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Cocaine

A European Union perspective in the global context

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Cais do Sodré, 1249–289 Lisbon, Portugal
Tel. + 351 211210200 • Fax + 351 218131711
info@emcdda.europa.eu • http://www.emcdda.europa.eu

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Foreword

Cocaine use and cocaine-related problems in Europe have increased markedly since the mid-1990s. Surveys have shown that in many EU countries — and in Europe overall — cocaine is now the second most commonly used illicit substance among the general population, after cannabis. Three million, or 2.2 %, of young adults aged 15–34 are reported to have used cocaine in the previous year. In addition, targeted studies have observed high levels of cocaine use in some recreational settings (clubs, parties). In a few EU Member States, the demand for treatment for cocaine use has also increased in recent years. Furthermore, a substantial proportion of opioid users in treatment report cocaine as their secondary drug, which may be contributing to their problems and complicating their care. Cocaine is also reported in the toxicological analysis of a high proportion of drug-related deaths in some countries, generally in combination with opioids and other substances.

The picture of cocaine use and trafficking in Europe is complex. Some countries (e.g. Spain, the Netherlands, and the United Kingdom) have a long-established cocaine problem, while several others (e.g. France, Italy, Portugal) have seen a rapid increase in cocaine use and seizures in recent years. Other countries, mainly in eastern and northern Europe (e.g. Latvia, Lithuania, Finland), still report very low figures for both cocaine use and seizures. However, the European cocaine market could become more homogeneous in the future if consumer demand grows, if increasing amounts of the drug become available, and if new trafficking routes towards and inside Europe continue to develop.

Cocaine is almost exclusively produced in the Andean-Amazonian region of South America and it is believed that during the 1980s and early 1990s the vast majority of the production remained on the American continent. With a significant proportion of the global cocaine output now destined for Europe, new cross-Atlantic trafficking routes have emerged and cocaine use and related health and social problems have been increasing in Europe. In response, the European Union and its Member States have gradually developed national and regional actions against cocaine trafficking, and have become increasingly involved in the fight against cocaine production at the international level.

This report provides an overview of what is known about how cocaine is produced and trafficked into the European Union. It aims to provide a better understanding of the actors involved, the routes taken, and the scale of the problem in Europe. It also reviews some of the supply reduction responses already developed at European level. Its findings are based on the latest data and analysis available from specialised European and international organisations, NGOs and scholars ([1]).

This publication is structured in a way that provides a condensed review of key issues relevant to understanding how cocaine reaches European markets. Background information on the chemistry and legal status of cocaine and crack cocaine, as well as key European figures, are also provided.

([1]) Data limitations are explored in the box 'Data and sources' on p. 19.

Analysis begins with a summary of coca cultivation and cocaine production in South America, including a review of the issue of the availability of potassium permanganate, an essential chemical for manufacturing cocaine hydrochloride. This is followed by a description of the three main smuggling routes followed by cocaine before it reaches Europe. The report then discusses cocaine trafficking within Europe. Finally, it provides an overview of European initiatives to address the problem of cocaine production and trafficking and its consequences.

Introduction

Data published by the United Nations Office on Drugs and Crime (UNODC) point to an overall stable annual production of pure cocaine during the last decade, at between 800 and 1 000 tonnes. However, in Europe, the number of cocaine seizures has tripled during this period. Survey data have also shown an increasing trend in cocaine use in many countries in the region. New trafficking routes between the producer countries and Europe have also been identified, indicating a growing interest in the European market among criminal organisations. Such routes also have a detrimental impact on transit countries.

The changing situation of Europe in the international cocaine trade, and the increase in problems related to cocaine use, has recently triggered numerous policy initiatives and scientific publications. For instance, during its Presidency of the EU in 2007 Portugal launched a number of activities to reinforce Europe's response to cocaine trafficking, together with other problems linked to cocaine use. In the same year, the EMCDDA launched three publications exploring treatment and other public health issues related to cocaine and crack cocaine use ([2]).

Cocaine in Europe at a glance

- Number of adults (15–64 years old) having used cocaine in their lifetime: 13 million (3.9 %).
- Number of young adults (15–34 years old) having used cocaine during the last year: 3 million (2.2 %).
- Cocaine is reported as the primary drug in about 17 % of all treatment requests.
- Available national estimates of problem cocaine use (only Spain and Italy): between 3.8 and 6 cases per 1 000 adult population.
- Around 500 cocaine-related sudden deaths were reported by 12 European countries. Most cocaine deaths appear, however, to be the result of chronic toxicity leading to cardiovascular and neurological complications.
- 92 000 seizures were reported for 2007, resulting in the interception of almost 77 tonnes of cocaine.
- Countries reporting the largest *number* of seizures (in descending order): Spain, UK (2006), Italy, Germany.
- Countries reporting the largest *quantities* of cocaine seized (in descending order): Spain, The Netherlands, Portugal, France.
- Mean retail price: from EUR 44 to EUR 88 per gram. Prices have declined since 2000 in most countries.
- Mean purity: between 20–60 % in most reporting countries, although purity at end-user level may be much lower.

Sources: EMCDDA, 2008, 2009a and 2009b (2007 data unless otherwise indicated).

([2]) These were as follows: Drugs in focus No 17, *Cocaine use in Europe: implications for service delivery* (online at http://www.emcdda.europa.eu/html.cfm/index44778EN.html); Selected issue No 2, *Cocaine and crack cocaine: a growing public health issue* (online at http://www.emcdda.europa.eu/html.cfm/index44746EN.html); Literature review, *Treatment of problem cocaine use: a review of the literature* (online at http://www.emcdda.europa.eu/html.cfm/index40152EN.html).

