

COCA CULTIVATION IN THE ANDEAN REGION

A survey of Bolivia, Colombia, Ecuador and Peru



data collection

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Executive Summary

data transfer

June 2007

UNODC's Illicit Crop Monitoring Programme (ICMP) promotes the development and maintenance of a global network of illicit crop monitoring systems in the context of the illicit crop elimination objective set by the United Nations General Assembly Special Session on Drugs. It provides overall coordination and direct technical support and supervision to UNODC supported annual illicit crop surveys at the country level.

This reports presents the results of the annual coca cultivation surveys in Bolivia, Colombia, and Peru, which were conducted jointly by UNODC (ICMP) and the respective Governments with a regional perspective.

The implementation of UNODC's Illicit Crop Monitoring Programme in the Andean region was made possible thanks to financial contributions from the Governments of Austria, Colombia, France, the Netherlands, Turkey, the United Kingdom, the United States of America, and from the European Commission.

This report and other ICMP survey reports can be downloaded from:

www.unodc.org/unodc/en/crop_monitoring.html

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PREFACE

The evidence presented in this *Survey* bears out an argument that UNODC has been making in relation to the world drugs problem: the overall situation is stable, yet fragile.

In 2005, slight decreases in coca cultivation in Bolivia and Peru were offset by an increase in Colombia. In 2006, the reverse occurred. While the regional trend was downward, this time a decrease in Colombia was offset by increases in Bolivia and Peru.

Progress in Colombia can be attributed to record levels of eradication, both aerial and manual. Colombia also continues to seize an impressive amount of its own cocaine, to intercept imports of precursor chemicals, and to destroy drug labs. It is also facing up to the corrupting power of the drugs trade on government, and seeking to break the links between drug trafficking and insurgency.

But as the experience of Bolivia and Peru demonstrate, a long term reduction of the world's supply of coca depends not only on effective law enforcement, but also on eradicating the poverty that makes farmers vulnerable to the temptation of growing lucrative illicit crops. All Andean countries require greater support for development assistance that can generate growth and create brighter prospects for communities at the beginning of the supply chain. They should also be encouraged to work more closely together to exchange intelligence on trafficking flows and carry out joint operations.

The solution to the Andean coca problem does not rest solely in the region. Andean governments would not be grappling with a problem on this scale if there was no global demand for cocaine. This year alone, the Colombian authorities – at great risk and great expense – have eradicated more than 200,000 hectares of coca: an area twice the size of New York City! Yet they will have to do it again and again unless the world curbs its appetite for cocaine.

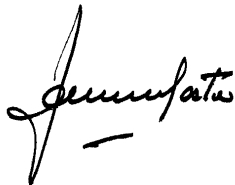
Global demand for cocaine is steady, with a decline in the United States offset by a rise in Europe. In these affluent societies, where celebrities are often glamourized for their drug abuse, greater investment is needed in drug prevention and treatment. People who think that they can control the “white lady” should realize, before it is too late, that she is a killer rather than a seductive mistress. Furthermore, the risks that they take are not only to themselves. They are a threat to society if they take drugs and then drive, and they are destroying the lungs of our planet by supporting a trade that is cutting down the Amazon forests.

Meanwhile, countries of the Caribbean, Central America and West Africa are caught in the cross-fire: their societies, already made vulnerable by poverty, are increasingly exposed to the crime of drug trafficking and the tragedy of drug abuse.

In short, recent evidence suggests that the drug problem *can be*, and *is being*, contained. To consolidate this progress, it will take a concerted effort at every stage of the drug trade: more effective prevention and treatment to reduce *demand*; greater technical assistance and regional co-operation to stop *trafficking*; and comprehensive national drug control plans including law enforcement and social and economic development in order to reduce *supply*.

Minor annual fluctuations in coca crop surveys are a useful indicator of trends. But the real test is the long-term commitment of societies – and not just governments – to tackle the root causes of drug supply and demand for the sake of a safer and healthier world.

Progress *is* possible. In recent years, the Golden Triangle of South East Asia – once notorious for opium cultivation – has become almost opium free. Let this be an inspiration to us to eliminate the world's biggest supply of cocaine.



Antonio Maria Costa
Executive Director
UNODC

FACT SHEET – Andean Coca Surveys for 2006

	2005	Variation	2006
Global coca cultivation	159,600 ha	-2%	156,900 ha
Colombia	86,000 ha	-9%	78,000 ha
Peru	48,200 ha	+7%	51,400 ha
Bolivia	25,400 ha	+8%	27,500 ha
Ecuador	n.a.		< 100 ha
Farm-gate value of coca cultivation	US\$ 1,330 million	-12%	US\$ 1,159 million
Colombia (coca products)	US\$ 843 million	-18%	US\$ 694 million
Peru (coca leaf)	US\$ 307 million	-7%	US\$ 285 million
Bolivia (coca leaf)	US\$ 180 million	0%	US\$ 180 million
Farm-gate value of coca cultivation in % of GDP¹			
Colombia	0.7%		0.5%
Peru	0.4%		0.4%
Bolivia	2.1%		2.0%
Global cocaine production	980 mt	+0.4%	984 mt
Colombia	640 mt	-5%	610 mt
Peru	260 mt	+8%	280 mt
Bolivia	80 mt	+18%	94 mt
Average wholesale price of cocaine			
Colombia (in main cities)	US\$ 1,860/kg	-5%	US\$ 1,762/kg
Peru (in producing regions)	US\$ 897/kg	-8%	US\$ 823/kg
Bolivia (in main cities)	US\$ 1,830/kg	+2%	US\$ 1,870/kg
Ecuador	US\$ 4,500/kg		n.a.
Reported eradication of coca cultivation			
Colombia (spraying & manual)	170,060 ha	+25%	213,371 ha
Peru (manual)	12,237 ha	+4%	12,688 ha
Bolivia (manual)	6,073 ha	-17%	5,070 ha
Ecuador (manual) ²	18 ha	n.a.	8 ha
Reported seizure of cocaine (base and HCl) in South America	379 mt		n.a.
Colombia	215 mt	-18%	177 mt
Peru	22 mt	-10%	20 mt
Bolivia	11 mt	+27%	14 mt
Ecuador	43 mt	-12%	38 mt ³

¹ GDP of the respective year as reported by the Government.

² Reported until September 2006.

