production of Synthetic Drugs and their Precursors', presentation given to the conference 'Europe-Asia - Cooperation on Synthetic Drugs and their Precursors', 6-7 March 2007.

<sup>4</sup> This also reflects major differences on the estimates of total drug use in the Russian Federation. A review of current estimates of the total number of drug users showed a range from 1.5 million to 6 million people (UNODC, *Illicit Drug Trends in the Russian Federation, 2005*).

<sup>5</sup> This was derived from an estimate of the total number of drug users in the Russian Federation of 2.3 million (UNODCCP, *Country Profile on Drugs and Crime in the Russian Federation, 2002*) and estimates of the proportion of registered opiate users among all registered drug users.

**Fig. 32: Regional breakdown of opiate abusers in 2005**

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

continues to use the estimate provided by the Russian authorities for 2000/01, which suggested that there could be some 2 million opiates users<sup>5</sup> in the country (equivalent to 2% of the population age 15-64). Of these some 1.5 million use heroin. The number of drug abusers registered with the country's treatment institutions amounted to 343,509 in 2005 or 0.24 per cent of the country's total population. Above average use levels (0.5% to 0.7%) were reported from several provinces close to the border with Kazakhstan (Samara, Khanty-Mani, Kemerovo, Tyumen, Primorsky, Novosibirsk). High levels were also reported from Irkutsk (Far East; 0.5%), Tomsk (southern Siberia) and from Krasnodar (Caucasus region; 0.4%).<sup>6</sup> The country's first national survey is being planned in 2007.

In the Americas, the largest opiates market is the USA with about 1.2 million heroin users (0.6% of the population aged 15-64). This is based on estimates of chronic and casual heroin users for the year 2000. More recent estimates of overall heroin use in the USA are not available. Trend data suggest, however, that heroin use has declined since 2000. Household survey results appear to confirm this. They show that there were 380,000 heroin users in 2005 (or 0.2% of the general population age 12 and above), down from 400,000 in 2002.

Brazil is the largest opiates market in South America (600,000 people or 0.5% of the general population age

**Table 4: Annual prevalence of opiates abuse, 2005**

	Abuse of opiates ...		... of which abuse of heroin	
	population in million	in % of population 15-64 years	population in million	in % of population 15-64 years
<b>EUROPE</b>	3,860,000	0.7	3,250,000	0.6
West & Central Europe	1,420,000	0.5	1,370,000	0.4
South-East Europe	184,000	0.2	130,000	0.2
Eastern Europe	2,300,000	1.6	1,750,000	1.2
<b>AMERICAS</b>	2,130,000	0.4	1,480,000	0.3
North America	1,310,000	0.5	1,245,000	0.4
South America	830,000	0.3	230,000	0.1
<b>ASIA</b>	8,480,000	0.3	5,350,000	0.2
OCEANIA	90,000	0.4	30,000	0.1
AFRICA	980,000	0.2	980,000	0.2
<b>GLOBAL</b>	<b>15,550,000</b>	<b>0.4</b>	<b>11,090,000</b>	<b>0.3</b>

■ Above global average      ■ Around global average      ■ Below global average

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

<sup>6</sup> Ministry of Health, quoted in UNODC, Illicit drug Trends in the Russian Federation 2005.

12-65), according to 2005 national household survey results. This market is largely linked to the use of synthetic opiates and the heroin prevalence rate is less than 0.05 per cent.

### Heroin accounts for more than 70 per cent of opiates abuse

About 71 per cent of the world's 15.6 million opiates users abuse heroin. This amounts to 11 million people. The proportions, however, vary significantly by region. Whereas almost all opiates consumers in Africa reportedly use heroin, only one third consume that substance in Oceania. This particular pattern is due to difficulties in accessing heroin and the availability of synthetic opiates.