Cocaine

Cocaine is a natural product extracted from the leaves of Erythroxylum coca Lamark and Erythroxylum novogranatense (coca leaves). These tropical shrubs are cultivated widely in the Andean-Amazonian region, and are the only known natural source of cocaine. It is possible to obtain synthetic cocaine through various methods, but this is rare and is less economic than the extraction of the natural product.



Coca leaves and fruit (Peru, 2005).



Cocaine powder.



Crack cocaine.

There are two forms of cocaine in Europe: cocaine powder (HCl, a hydrochloride salt) and the less common crack cocaine (a free base). The drug is typically snorted (powder) or smoked (crack), while injection is less common. The crack cocaine available in Europe is typically manufactured from cocaine HCl in locations close to where it is retailed and used. For this reason, crack generates very little cross-border or long-distance trafficking.

Cocaine is listed among the substances with addictive properties and presenting a serious risk of abuse in Schedule I of the United Nations 1961 Single Convention on Narcotic Drugs. Coca leaf is also separately listed in Schedule I and is defined by Article 1, Paragraph 1, as: 'The leaf of the coca bush, except a leaf from which all ecgonine, cocaine and any other ecgonine alkaloids have been removed.' Potassium permanganate, an essential processing chemical in the manufacture of cocaine, is listed in Table I of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

Source: EMCDDA, Cocaine and crack drug profile at http://www.emcdda.europa.eu/publications/drug-profiles/cocaine.

Coca and cocaine production in the Andean-Amazonian region

Historically, cocaine HCl was produced legally on an industrial scale in the 19th and early 20th century. The main manufacturers were Dutch, German and Japanese pharmaceutical firms, which obtained coca leaves from plantations on islands belonging to the Dutch (e.g. Java) and Japanese (Formosa) colonial empires. In the 1910s and 1920s, more coca was produced in Asia than in South America (De Kort, 1999; Karch, 1999).

Today, cocaine HCl is manufactured illegally from coca cultivated in the Andean-Amazonian region of South America. Total global production of coca (and cocaine HCl) is almost fully concentrated in just three countries: Colombia, Peru and Bolivia (in descending order of present-day estimated coca output). However, it is estimated that a few hundred hectares of coca shrubs are also cultivated in Ecuador, Venezuela and Brazil, and cocaine HCl may be refined outside the three main Andean coca and cocaine producers.



Coca field (Bolivia, 2006).

Coca is regarded as a sacred leaf by some of the indigenous American communities of the Andes and Amazon basin, where it has been used for a variety of purposes for thousands of years (Mortimer, 1974). As a consequence, the legal status of coca is sometimes ambiguous in South America, complicating efforts to control cocaine production. Bolivian and Peruvian laws allow the growing of some coca in order to supply long-standing, licit, local consumer markets for coca leaves ('chewing') and derived products, mostly coca tea, in both countries. The International Narcotics Control Board (INCB) has recently called for the suppression of these legal coca markets under Article 49, 2e, of the 1961 Single Convention on Narcotic Drugs, which requires the elimination of coca consumption 'within twenty-five years of the coming into force of this convention' (INCB, 2008a). Additionally, some coca is grown legally in Peru and Bolivia for processing into decocainised flavouring agents that are sold to international manufacturers of soft

drinks under Article 27 of the 1961 Single Convention. Finally, the 'chewing' of coca leaves and the drinking of coca tea appears to be tolerated for some communities or in some regions in a number of South American countries, including Argentina, Brazil, Chile, Colombia and Ecuador.



Different legal products based on coca leaves, including tea (Colombia, 2004).

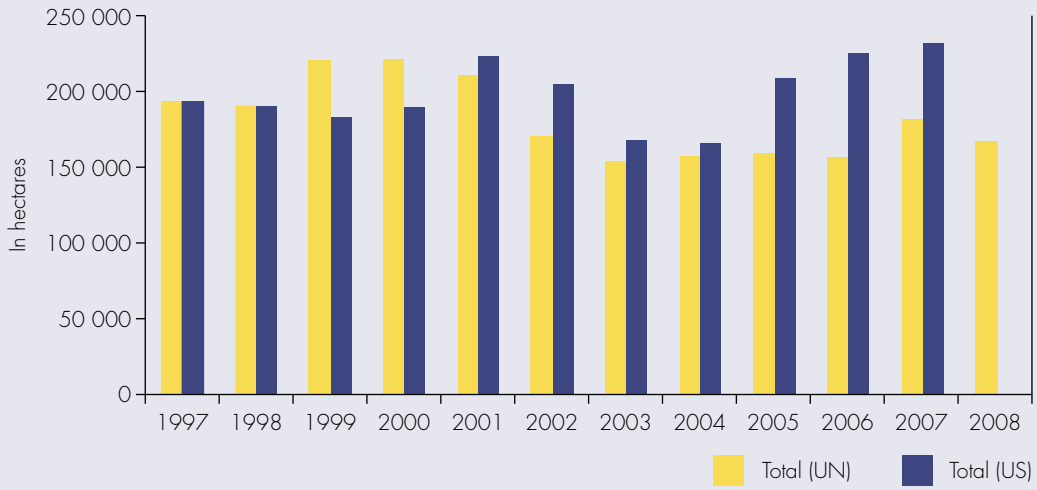
Estimating coca cultivation

In 2007, the global acreage of coca bush cultivation was estimated, depending on the source, to be 181 600 hectares (UNODC, 2008b) or 232 500 hectares (NDIC, 2008). By comparison, the UN Food and Agriculture Organization estimates that 523 500 hectares of maize (a staple food for Colombians) were harvested in Colombia in 2007 (FAO, 2009). Most of the coca cultivation was thought to take place in Colombia but acreage estimates varied largely between sources with figures of 99 000 hectares (UN) and 167 000 hectares (US). Peru was considered the country with the second largest acreage, estimated at 53 700 hectares (UN) ([3]) or at 36 000 hectares (US). Finally, estimates for Bolivia, the third largest grower of coca shrubs, were relatively close at 28 900 hectares (UN) and 29 500 hectares (US).