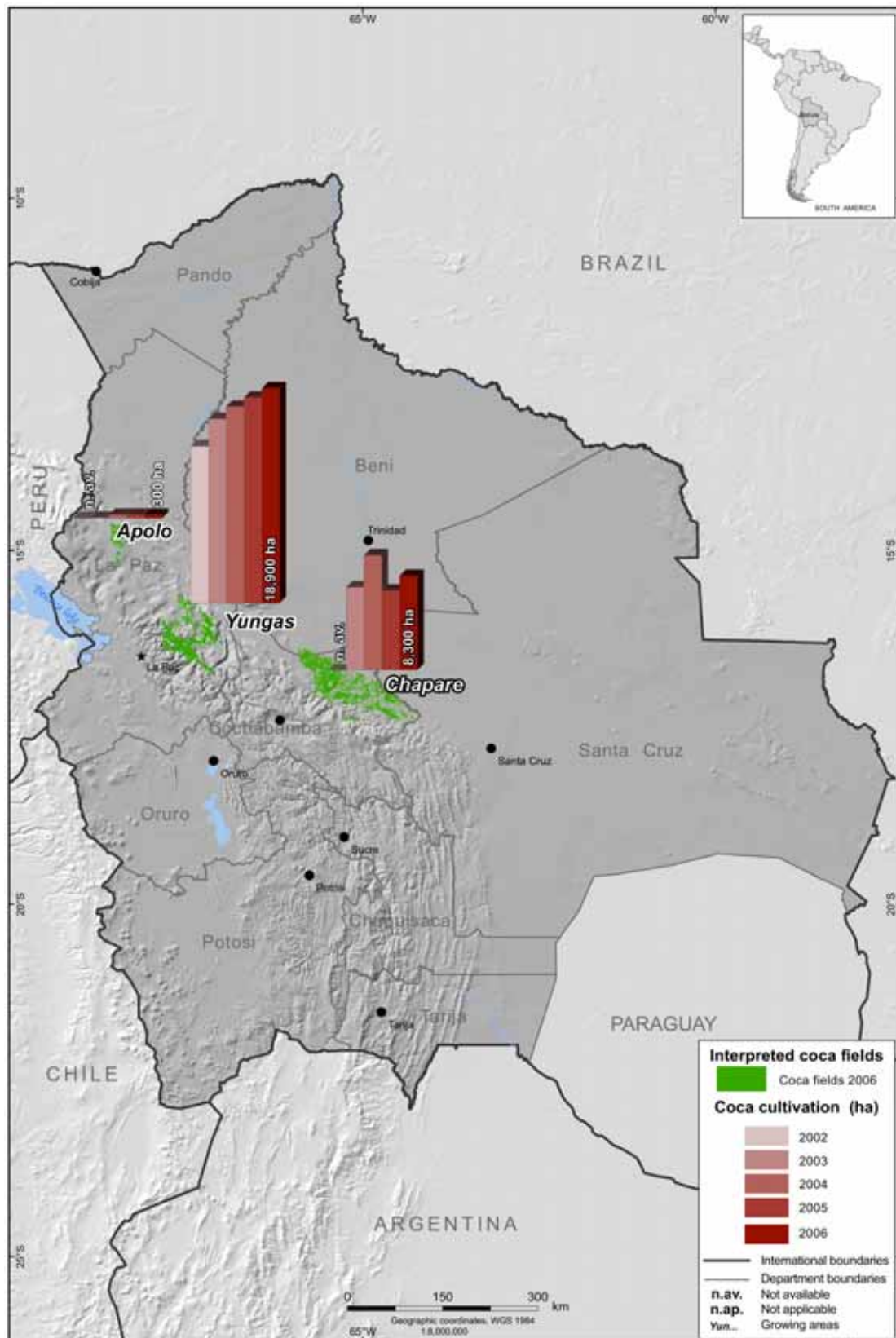
³ Source: INCSR 2007.

Map 1: Coca cultivation density in the Andean Region, 2006



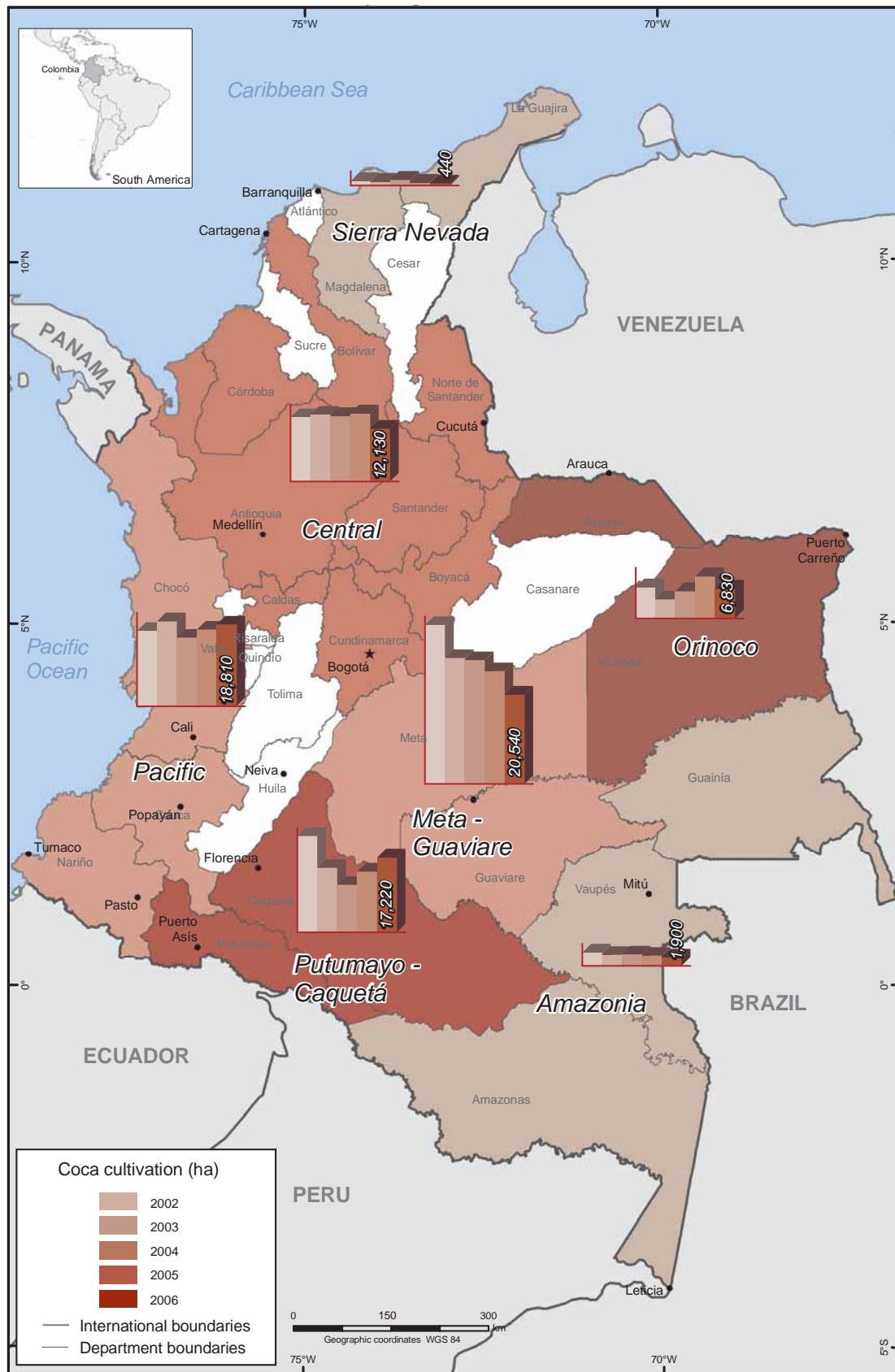
Sources: National monitoring systems supported by UNODC - Governments of Bolivia, Colombia and Perú
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Map 2: Bolivia, coca cultivation by region, 2002 to 2006