Heroin abuse in West and Central Europe has stabilized at 1.4 million. In East Europe levels are higher than in West and Central Europe. Estimates of the number of heroin abusers in Europe as a whole (3.3 million people) are higher than the corresponding estimates for the Americas (1.5 million). The largest numbers of heroin abusers are found in Asia, which accounts for almost half of all heroin use worldwide (5.4 million). Asia and Europe together account for more than three quarters of the world's heroin abuse.

Injecting heroin exposes drug users to HIV/AIDS. According to the Joint United Nations Programme on HIV/AIDS, injecting drug use has contributed to HIV epidemics in India, Indonesia, the Islamic Republic of Iran, Libyan Arab Jamahiriya, Pakistan, Spain, Ukraine, Uruguay and Viet Nam. In China, Central Asia and several countries of East Europe, injecting drug use has been the most frequently cited mode of transmission of HIV in recent years.

Countries in East Africa, particularly Kenya, Mozambique and United Republic of Tanzania, have reported large increases in heroin abuse in recent years. An increase in opiate abuse has also been reported by South Africa and a number of countries in West Africa. In general, these increases are linked to greater amounts of heroin transiting these regions.

### Opiate abuse continues rising in Asia, mainly among countries close to Afghanistan ...

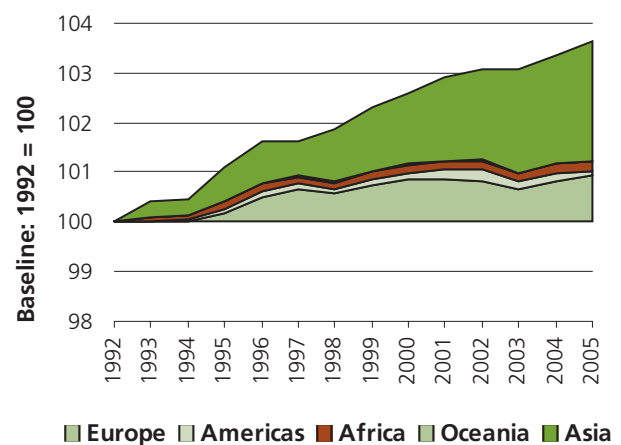
While the new global estimate of opiate abuse (15.6 million people) is marginally lower than the one reported in last year's *World Drug Report* (15.8 million), UNODC's drug use perception indicator suggests that opiate use expanded slightly at the global level in 2005. This mainly reflects increases in opiate abuse reported from Afghanistan, Iran, Pakistan, India, the Central

Asian countries, the Russian Federation and many countries in eastern and southern Africa.

### ... but is falling in East and South-East Asia

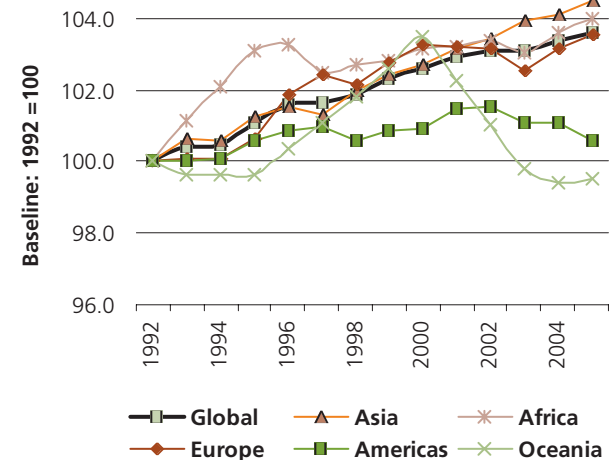
Most countries of East and South-East Asia reported declines in opiate abuse in 2005, reflecting the strong declines of opium production in Myanmar and Lao PDR. The Chinese market was reported to have been stable, as declining levels of opiates from Myanmar were offset by a rising opiate supply from Afghanistan. From 1992 to 2005, the drug use perception indicator for

**Fig. 33: Composite opiate use perception trends, 1992-2005**



Sources: UNODC, Annual Reports Questionnaire Data, Government reports, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), EMCDDA, CICAD, HONLEA reports and local studies.