As regards trends, both sources report increases in acreage in Peru and Bolivia over the period 2003–07, but diverge regarding the trend in Colombia: the UN reports a decline between 2003 and 2007 and the US reports an increase. Thus, according to the UN estimate, Colombia in 2007 accounted for 55 % of the total coca bush cultivation for the three countries, yet according to the US estimate this share was above 70 %.

([3]) UNODC's coca acreage estimates for Bolivia and Peru include areas dedicated to licit coca crops. In Bolivia, for instance, national legislation (Ley 1008) allows the cultivation of up to 12 000 hectares of coca to supply the licit national consumer market.

Figure 1. Global cultivation of coca bush, 1997–2008 (available estimates)



Sources: UNODC, 2007a; UNODC 2008b; WOLA, 2007 (based on ONDCP reports); NDIC, 2008.
NB: The UNODC (2009a) notes that, due to methodological changes, estimates prior to 2004 are not directly comparable with subsequent ones. The United States had not released its 2008 estimate at the time of writing (November 2009).

Taking an overall and long-term view, UN data show a decline of about 25 % in the total coca cultivation surface of the three countries during the period 1990–2006. The US surveys suggest that this aggregate coca cultivation has remained stable or has increased during the last 20 years. Finally, according to calculations based on US official coca acreage estimates (1987–2007) ([4]) the surface under coca cultivation in 2007 in the three countries could have grown to encompass the largest area on record since 1987 (WOLA, 2007; NDIC, 2008) (Figure 1).

Estimating cocaine production

In 2006, in spite of different results in estimating the land surface dedicated to coca crops, the two existing sources converged somewhat as far as the Andean aggregate potential production of pure cocaine ([5]) was concerned ([6]). In 2007, differences in acreage estimates were reflected in different

([4]) United States data for years 1997 to 2006 are from the Washington Office on Latin America (WOLA, 2007), an NGO; US data for 2007 are from the NDIC (2008).

([5]) The figures of illicit cocaine production published by the UNODC and the US government are estimated amounts of 'pure cocaine' (UNODC, 2009c; NDIC, 2008) contained in the cocaine HCl that could be potentially manufactured from the coca leaf output estimated for a given year. Thus, since it is estimated that 600 tonnes of 'pure cocaine' were produced in Colombia in 2007 and that on average the Colombian cocaine HCl contains 85 % 'pure cocaine' (UNODC, 2008b), it may be estimated that in 2007 some 690 tonnes of cocaine HCl could potentially have been manufactured in Colombia (600 tonnes of 'pure cocaine' + 15 %).

([6]) In 2006, the UNODC estimated the global coca acreage at 156 900 ha and global cocaine production at 984 tonnes (UNODC, 2008a), while the US suggested 220 000 ha and 970 tonnes (NDIC, 2007).

cocaine production estimates, the UNODC (2008a) estimating production at 994 tonnes and the US (NDIC, 2008) suggesting 865 tonnes, or nearly 15 % *less* ([7]). However, these estimates are arrived at by different calculation methods, since the US acreage estimate of Andean coca cultivation in 2007 (232 500 ha) was about 28 % *higher* than the UN estimate (181 600 ha) for the same year ([8]).

Trends in pure cocaine production in the Andean region over the period 2003–07 appear to be relatively stable overall, with estimates fluctuating around 900 tonnes ([9]). At country level, both sources report increases in production in Colombia and Bolivia, but diverge regarding Peru, with UN figures showing an increase and US figures reporting a decline over the period.

For 2008, however, the UNODC estimates that global cocaine production decreased by 15 % to 845 tonnes (or 149 tonnes less than the previous year), representing a return to levels recorded in 2003–06 ([10]). The sudden decline in 2008 is due entirely to a fall in coca cultivation and cocaine manufacturing in Colombia, since the coca acreages and the cocaine outputs of both Bolivia and Peru are estimated to have increased (UNODC, 2009a). The UNODC attributes the decline in coca cultivation in Colombia — 81 000 ha, or 18 % less than 2007 — to enhanced suppression efforts by the Colombian government, which reported the eradication of 229 130 ha of coca shrubs in 2008 (UNODC, 2009a). The even larger drop in pure cocaine production — to 430 tonnes, 28 % less than 2007 — is due mostly to the effects of eradication, which is reported to have had a greater impact in regions where high-yield coca is grown (UNODC, 2009c).

Taking the long-term view, UN data indicate an increase of 28 % in the total pure cocaine production of the three countries during the period 1990–2007 (UNODC, 2008a). This may reflect improvements in cultivation and production techniques, since during the same period the total acreage cultivated is estimated to have shrunk by about 25 %.

([7]) According to the UNODC (2009a), authorities around the world seized 41.5 % — some 412 tonnes — of the estimated global pure cocaine alkaloid output in 2007. By comparison, the 2007 interception rate for opiates was much lower, at 19 % of global production, or 143 tonnes of heroin equivalent.

([8]) Contacted by the EMCDDA, the UNODC confirmed that its estimation methods differ from those used by the United States, although some elements are shared. Thus, for Bolivia and Peru, the methods used to estimate the scope of cultivation and the yield of coca leaves are different, but the UNODC uses the coca leaf to cocaine conversion rates information collected by the United States for its estimation of cocaine production. In the case of Colombia, the UNODC relies on its own coca leaf to cocaine conversion rates, which in recent years were considerably higher than those estimated by the United States.

([9]) Fluctuations during this period were between 889 and 1 008 tonnes, according to the UN (UNODC, 2009a), and between 790 and 930 tonnes according to the US (NDIC, 2008).

([10]) No US estimate of Colombian coca or cocaine production in 2008 was available at the time of writing.