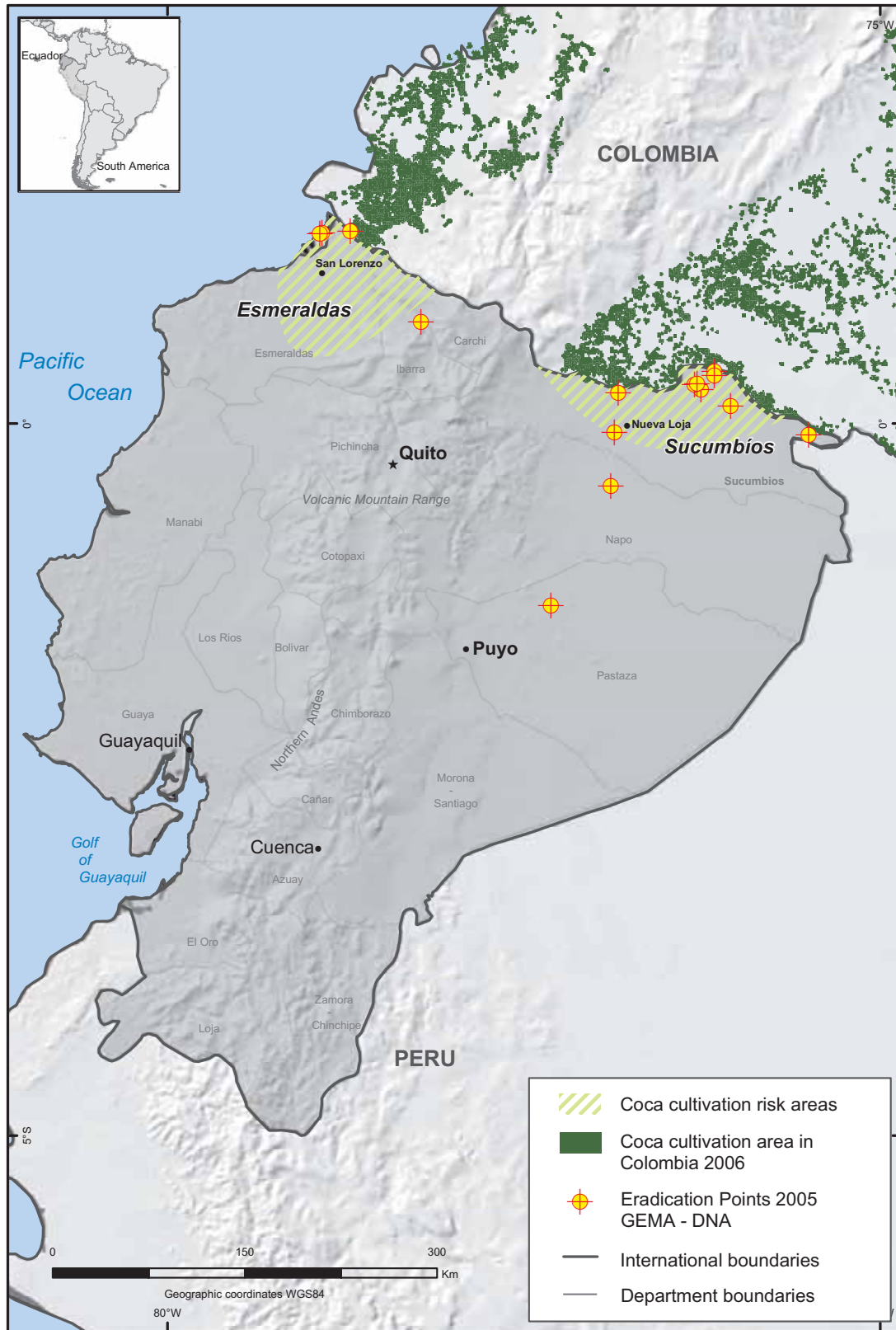
Source: Government of Bolivia - National monitoring system supported by UNODC
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Map 3: Colombia, coca cultivation by region, 2002 to 2006



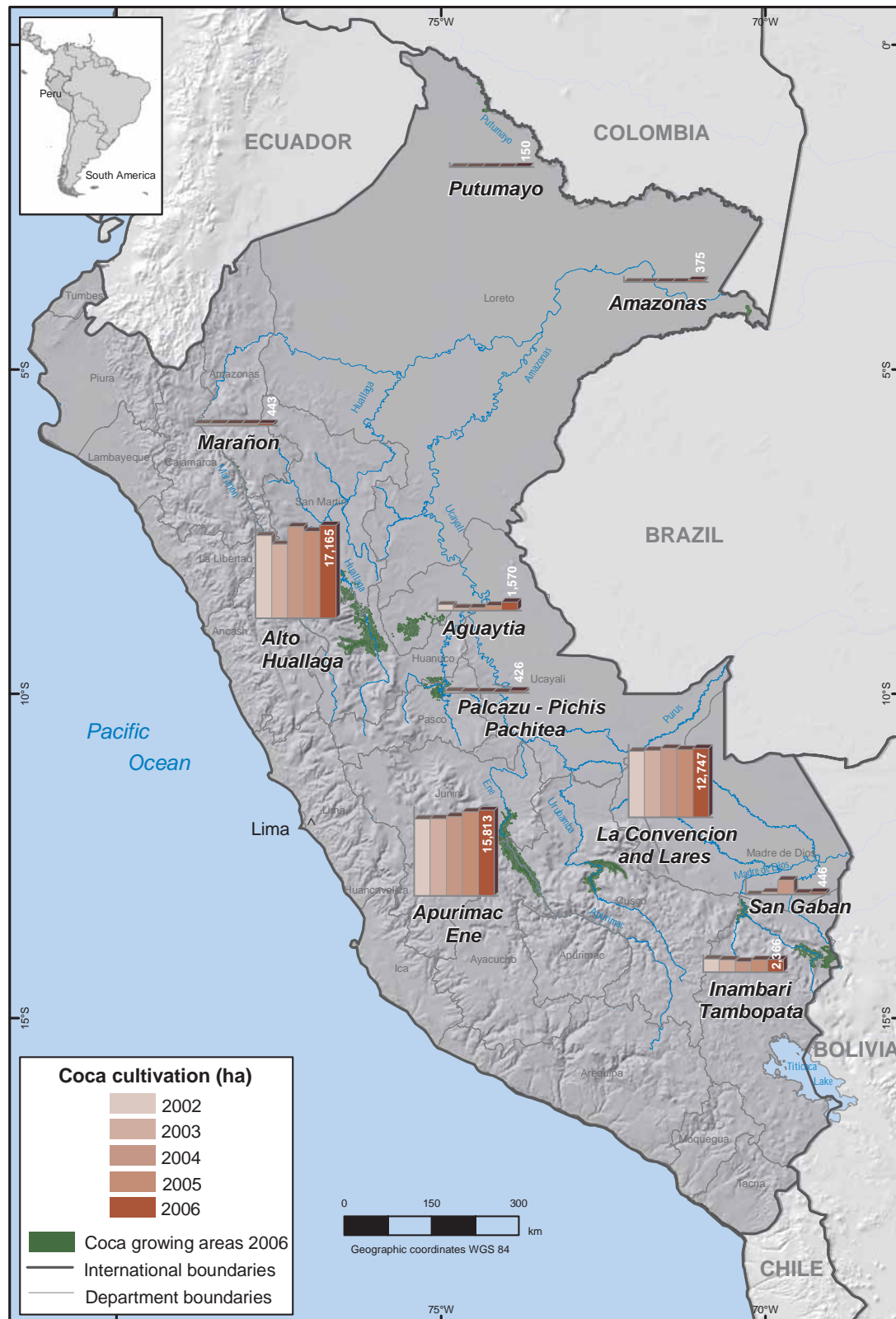
Source: Government of Colombia - National monitoring system supported by UNODC
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Map 4: Ecuador, coca cultivation risk areas, 2006



Source: Government of Ecuador - National monitoring system supported by UNODC
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Map 5: Peru, coca cultivation by region, 2002 to 2006



Source: National of monitoring system supported by UNODC - Government of Peru
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1 COCA CULTIVATION IN THE ANDEAN REGION

In 2006, coca cultivation in the Andean region decreased slightly by 2 per cent from 159,900 hectares in 2005 to only 156,900 hectares in 2006. Cultivation decreases in Colombia were partly offset by increases in Bolivia and Peru. The estimates suggest that the global coca cultivation area has been essentially stable since 2003. However, global coca cultivation continues to be lower than in any year of the 1990s and 29 per cent below the peak level recorded in 2000 (221,300 hectares).