**Fig. 34: Opiate use perception trends, 1992-2005**



Sources: UNODC, Annual Reports Questionnaire Data, Government reports, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), EMCDDA, CICAD, HONLEA reports and local studies.

Asia followed the global trend until the last few years, when the increase was far above the global average.

### Opiate use stable to declining in West and Central Europe but rising in East Europe ...

Use of opiates remained stable or declined in the countries of West and Central Europe in 2005. It was reported to be rising, however, in East Europe (C.I.S. countries), notably the Russian Federation, as well as a few countries in south-eastern Europe along the Balkan route. This led to a small increase in the drug use perception indicator for Europe for the second year in a row. Following the opium poppy ban in Afghanistan in 2001, abuse in Europe declined until 2003 but recovered slightly to 2000 levels. Following years of strong increases in the 1990s, consumption of opiates has basically stabilized. Europe's perception trend indicator is basically in line with the global average.

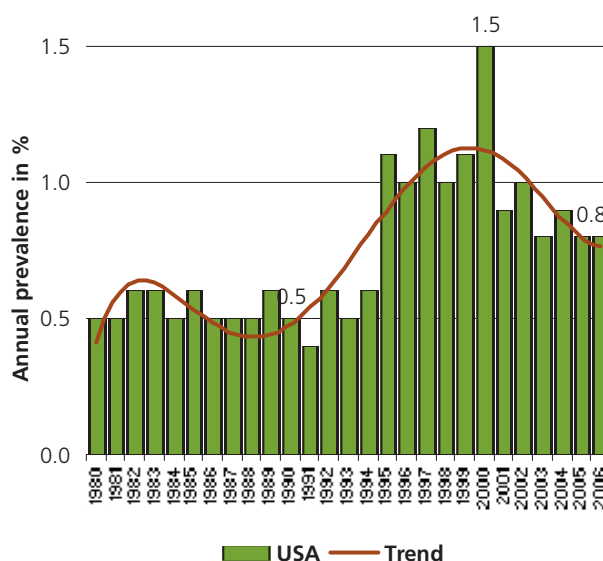
### ... declining in the Americas ...

The drug use perception indicator shows a small decline in opiate abuse in the Americas for 2005 and significant decline since 2001/02. This trend is also reflected in school survey results from the USA and Canada which showed that heroin use is falling subsequent to increases in the 1990s. In the USA, the annual prevalence of heroin consumption among 12<sup>th</sup> grade students declined from 1.5 per cent to 0.8 per cent between 2000 and 2005/06. Falling opium production levels in Latin America as well as in South-East Asia – the two traditional suppliers for the North American market – seem to have contributed to this.

### ... and in Oceania

Following strong increases in the 1990s, opiate use trends in Oceania changed direction after 2000. The trend indicator is now below the levels of a decade earlier. These trends primarily reflect the situation in Australia. The Oceania region, and notably Australia, used to have among the highest prevalence rates of opiate abuse worldwide. This changed in the early years of the new millennium, following a major heroin shortage in 2001. The so-called 'heroin drought' prompted a fall in purity levels while heroin prices rose strongly, thus squeezing large numbers of heroin users out of the market. The number of drug related deaths declined substantially. Fears that higher prices would result in more crime, and that supply-induced changes would be short-lived, never materialized. The 2004 National Drug Strategy Household Survey showed that the annual prevalence of heroin use – after having fallen drastically in 2001 – remained at the lower level in 2004.