Suppressing coca in Colombia

Colombia is the world's leading illicit producer of coca and of cocaine HCl. It is also one of the countries in the world with the longest experience of using aerial spraying of herbicides to suppress drug crops. This method as an illicit crop suppression measure has been promoted and supported by the federal government of the United States since the early 1980s. The first major aerial spraying campaign was launched in 1982 against cannabis plantations, and in the 1990s regular aerial spraying campaigns were introduced against poppies and then against coca plantations (Guáqueta, 2007). In 2000, the Colombian government launched a new aerial spraying campaign against coca and poppy plantations, using a reportedly highly concentrated herbicidal mixture based on glyphosate. In addition to aerial spraying, a ground eradication campaign involving the manual uprooting of drug plants was initiated in 2001 (Vargas, 2005). Both campaigns were still underway in 2009.

There is ample evidence of the negative impact of drug production on the environment, notably deforestation and the disposal of chemicals used to refine drugs in rivers and streams of often-fragile ecosystems (UNODC, 2006). Large-scale aerial spraying of chemicals has also been blamed for adversely affecting the environment and human health (Jelsma, 2001), but there is little evidence available to assess such claims.

The surface area subjected to eradication measures in Colombia has rapidly increased since 2000, and in 2008 the area subjected to eradication was almost three times larger (230 000 hectares) than the UN-estimated acreage of harvestable coca in that same year (81 000 hectares) (UNODC, 2009a). However, it must be noted that for a variety of reasons — such as replanting after spraying — only a portion of the illicit crops sprayed are effectively suppressed (Vargas, 2005).

In spite of the considerable investment in suppression efforts — probably the world's most substantial — and irrespective of the uncertainty of acreage estimates, there is little doubt that coca continues to be cultivated on a large scale in Colombia. This supports the contention that eradication measures alone are unlikely to be effective if they are not accompanied by other measures to address the broader causes of the problem. While the issue of agricultural drug production and drug trafficking in Colombia is highly complex and underpinned by a wide range of interacting factors (Thoumi, 1995), two issues stand out that are likely to be of particular relevance: the land issue; and the armed conflict.

From coca to cocaine

Manufacturing cocaine hydrochloride from coca leaves is a multifaceted chemical process, which in the Andean-Amazonian region is typically performed in three stages. During the first stage coca leaves are transformed into coca paste. The leaves are moistened with limewater or other alkali and extracted with kerosene (paraffin, domestic fuel). The dissolved cocaine is extracted from the kerosene with sulphuric acid to produce an aqueous solution of cocaine sulphate. This solution is neutralised with lime, causing cocaine base to precipitate (coca paste). This stage requires little skills or financial investment apart from buying the necessary, widely available, chemicals. Often it is the coca growers themselves who carry out this process, and they then sell the coca paste to middlemen. However, some farmers simply sell coca leaves.

The second stage involves transforming coca paste into cocaine base. Coca paste is re-dissolved in sulphuric acid, and potassium permanganate is added to destroy cinnamoylcocaine and other impurities. The filtered solution is again treated with alkali to precipitate the free base, which is dissolved in acetone or other solvents. This requires additional skills and investment, but many coca growers also perform this stage.

Finally, cocaine base is refined into cocaine hydrochloride by adding concentrated hydrochloric acid to the solution, causing cocaine hydrochloride to settle out as a solid residue. This is a more complex procedure that requires more skills, more chemicals and more financial investment. This is therefore performed in jungle 'laboratories' run by organised crime groups that buy coca paste or cocaine base from the middlemen (Thoumi, 1995; UNODC, 2007c; EMCDDA drug profiles).

The main chemicals used in the process described above are subject to international control measures. Sulphuric and hydrochloric acids, acetone and certain other solvents are listed in Table II, whereas potassium permanganate is listed in Table I, of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

The UNODC, based on its own field surveys in 2008 and 2009 and on information from the US Drug Enforcement Administration (DEA), reports the following national average ratios for Colombia (UNODC, 2009c):

- 1 hectare of coca shrubs yields 4.2 tonnes of fresh coca leaves per year;
- 1 tonne of fresh coca leaves yields 1.5 kg of coca paste or 1.4 kg of cocaine base;
- 1 kg of cocaine base yields 0.9 kg of cocaine hydrochloride;
- 1 kg of cocaine hydrochloride contains approximately 85 % pure cocaine;
- 1 hectare of coca shrubs yields 6.6 kg pure cocaine.

In Colombia in 2008, average prices for coca products were as follows (UNODC, 2009c):

- 1 kg of coca leaves: USD 1.10;
- 1 kg of coca paste: USD 963;
- 1 kg of cocaine base: USD 1 450;
- 1 kg of cocaine hydrochloride: USD 2 348.

Drug production and the land issue in Colombia

In Colombia, most of the coca leaves, coca paste and cocaine base is produced by small farmers, who rely extensively on family labour. An estimated 60 000 to 100 000 families are involved in this illicit agricultural activity (UNODC, 2009c; Calvani, 2005). Most of these families are poor and live in remote agricultural 'frontier' areas located in the Amazon and Orinoco basins, respectively south and east of the country. In many of these regions, state institutions and services are absent, and irregular armed groups (guerrillas and paramilitaries) control the territory. Large numbers of farmers have migrated to the 'frontier' because of lack of access to land, or to escape the violence in their regions of origin. Many of them grow coca for a living because the frontier areas lack the infrastructure — especially transportation — needed for other, licit, crops to be profitable, or because they do not have access to the resources needed to launch sustainable licit agricultural activities. However, especially in the late 1970s, some of them were also attracted to the frontier by the relatively large profits to be made from producing coca paste (Molano, 1987; Mondragón, 1999; Thoumi, 1995).