Colombia remained the country with the world's largest coca growing area, representing half of the global area under coca bush. Peru remains the second largest coca cultivating country behind Colombia, and accounted for one third of the global cultivation in 2006. Bolivia, the third largest producer of coca leaf in the world, still trails far behind Colombia, and accounted for only 18 per cent of global coca cultivation.

Figure 1: Coca cultivation in the Andean region (hectares), 1995 to 2006

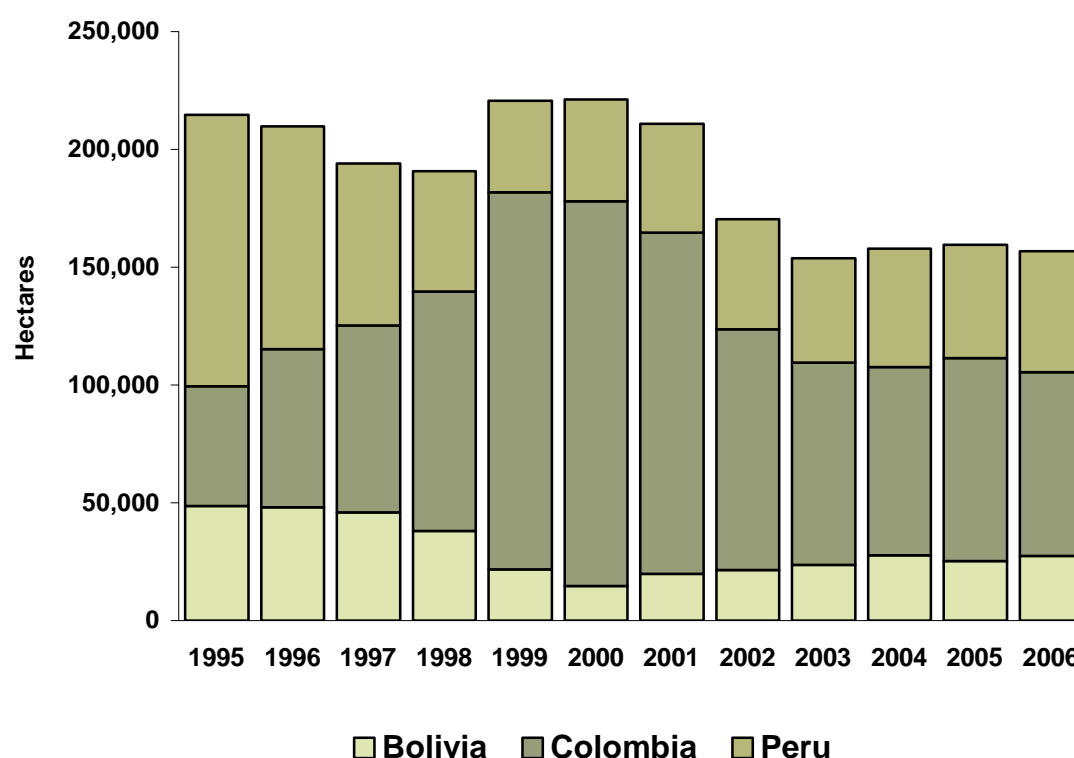


Table 1: Coca cultivation in the Andean region (hectares), 1995 to 2006

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	% change 2005-2006
Bolivia	48,600	48,100	45,800	38,000	21,800	14,600	19,900	21,600	23,600	27,700	25,400	27,500	8%
Peru	115,300	94,400	68,800	51,000	38,700	43,400	46,200	46,700	44,200	50,300	48,200	51,400	7%
Colombia	50,900	67,200	79,400	101,800	160,100	163,300	144,800	102,000	86,000	80,000	86,000	78,000	-9%
Total	214,800	209,700	194,000	190,800	220,600	221,300	210,900	170,300	153,800	158,000	159,600	156,900	-2%

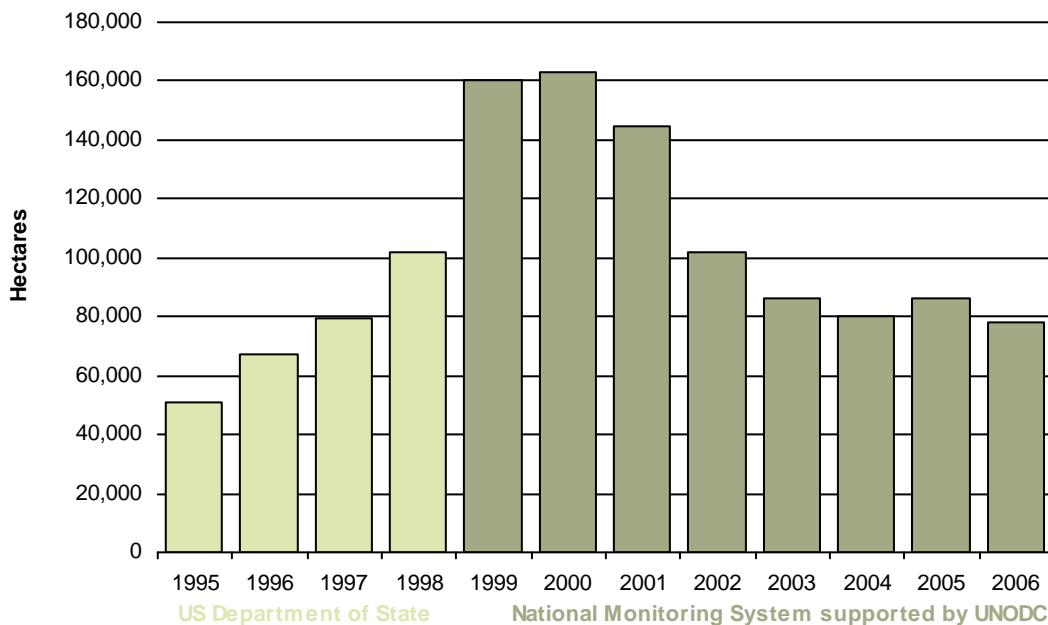
Source: ■ United States Department of States ■ National Monitoring Systems supported by UNODC

There are no indications of large-scale coca cultivation outside the three main coca growing countries Bolivia, Colombia and Peru, despite evidence of low-level coca bush cultivation in some parts of Ecuador. Preliminary results of a rapid assessment undertaken by UNODC and the Government of Venezuela in 2006 including large parts of the Venezuela-Colombia border area indicate that the extent of coca cultivation on the Venezuelan side is marginal.