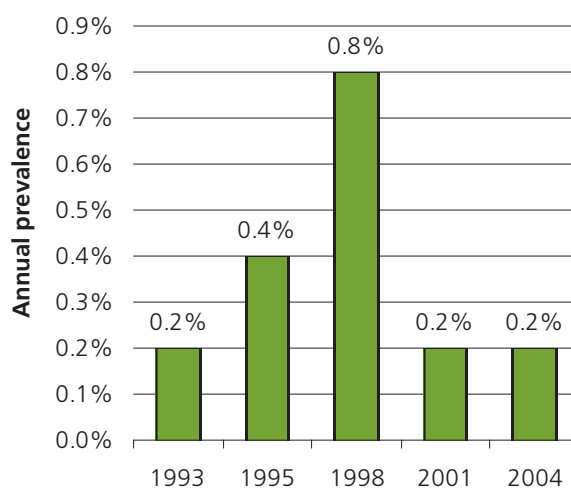
Fig. 35: Annual prevalence of heroin use among 12<sup>th</sup> graders in US high-schools, 1980-2005



Source: NIDA, Monitoring the Future, Overview of Key Findings 2005.

The ongoing Drug Use Monitoring in Australia project (DUMA), shows that heroin use remained at the lower level in 2005 and declined even further in 2006. Whereas in 1999 and 2000 around 30 per cent of people arrested had used heroin, in 2005 the proportion declined to 16 per cent (and to less than 10 per cent over the last two quarters of 2006).

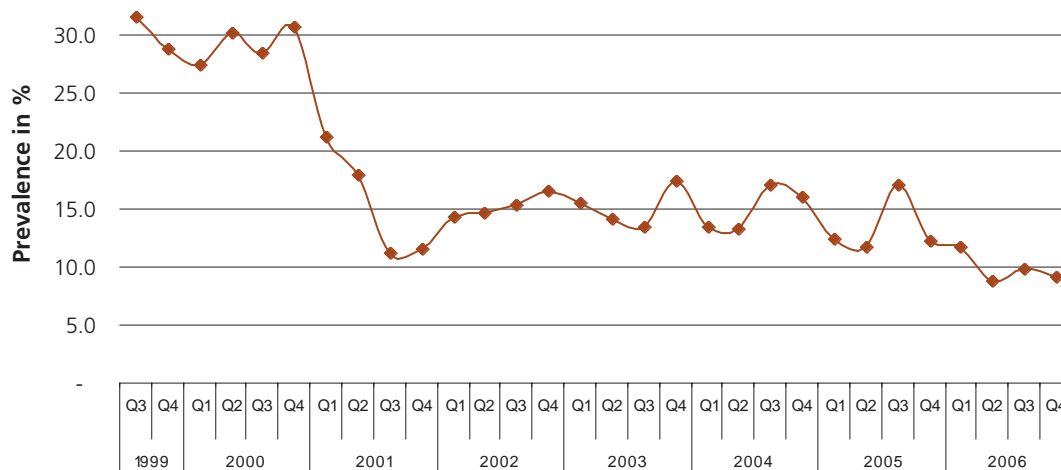
Fig. 36: Heroin use among the general population (age 14 and above), Australia, 1993-2004



Source: AIHW, 2004 National Drug Strategy – Household Survey.



**Fig. 37: Testing of arrestees for heroin abuse in Australia\***



\* unweighted average of results from Western Australia (East Perth), South Australia (Adelaide and Elisabeth), New South Wales (Sydney) and Queensland (Brisbane and Southport).

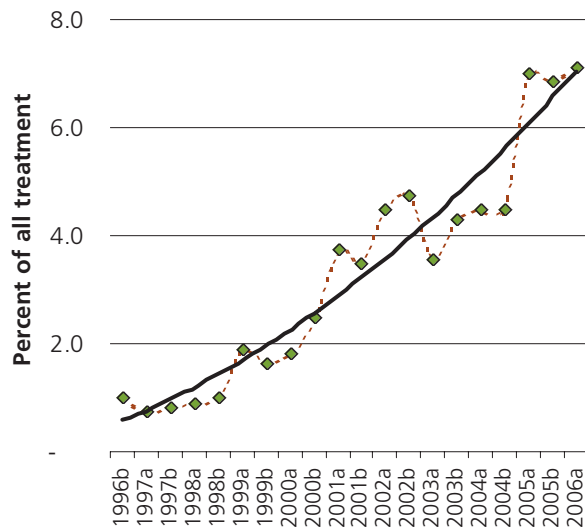
Source: Australia Institute of Criminology, Drug Use Monitoring in Australia (DUMA).