The concentration of land ownership in Colombia has been cited as a likely cause of the existence of so many 'cocaleros', or coca growers, and their presence in the 'stateless' frontier. In the early 2000s, 0.4 % of registered landowners in Colombia owned 61.2 % of the country's arable land, while 97 % owned only 24 % of it (IGAC/CORPOICA, 2002). This situation results to a considerable extent from the large-scale land purchases made by drug traffickers eager to gain recognition as 'respectable' landowners since the late 1980s. By the mid-1990s 'narcos' were the registered owners of an estimated total of 4.4 million hectares of land in Colombia (Reyes, 1997), which is equivalent to approximately twice the amount of arable land in Colombia, or about 4 % of the country's total land area ([11]). This concentration process, which is often referred to as 'counter-land reform', has further fuelled the migration of landless farmers to the coca growing frontiers. As the former UNODC representative in Colombia put it: 'land concentration is one of the main causes of rural poverty, internal displacements ([12]), armed groups, land misuse and illicit crops' (Calvani, 2005). In part because many land purchases have been made for non-agricultural purposes since the 1990s, land is also under-utilised, and just 3.6 % of rural properties are dedicated to agriculture. Thus, land concentration and under-utilisation make alternative development initiatives both more difficult to implement and less productive.

([11]) According to the FAO (2008), in 1995 there were 2.4 million hectares of arable land in Colombia, while the country's total land area was approximately 1.1 million square kilometres, or 110 million hectares.

([12]) With around three million internally displaced persons (IDP) in 2008, 'Colombia continues to have one of the largest IDP populations in the world' (UNHCR, 2009).

Drug production and armed groups in Colombia

Colombia is affected by a 50-year-old conflict, with armed groups present in many regions where coca is grown and cocaine products are manufactured. Similarly, in Afghanistan, the world's leading illicit producer of opium and possibly of heroin, internal armed conflicts have been recurrent over the last 30 years (Paoli et al., 2009). Historically, at world level, many of the countries that at one point in time became major producers of drug plants had internal conflicts or were at war ([13]). This strongly suggests the existence of synergies between armed conflicts, especially civil wars, and illicit agricultural drug production (McCoy, 1972; Lamour and Lamberti, 1972; Labrousse, 1991; Vargas, 2005; Calvani, 2005; GTZ, 2007; Chouvy and Laniel, 2007).

Such synergies are in evidence in Colombia, where many sectors of the drug economy have been connected with, or indeed controlled by, irregular armed groups since the mid-1980s (Medina Gallego, 1990; Betancourt and García, 1994; Duncan, 2006). Colombia's internal conflict pits left-wing guerrilla movements, the large FARC and the smaller ELN, against several right-wing paramilitary units that federated under the banner of the AUC in 1997 ([14]) and whose main objective is the suppression of guerrilla movements in the country. Many of the groups that joined the AUC have roots in the private armies set up by drug cartel bosses in the late 1980s (Medina Gallego, 1990; Betancourt and García, 1994; Duncan, 2006). The Colombian military is also actively fighting against the guerrillas, especially the FARC, which it accuses of being a major international drug trafficking organisation.

Taken together, the FARC and the paramilitaries have territorial control of many drug-producing areas (UNODC, 2009c). These rural regions, their population, and the resources that may be extracted from them, form the base of the irregular armies' economic and political power as well as being the location of much of their fighting ([15]). Typically, in the areas under their rule Colombia's two main irregular armed groups monopolise the purchase and sale of coca paste or cocaine base, and set the prices at which these commodities are bought from producers and sold to cocaine refiners (Jansson, 2005). In addition, they actively promote the illicit cultivation of drug plants, and the 'taxing and protecting' of cocaine laboratories and clandestine landing strips for aircraft (Calvani, 2005). Some of the fighting between the guerrillas and the paramilitaries is rooted in the struggle to gain control of drug-producing regions (Labrousse, 2004). Although the armed groups are involved in lucrative illicit activities other than drugs, including arms trafficking, extortion, robbery, misappropriation of public funds, and kidnapping for ransom (Duncan, 2006), there is little doubt that the drug trade provides a significant — but hard to estimate — proportion of both groups' funds (Labrousse, 2004; Duncan, 2006).

([13]) In addition to present-day Afghanistan and Colombia, the historical list includes: China, Guatemala, Mexico, Myanmar, Laos, Peru and Thailand.

([14]) FARC-EP stands for Fuerzas Armadas Revolucionarias de Colombia – Ejército del Pueblo (Revolutionary Armed Forces of Colombia-People's Army); ELN stands for Ejército de Liberación Nacional (National Liberation Army); AUC stands for Autodefensas Unidas de Colombia (United Self-Defence Forces of Colombia). The AUC stopped functioning as the paramilitary umbrella organisation in 2003, but many of the men who belonged to it are still active in 2009.

([15]) However, the irregular armies' illicit activities and violence are also played out in urban centres (Duncan, 2006).

Production of cocaine base and cocaine hydrochloride

Potassium permanganate is an essential chemical in the illicit manufacture of cocaine, and as such it is listed in Table I of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 ([16]). It is also a chemical that is used extensively, and increasingly, by industry throughout the world (for instance in drinking water treatment): 26 countries reported exporting a total of 23 780 tonnes of potassium permanganate for licit purposes between November 2007 and October 2008 (INCB, 2009b). The trade in potassium permanganate is monitored by the International Narcotics Control Board (INCB) under 'Project Cohesion', an international initiative to prevent the diversion of chemicals essential to the manufacture of illicit drugs.