Coca cultivation in Colombia declined by 9 per cent from 86,000 hectares in 2005 to only 78,000 hectares in 2006. Overall, despite the increases and decreases observed in recent years, coca cultivation in Colombia has proven to be relatively stable at around 80,000 hectares since 2003. Meta-Guaviare remains the largest cultivation region in Colombia, with almost 21,000 hectares of coca bush, or just over a quarter of the total coca cultivation area, closely followed by the Pacific and Putumayo-Caquetá regions. Considerable decreases in the Meta-Guaviare, Central and Orinoco regions were partly offset by strong increases in the Putumayo-Caquetá region, once the largest cultivation region.

In 2006, the Colombian authorities further intensified their eradication efforts, especially in higher yielding regions such as Meta-Guaviare, Orinoco and Putumayo-Caquetá. The area of coca bush eradicated reached a record level of over 213,000 hectares, which includes about 172,000 hectares of spraying and 41,530 hectares of manual eradication. The cumulative area eradicated in 2006 was 2.7 times larger than the net cultivation area, which indicates an intensity of eradication activities never reached before.

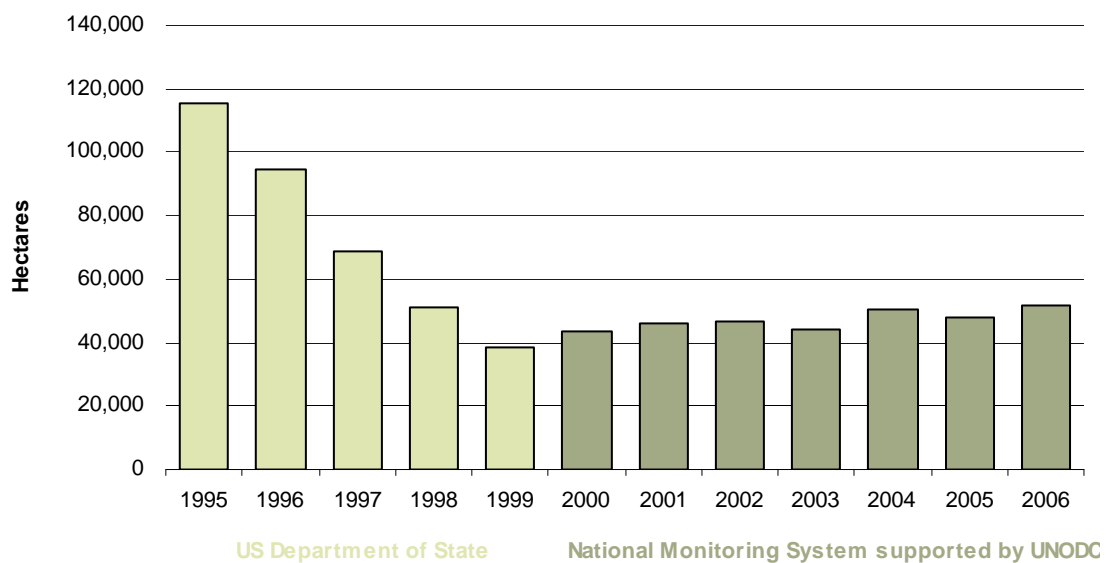
Figure 2: Coca cultivation in Colombia (hectares), 1995 to 2006



In 2006, coca cultivation in Peru increased by 7 per cent and amounted to 51,400 hectares, which is almost as high as the level reached in 2004. Despite this increase, coca cultivation remained well below the levels registered in the mid 1990s, when Peru was the world's largest cultivator of coca bush.

Although there was only a moderate increase in coca cultivation in the three major cultivating regions, Alto Huallaga, Apurímac and La Convención-Lares, they were still the largest contributors to the overall increase of 3,200 hectares in absolute terms. Furthermore, several of the smaller cultivation areas grew rapidly and a new cultivation area was discovered in the Brazil-Colombia-Peru border triangle.

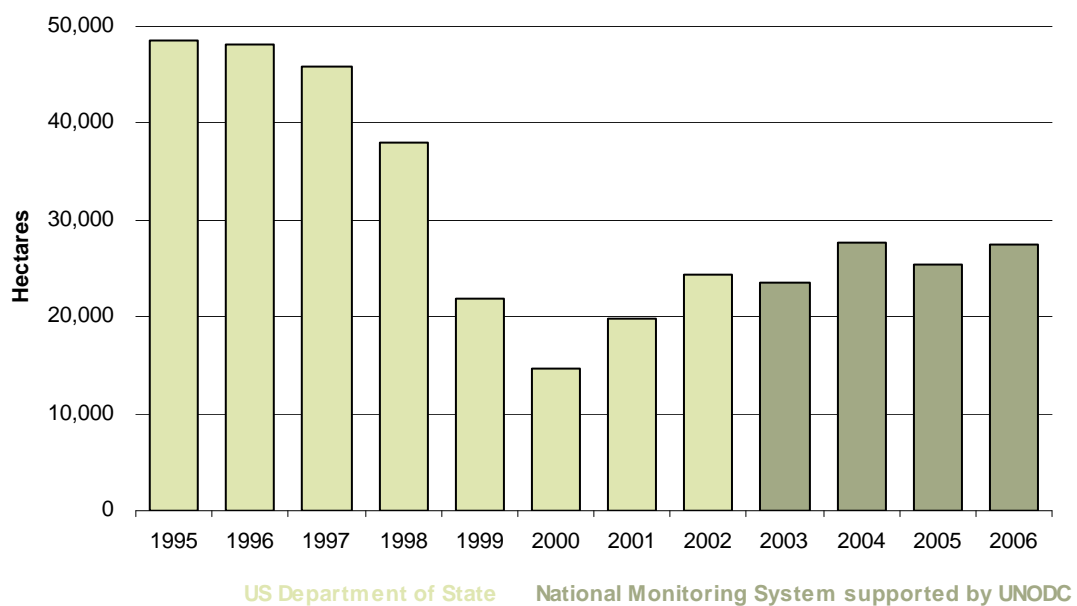
Eradication of coca bush, which in Peru is done manually, was slightly higher than in 2005 and reached 12,688 hectares, the second highest eradication figure reported by the Government.

Figure 3: Coca cultivation in Peru (hectares), 1995 to 2006

In Bolivia, the area under coca cultivation increased by 8 per cent compared to 2005, and reached 27,500 hectares in 2006. This increase offsets the decrease achieved between 2004 and 2005, when coca cultivation declined by 8 per cent from 27,700 hectares to only 25,400 hectares. The total estimate also included 12,000 hectares of coca bush permitted by Bolivian Law No. 1008 for traditional purposes such as leaf chewing, medicinal preparations and coca tea. Overall, the area cultivated with coca bush in Bolivia remained much lower than in the early and mid-1990s, when coca was grown on over 45,000 hectares.

As in previous years, the Yungas of La Paz constituted the largest coca cultivating region in Bolivia with over two thirds of the area under coca bush, followed by Chapare, with just under one third of the area. Still, most of the total coca area increase of 2,100 hectares took place in Chapare, where the coca cultivation area increased by 19 per cent, or 1,300 hectares, whereas the Yungas of La Paz accounted for only 800 hectares of the total increase.

The Government of Bolivia reported a decrease of the area eradicated by 17 per cent to only 5,070 hectares in 2006. Practically all the eradication took place in the region of Chapare.