**Opiate use continues rising in Africa**

Opiate use continued rising in Africa, notably in countries of eastern and southern Africa. This is most likely linked to more heroin trafficking. The increase in Africa was the second highest after Asia and Africa is now slightly above the global average on the drug use perception indicator.

The upward trend over the last decade is best documented by the South African Community Epidemiology Network on Drug Use (SACENDU). Heroin accounted for less than 1 per cent of treatment demand (including alcohol) in 1996. By the first two quarters of 2006 this proportion increased to 7 per cent. Over the last few years, there has been a large increase in treatment admissions for heroin as the primary drug of abuse in the Western Cape region (Cape Town), Gauteng (Pretoria and Johannesburg), Mpumanga and KwaZulu-Natal (Durban, Pietermaritzburg). Preliminary data for the third and fourth quarters of 2006 suggest that the increase was particularly pronounced in Gauteng and in KwaZulu-Natal. Heroin is mostly smoked in South Africa. However, of patients with heroin as the primary drug of abuse in Western Cape, Mpuglanga and Gauteng, 11 per cent, 33 per cent and 42 per cent, respectively, reported injecting it in the second half of 2006.<sup>7</sup>

**Fig. 38: South Africa – heroin as primary drug in treatment demand\*, 1996-2006**

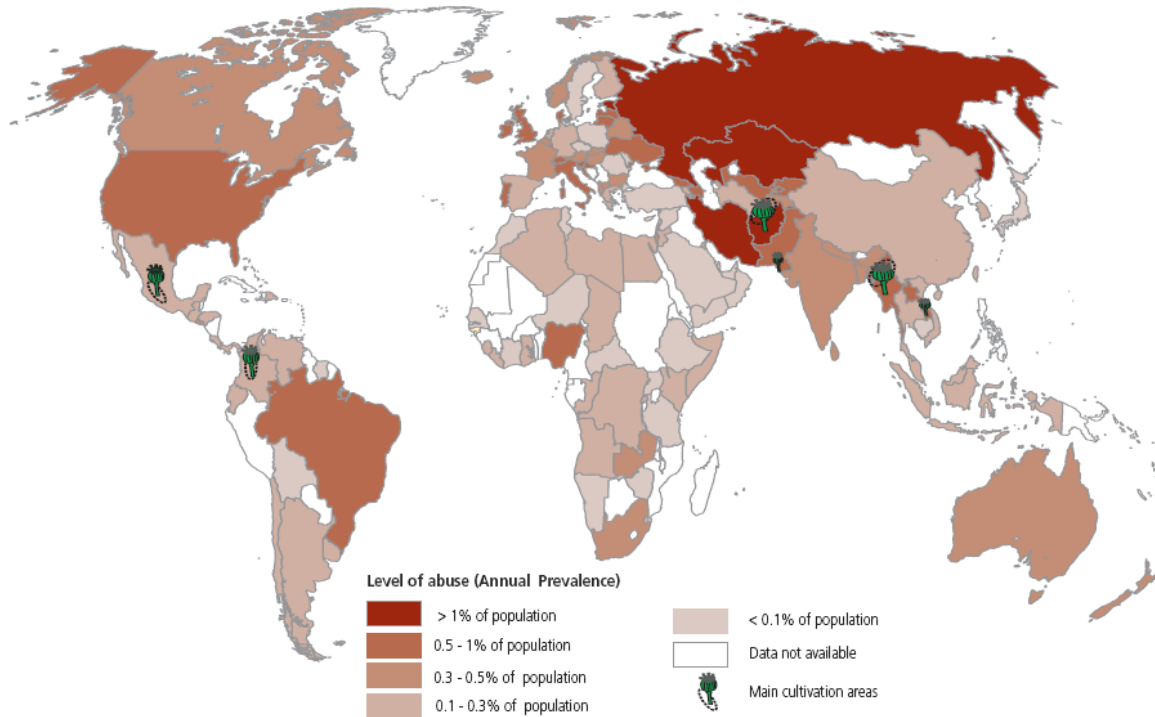


\* unweighted average of treatment (incl. alcohol) in 6 provinces.

Source: SACENDU, Research Brief, Vol. 9 (2), 2006.

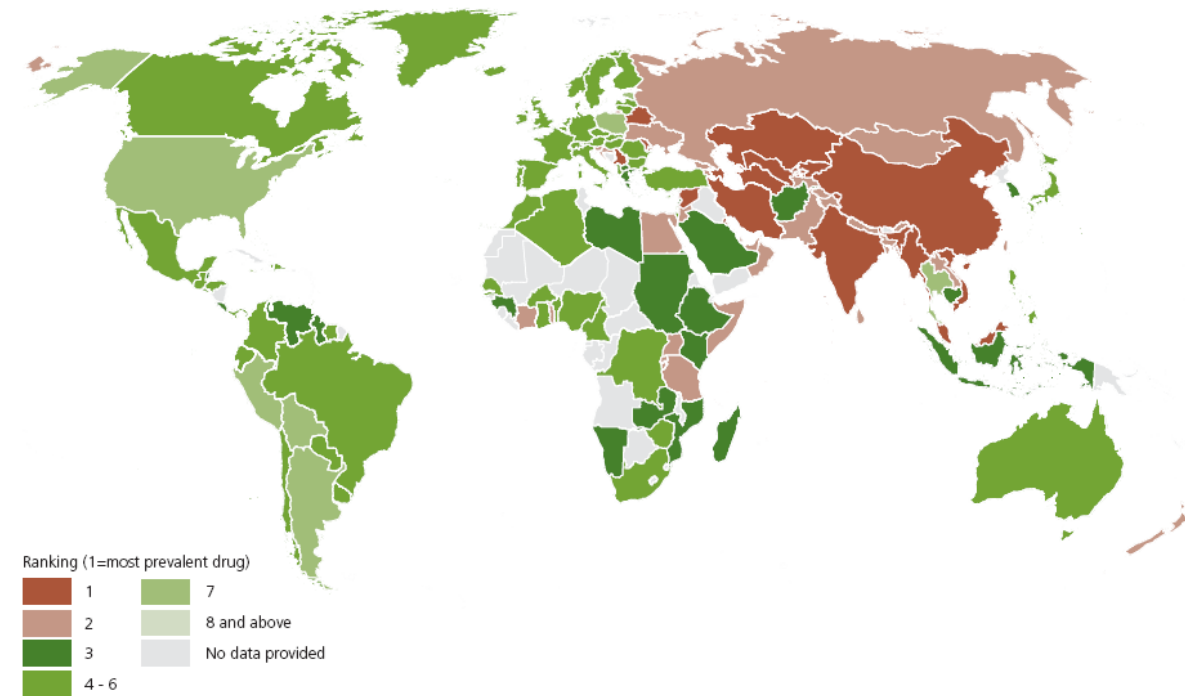
<sup>7</sup> SACENDU, Update, 25 May 2007.

Map 6: Abuse of opiates (including heroin), 2005 (or latest year available)



Sources: UNODC Annual Reports Questionnaires (ARQ) data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP), Inter-American Drug Abuse Control Commission (CICAD), UNODC Data for Africa Project.

Map 7: Ranking of opiates (including heroin) in order of prevalence, 2004 - 2006



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.