Potassium permanganate

Because most of the cocaine available in the world is manufactured in South America, this region is subject to special scrutiny by the INCB. South America (mainly Argentina, Brazil and Chile) was the destination of about 10 % of the licit shipments monitored by the INCB between 1998 and 2006. The majority of these shipments originated from outside South America, and intraregional licit trade in the chemical was limited. Some of the potassium permanganate imported legally into South America is likely to be diverted to manufacture cocaine. However, the extent of diversion is difficult to ascertain since national authorities rarely investigate and report the source of the illicit shipments of potassium permanganate they seize (INCB, 2008a).

In 2007, worldwide seizures of illicit potassium permanganate shipments reached a total of 153 tonnes, 52 tonnes more than the previous year. Colombia accounted for 94 % of these seizures (144 tonnes), the Netherlands for 3 % (5 tonnes), and Peru for 1 % (1.5 tonnes). Another source for the potassium permanganate used in cocaine laboratories is the illicit manufacture of the chemical

([16]) The corresponding EU legislation is set out in Council Regulation (EEC) No 3677/90 (as later amended), which governs trade between the EU and third countries.

in Colombia. In 2007, the Colombian authorities destroyed four facilities (and 15 in 2006) from which they seized a total of 45 tonnes of potassium permanganate (INCB, 2009b). The INCB (2009b) notes that while quantities seized increased in South America in 2007, fewer cases of attempted diversion of permanganate potassium were reported in the rest of the world, suggesting that traffickers have found new ways to circumvent controls. In 2007, attempted shipments of potassium permanganate to Côte d'Ivoire, Nigeria and Morocco were suspended, while the Democratic Republic of Congo reported the attempted diversion of 500 kilograms (INCB, 2008a). The INCB has warned that Africa may be used as a transit territory by South American illicit potassium permanganate importers, especially in view of the recent increase of cocaine seizures in that region (INCB, 2008a). However, it is also likely that Africa, especially West Africa, is used to carry out the final stages of the cocaine manufacturing process (UNODC, 2009d), i.e. transformation of base into cocaine HCl.

Cocaine laboratories

The vast majority of the laboratories manufacturing HCl from coca paste or cocaine base dismantled worldwide in 2007 were located in Colombia (285 labs), with Peru (16 labs) and Bolivia (seven labs) far behind (UNODC, 2009a). Colombia is also the world's largest confiscator of cocaine (HCl and base), with 195 tonnes seized in 2007 (UNODC, 2009b).

It should also be noted that unknown, but probably lower, amounts of cocaine HCl are refined elsewhere in Latin America since coca leaves, coca paste and cocaine base (the two intermediary products) may all be exported to neighbouring countries for further processing into cocaine HCl. Laboratories for processing cocaine were found in countries such as Argentina (nine labs found in 2006), Chile (five in 2007), Venezuela (18 in 2005) and Ecuador (one in 2007) (UNODC, 2009b). Some cocaine HCl is also likely to be refined in Brazil, Panama and Paraguay.

Cocaine labs have also been dismantled outside of South America in recent years: in 2007, three labs in the United States and one lab in Mexico (UNODC, 2009a, 2009b); in 2006, one in South Africa, and four in the United States (UNODC, 2008c); in 2004, five labs were found in Australia and one in Hong Kong (UNODC, 2007b) ([17]).

There are also laboratories that are processing cocaine base into HCl in Europe, but the scope of cocaine base exports to Europe is difficult to ascertain given current reporting practices, which, outside Latin America, rarely differentiate between seizures of cocaine base and seizures of HCl.

Among the cocaine laboratories seized in Europe, Spain reported the dismantling of 10 cocaine labs in 2006, a figure on a par with the previous year (11), but a significant increase from the four labs seized in 2001. There were indications that Spain dismantled at least seven labs in 2007 and a further five in 2008 ([18]). Outside of the Iberian Peninsula, one lab was discovered in France in

([17]) According to the UNODC (2008c, 2009b), problems of reliability may affect the data concerning cocaine-product laboratories reported by UN Member States.

([18]) Spain's Cuerpo Nacional de Policía (http://www.policia.es/index.htm) and Guardia Civil (http://www.guardiacivil.org/index.jsp).

2005 while in early June 2007 law enforcement dismantled the first cocaine laboratory ever found in Greece. In the Netherlands, where synthetic drugs have been manufactured for many years, four large cocaine labs were seized in September and October 2007 in four different locations. It is likely that most of the cocaine laboratories seized in Europe are 'secondary extraction' laboratories, which serve a different purpose than those seized in South America (see box on p. 25).

Data and sources

The collection of systematic and routine information, which would give a clear picture of the supply of cocaine from the Americas to European markets, is both methodologically and practically challenging. Consequently, any analysis in this area must be made with caution.

Illicit cultivation of coca leaf — and therefore production of cocaine HCl — is extremely difficult to estimate, and only two public sources of data are available on the matter: the Crop Monitoring Programme of United Nations Office on Drugs and Crime (UNODC) ([1]); and the annual production surveys carried out by the United States Central Intelligence Agency (CIA) and published by the Office of National Drug Control Policy (ONDCP) and the National Drug Intelligence Center (NDIC) ([2]).

The coca cultivation and cocaine production estimates are based on sampling on the ground and aerial and satellite surveys. They also involve working out yields of coca fields and extraction rates of cocaine alkaloid from harvested leaves. These estimates are affected by different problems including cloud cover, changes in cultivation and detection techniques (ONDCP, 2007; Bussink, 2008) and variations in the alkaloid content of the coca leaves and extracting methods (UNODC, 2009a; Terán, 2008). The results of the surveys must therefore be considered as approximations, and require careful interpretation. Large differences between some UN and US estimates (see sections 'Estimating coca cultivation' and 'Estimating cocaine production') also point to a need for caution.

Drug seizures are another data source that may be taken as an indirect indicator of the supply, trafficking routes and availability of drugs. Nonetheless, these may be influenced by variations in law enforcement resources, priorities and strategies. Data on price and purity may also be used to understand the dynamics of cocaine supply in Europe, and potentially reflect prevailing conditions in production areas and along the trafficking routes. However, issues of data availability, reliability and comparability limit the potential use of these data. Lastly, law enforcement intelligence, where available, may be used to complete the picture.