Figure 4: Coca cultivation in Bolivia (hectares), 1995 to 2006

2 POTENTIAL COCAINE PRODUCTION

The overall potential production of cocaine reached 984 metric tons in 2006, about the same as a year earlier, with levels amounting to 610 metric tons in Colombia, 280 metric tons in Peru and 94 metric tons in Bolivia. The level of overall potential production is practically unchanged from the levels of a decade ago. Unlike coca cultivation, which saw a strong decrease since the peak in the year 2000, world cocaine production remained at a high level. The introduction of improved coca cultivation techniques in recent years including the use of industrial fertilizers, pesticides, herbicides, and irrigation, as well as the introduction of new varieties and higher plant densities resulted in significantly higher coca leaf yields per hectare. In addition, the conversion process from coca leaf to cocaine HCl is thought to have undergone improvements, and it is suspected that clandestine coca processing laboratories are more efficient now than they were several years ago. However, due to the illicit nature of cocaine production, information on changes in the conversion process is difficult to obtain.

In 2006, the potential production of cocaine HCl in Colombia decreased by 5 per cent or 30 metric tons to 610 metric tons. As a consequence of this decrease and simultaneous production increases in Bolivia and Peru, Colombia's share of the world cocaine production fell from 65 per cent in 2005 to 62 per cent in 2006.

In 2006, Peru accounted for 28 per cent of the global cocaine production. Based on updated information on the amount of coca leaf necessary to produce one kilogram of cocaine HCl, the total potential cocaine production in 2006 amounted to 280 metric tons, which is an increase of 8 per cent compared to 2005. While this is the highest production figure since 1998, it is still only about half the amount registered during the cocaine production peak in Peru in 1992.

Based on new field research on the coca leaf yield in the Yungas of La Paz, the potential production of cocaine HCl in Bolivia in 2006 amounted to 94 metric tons, an increase by 18 per cent compared to the production estimate of 80 metric tons in 2005. The cocaine production estimates for the years 2004 and 2005 were revised using the new yield results. The increase in cocaine production is much more pronounced than the coca cultivation increase due to the fact that most of the area increase took place in Chapare, where coca leaf yields are more than twice the amount recorded in the Yungas of La Paz.

Figure 5: Global potential cocaine production (metric tons), 1995 to 2006

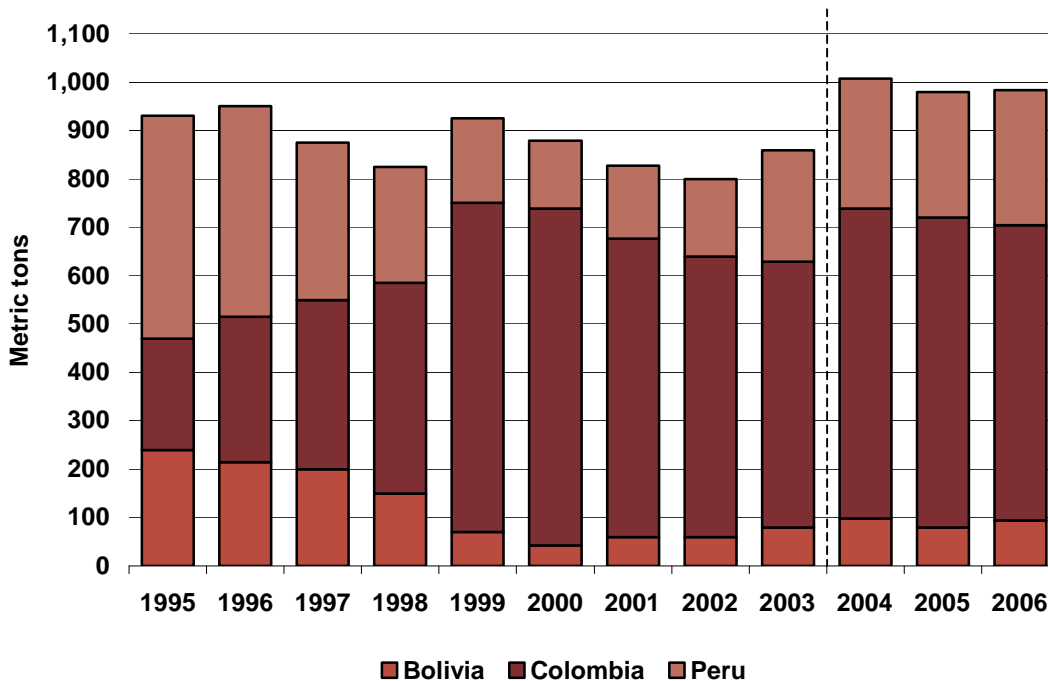


Table 2: Global potential cocaine production (metric tons), 1995 to 2006

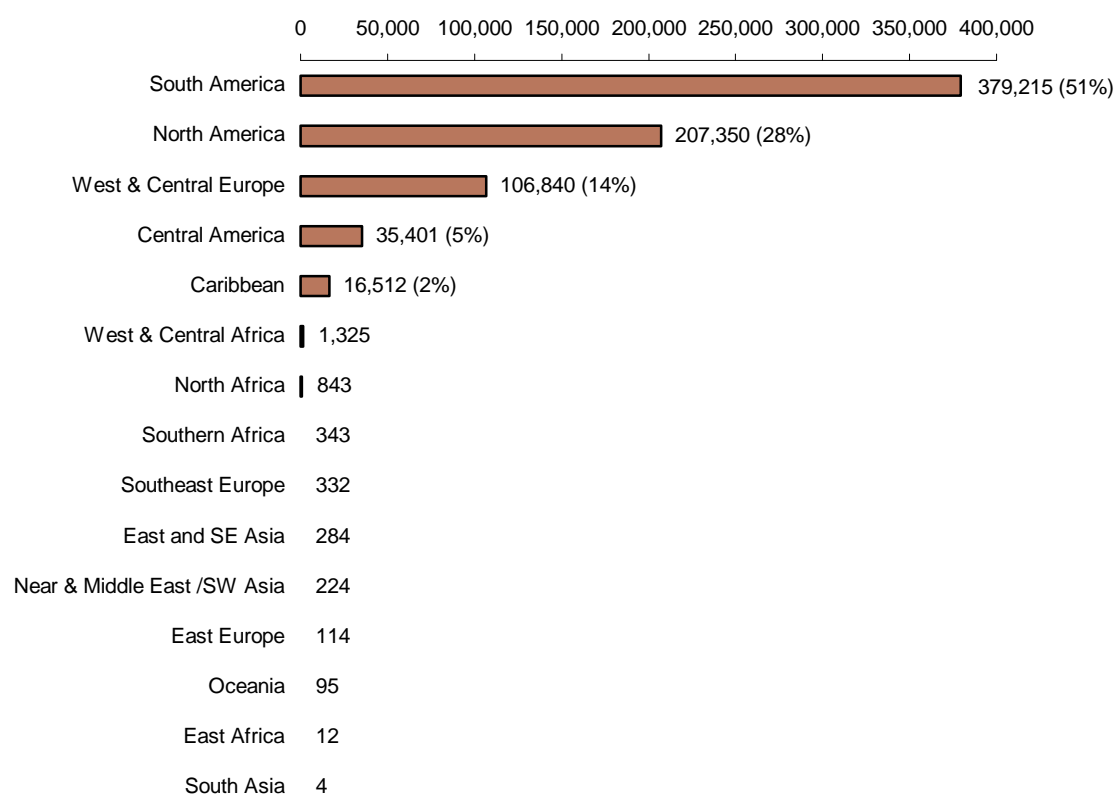
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	% change 2005-2006
Bolivia	240	215	200	150	70	43	60	60	79	98	80	94	18%
Colombia	230	300	350	435	680	695	617	580	550	640	640	610	-5%
Peru	460	435	325	240	175	141	150	160	230	270	260	280	8%
Total	930	950	875	825	925	879	827	800	859	1,008	980	984	0.4%

Source: UNODC World Drug Report 2007.

Note: Production estimates for Bolivia in 2004 and 2005 and for Peru from 2003 to 2005 were revised based on updated information available. Colombian cocaine production estimates for 2004 and later are not directly comparable with previous years.

3 COCAINE SEIZURES AND CLANDESTINE LABORATORIES

Global seizures of cocaine (base and HCl) increased by 29% to 749 metric tons in 2005, topping the record amount of 579 metric tons seized in 2004. Seizures increased in all the major regions, most noticeably in South America, where the majority of all seizures continued to take place, and in West and Central Europe.

Figure 6: Global cocaine seizures by region (kg and % of total), 2005

Colombia alone accounted for 29 per cent of global seizures in 2005, which reflects the strong enforcement efforts undertaken by the Colombian authorities. In 2006, cocaine seizures reported by the Government show a decrease in cocaine HCl and cocaine base seizures but an increase in coca leaf and coca paste seizures. However, seizures in Colombia continued to have a large component of cocaine HCl. In 2006, out of a total of 177 metric tons cocaine HCl and base seized, 127 metric tons were cocaine HCl.

In recent years, the Pacific cocaine trafficking route seems to have gained importance over the Atlantic route. In 2006, 81 per cent of all cocaine HCl seized by Colombian authorities at sea or maritime ports was seized in the Pacific corridor.

In 2006, seizures of cocaine base and HCl in Peru decreased by 10 per cent from 22 metric tons in 2002 to only 20 metric tons in 2006. Similar to the composition of seizures in Colombia, a considerably part of the seizures consisted of cocaine HCl (25% in 2006).

In Bolivia, the amount of cocaine HCl and base seized has been increasing since 2001 and amounted to 14 metric tons in 2006, a 27 per cent increase compared to 2005. Typically, in Bolivia, a relatively small portion of the seizures is cocaine HCl, and the vast majority is coca paste and cocaine base.

Ecuador, sandwiched between the two large cocaine producers Colombia and Peru along the Pacific coast, is thought to be an important transit country for cocaine. Seizures of 43 metric tons in 2005 and 38 metric tons in 2006, which in both years surpassed the combined seizures of Bolivia and Peru, confirm this assumption.

In 2005, Governments reported the destruction of 5,737 clandestine coca processing laboratories globally (excluding coca maceration pits), a four-fold increase since 2000, when only 1,314 destroyed laboratories were reported. In addition to clandestine laboratories destroyed, the Governments of Bolivia and Peru reported the destruction of large numbers of coca maceration pits.

Bolivia, Colombia and Peru reported over 99% of all clandestine coca processing laboratories destroyed worldwide in 2005, which reflects that almost the complete cocaine production chain, from coca paste to cocaine base and finally cocaine HCl, takes place close to the cultivation areas in Bolivia, Colombia and Peru. An analysis by type of laboratory reveals that laboratories in Bolivia and Peru, with very few exceptions, produced coca paste and cocaine base, whereas in Colombia a substantial number of clandestine laboratories produced cocaine HCl. Preliminary figures for 2006 show a similar pattern. Out of 2,065 coca processing laboratories destroyed in Colombia in 2006, about 10% (202) were cocaine laboratories, while in Bolivia, only 3 out of a total of 4,070 laboratories were exclusively processing cocaine.

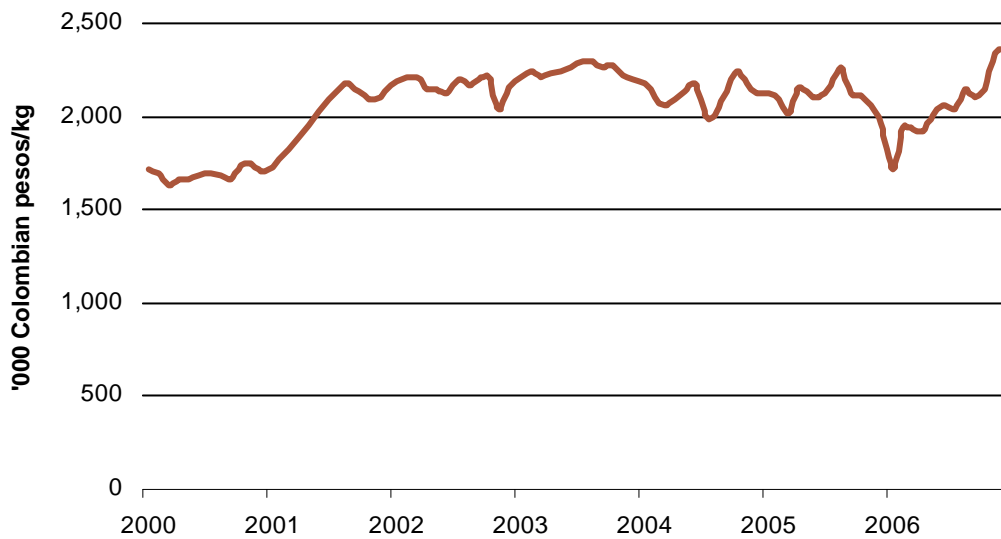
The discovery of clandestine cocaine laboratories outside the coca cultivating countries demonstrates that a small amount of cocaine is produced in other countries as well. However, a large majority of the 210 clandestine cocaine laboratories destroyed in 2005 worldwide were located in Colombia (163), a further 33 in other South American countries, and only 14 in other parts of the world, such as Spain (11), France, South Africa and the United States of America (one each).

4 FARM-GATE PRICES OF COCA PRODUCTS

Overall, prices for coca-related products in Colombia have been remarkably stable over the last five years in the case of coca paste and for an even longer period in the case of cocaine HCl. While wholesale prices for cocaine HCl in Colombian pesos fell for the second consecutive year, it was the first time in three years that it fell in US dollars. It is noteworthy that over the last 16 years, the national average cocaine HCl prices in US dollar terms have remained in a relatively narrow range between US\$ 1,350 and US\$ 1,860 per kg. As most of the cocaine HCl from Colombia is meant for export, US dollar prices for cocaine HCl may give a good insight into the dynamics of the international illicit drug market, as far as prices are concerned.