The information presented in this document is based on EMCDDA, Europol and UNODC information systems and analyses, complemented by ONDCP and NDIC reports. As far as essential chemicals are concerned, information is based on the International Narcotics Control Board (INCB) analysis drawn from international initiatives set up to prevent the diversion of chemicals used in the manufacture of illicit drugs. Data on cocaine seizures, prices at street level and purity are collected by the EMCDDA, and provide routine information on the European situation, together with the national reports of the EMCDDA Reitox network of national focal points. Finally, information and analysis from a number of relevant qualitative studies have also been used.

([1]) Online at http://www.unodc.org/unodc/en/crop-monitoring/index.html; see also the chapter on methodology in the Colombia coca cultivation survey for 2008 (UNODC, 2009c).

([2]) ONDCP: http://www.whitehousedrugpolicy.gov/; NDIC: http://www.usdoj.gov/ndic/.

Main trafficking routes to Europe

The UN estimates that, in 2007, the European share of the global cocaine seizures (in volume) declined to 11 %, its lowest level since 2004 (UNODC, 2009a). In 2007, the total quantity of cocaine seized in Europe dropped to 77 tonnes (120 tonnes in 2006). This variable should be interpreted with caution since it is influenced by a range of factors, including national law enforcement policies, resources and priorities. Together with the reported decline in global cocaine production mentioned above it might indicate that cocaine availability in Europe has decreased. Yet the fact that the number of cocaine seizures in Europe has increased for the fifth consecutive year in 2007 and that cocaine consumption remained high and was not diminishing while price trends continued to decline would seem to point in the opposite direction.

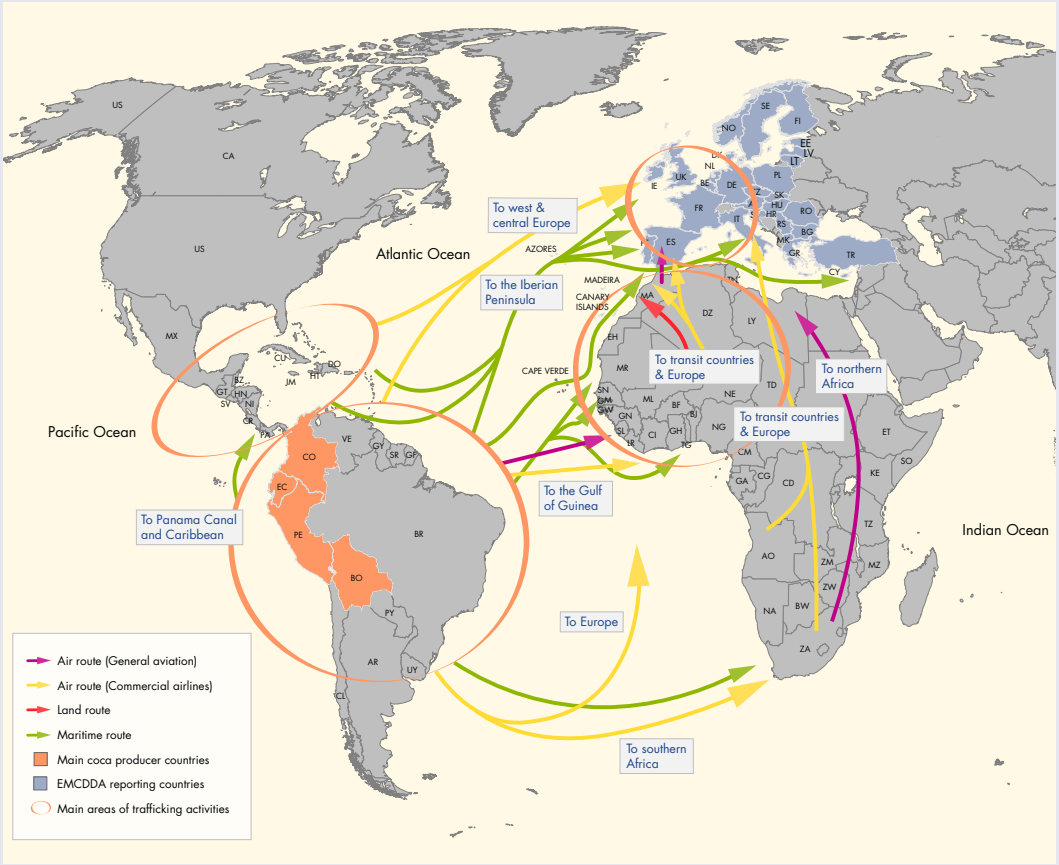
Cocaine is transported from South America to the European Union across the Atlantic Ocean by air or maritime routes. Multi-tonne maritime shipments are made from Argentina, Brazil, Chile, Colombia, Ecuador, Suriname and Venezuela to the coastal areas of Spain and Portugal. At the same time, cocaine is also shipped to the major container ports of Belgium, Germany, France, Italy, the Netherlands and the United Kingdom (Project Cola) ([19]). Although maritime shipments pose the greatest problem because large quantities can be transported at any one time, and detection is difficult, use of individual couriers and of air freight also play an important role.

Three main sea routes to Europe have been identified: the Northern route, leading from the Caribbean via the Azores to Portugal and Spain; the Central route from South America via Cape Verde or Madeira and the Canary Islands to Europe; and, more recently, the African route from South America to West Africa and from there mainly to Spain and Portugal (Figure 2) (Project Cola).