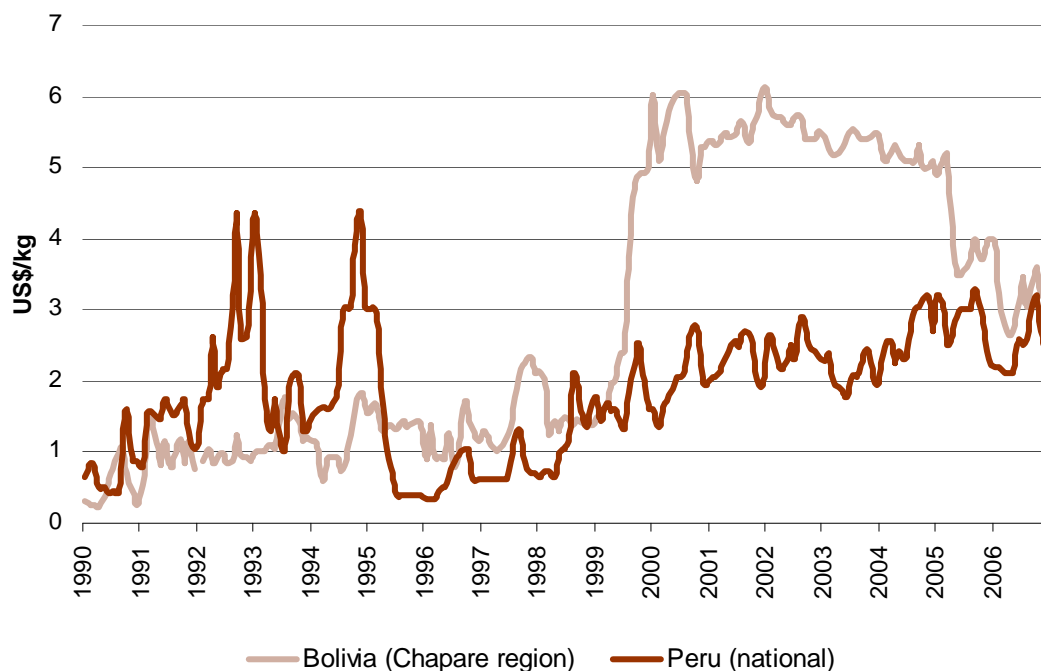
In Colombia, the yearly average price for coca paste (US\$ 879/kg) and cocaine HCl (US\$ 1,762/kg) in 2006 decreased by 2 and 4 per cent respectively, compared to 2005. However, the annual average hides a price increase by 38% from a five-year low of 1,714,000 pesos in January 2006 to 2,360,000 pesos in December 2006, which is the highest monthly average observed since the start of price monitoring in 2000. The monthly fluctuations in the price of coca paste can partly be attributed to the eradication campaigns leading to a temporary breakdown of the local illicit market in the affected regions.

Figure 7: Monthly average farm-gate prices of coca paste in Colombia ('000 COP/kg), 2000 to 2006



In Peru, farm-gate prices for sun-dried coca leaf declined from a national average of US\$ 2.9/kg in 2005, to only US\$ 2.5/kg in 2006. This decline was observed in all cultivation regions. The monthly average prices for sun-dried coca leaf at the farm-gate in 2006 remained in the price range of US\$ 2-3/kg observed since 2001. However, regional and seasonal price differences continued to be present. In 2006, wholesale prices for coca paste and cocaine HCl fell by 14 per cent and 8 per cent respectively compared to 2005, similar to the prices for sun-dried coca leaf.

Figure 8: Monthly average farm-gate prices of sun-dried coca leaf in Bolivia and Peru (US\$/kg), 1990 to 2006



In Bolivia, farm-gate prices for sun-dried coca leaf fell below the already low prices of 2005 and remained at an average of US\$ 3.9/kg well below the price level of over US\$ 5/kg reached 2000 to

2004. The even sharper decrease in price of 22 per cent in Chapare can be attributed to the greater availability of coca leaf on the illicit market due to higher production, despite government efforts to prevent coca leaf trading outside the market authorized by the government. Prices for coca leaf in Bolivia continued to be considerably higher than in neighbouring Peru. It is interesting to note that coca leaf prices in Bolivia and Peru followed a roughly similar trend during the last two years.

5 FARM-GATE VALUE OF COCA CULTIVATION

Farm-gate values of coca cultivation in Bolivia and Peru are based on potential sun-dried coca leaf production. For Colombia, the farm-gate value is based on the potential production of each product sold by the farmers (fresh coca leaf, coca paste or cocaine base). The farm-gate values constitute a gross value, without taking into account the expenses farmers incur for herbicides, pesticides, fertilizers, wages and other agricultural inputs.

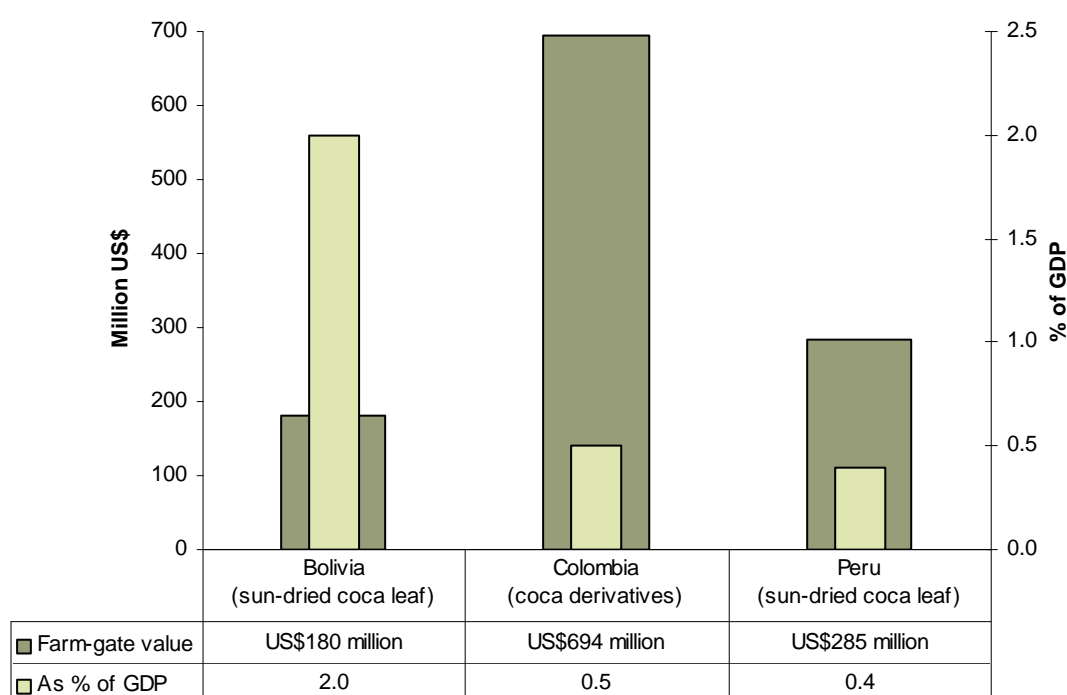
In 2006, the farm-gate value of coca products in Colombia decreased by 18 per cent from US\$ 843 million in 2005 to only US\$ 694 million in 2006. This was due to an overall lower production of coca leaf as a consequence of the reduced cultivated area in combination with a decrease in farm-gate prices of coca products.

In Peru, the increased coca leaf production could partly compensate the price decrease of sun-dried coca leaf. The farm-gate value of coca leaf still decreased by 7 per cent and reached only US\$ 285 million in 2006.

In Bolivia, the farm-gate value of sun-dried coca leaf remained with US\$ 180 million at the 2005 level, despite a strong production increase by 12 per cent. The main reason was the sharp decline in farm-gate prices of coca leaf.

By and large, the economic importance of the farm-gate values, expressed as a proportion of the GDP, remained unchanged in Bolivia and Peru. In Colombia, the percentage figure of the farm-gate value as a proportion of the GDP fell from 0.7 per cent in 2005 to only 0.4 per cent in 2006. Both, the growth of the Colombian economy and a declining farm-gate value contributed to this development.

Figure 9: Potential farm-gate value of coca cultivation, 2006



Source: GDP of 2006 as reported/estimated by the respective Government.