The Northern route departs from South America and reaches Europe via the Caribbean. The INCB (2008b) has estimated that 40 % of the cocaine entering Europe passes through the Caribbean, where some of the cocaine destined for the North American market also transits. In a first stage, the drug can be flown or shipped directly to Caribbean islands but also transported overland to the Caribbean coast of South America, for instance through countries like Venezuela (UNODC, 2008a). From the islands, transhipment and onward transportation to Europe are organised. Maritime transportation is frequently used, especially pleasure boats, cargo freighters and container ships. Aircraft are also used for dropping cocaine bundles in international waters to await pick-up vessels. Air couriers (sometimes colloquially referred to as 'mules') are another transportation technique, with cocaine being smuggled through European airports on commercial flights.

([19]) Project Cola and its Analysis Work File (AWF Cola) offer support to the competent authorities in Member States to prevent/combat specific forms of criminality within Europol's mandate. For more detail, see page 33.

Figure 2. Main cocaine trafficking flows from Central and South America and Africa to Europe



Notes: Trafficking flows represented on the map are an attempt to synthesise the analysis of a variety of international and national organisations (Reitox national focal points, Europol, INCB, UNODC, WCO). Such analyses are based on information related to drug seizures along the trafficking routes, but also on other intelligence information from other sources, such as law enforcement agencies in transit and destination countries, and anecdotal reports. The main trafficking routes represented on the map should be considered as indicative rather than accurate descriptions of the main flows, based on the knowledge that there may often be deviations to other countries along the routes, and that there are a multitude of secondary sub-regional routes that are not represented on the map. Such 'stopovers' may change very rapidly depending on constraints (e.g. law enforcement control points) and facilitating factors (e.g. commercial routes, corruption).

The large volume trafficked through the Caribbean can be explained by the region's geographical position, its historic and present-day links with Europe and by the fact that languages are shared with destination countries. For example, the Netherlands Antilles are the origin of supplies to the Netherlands; Jamaica is used as a platform to the United Kingdom; while Martinique and Guadeloupe play an important role in the transhipment of cocaine to France. The Azores is also exploited to tranship cocaine from the Caribbean to the Iberian Peninsula.

The Central route runs from South America, for instance Brazil (UNODC, 2009a), to the Iberian Peninsula with possible transit in Cape Verde, the Azores, Madeira or the Canary Islands. Trafficking is frequently carried out by sea, with larger cargo ships loading the cocaine in South America, often supplied by so-called 'go-fast boats'. The drug is then transhipped to locations such as Cape Verde or the Canary Islands and carried to the Iberian Peninsula in smaller crafts, especially fishing vessels, and speedboats (Zaitch, 2002). Air couriers have also been used on the Central route, notably using Madrid's Barajas airport.



Large go-fast boat seized on a Spanish beach (2009).

The West African route, notably the countries along the Gulf of Guinea and off the coast of Cape Verde, has been used for some time as a transhipment and storage region for cocaine from South America destined for the European Union. Benin, Gambia, Ghana, Guinea, Guinea-Bissau, Nigeria, Sierra Leone and, more recently, Mauritania and Togo are reported to be seriously affected by the trafficking of cocaine (UNODC, 2007a; JIATFS, 2007b).

UNODC reports for 2007, depending on the source, 6.4 tonnes of cocaine seized in West Africa (UNODC, 2009e) or 5.5 tonnes seized in Africa (UNODC, 2009a). The latter figure amounted to more than a seven-fold increase since 1998. The quantity of cocaine seized in Africa (0.8 % of the global total in 2007) remains, however, modest in comparison to the likely cocaine flows affecting the continent.



Go-fast boat smuggling drugs in the Alboran Sea (2006).

Cocaine is also transported by air from West African countries to European airports, by small aircrafts, by couriers or by air-freight (JTIAFS, 2007a). Couriers from Africa are sent on commercial flights, as 'body-packers' or 'swallowers', frequently applying the 'shotgun approach' — i.e. relying on the limited capacity of law enforcement to check a large number of passengers, several couriers are placed on each flight. EU Member States have also reported an increase in the arrest of cocaine couriers from West Africa who have transited through North African countries such as Algeria, Libya or Morocco, in order to disguise their point of origin (Project Cola). Contacts have also been made with Moroccan criminal groups in order to traffic cocaine via existing cannabis smuggling routes (Project Cola) and polydrug consignments (with cannabis resin) have been reported (Europol, 2007a).



Semi-submersible vessel seized off the Galician coast (2006).

Europol reports that in recent years Colombian groups, as well as groups from Argentina, Bolivia, Brazil, Peru and Venezuela, have all been involved in cocaine trafficking towards West Africa. These groups have established air and sea supply routes, storage facilities and a variety of lawful businesses to cover their illicit activities and justify their presence. They have closely cooperated with West African criminal groups and fully exploited the unstable social, political and economic situation in the region. Their illegal activities are furthermore facilitated by porous and uncontrolled borders between states, poor governmental control over large tracts of territory, high levels of corruption, legal difficulties and problems linked to national and international law enforcement cooperation.

Cocaine trafficking between West Africa and Europe is also facilitated by regular maritime trade and regular flight connections, as well as by historical ties (e.g. Ghana and Nigeria with the United Kingdom; Côte d'Ivoire with France; and Cape Verde with Portugal), which may translate today in the presence of West African drug distribution networks in Europe.

There are indications that the use of the 'West African' route may be declining, at least for the time being. In 2008 the UN reported a 'substantive decline' in seizures of cocaine transiting Africa (8 %), as well as a sharp decrease in the number of detected African cocaine couriers arrested at European airports (UNODC, 2009e). Based on an analysis of European seizures of known origin, the UNODC estimated that 6.8 % of the cocaine seized in Europe had been smuggled through West Africa, down from 28 % in 2007, but still above the 2.7 % estimated in 2005 (UNODC, 2009a). While additional data are needed to confirm a real decline of cocaine flows through West Africa, initiatives such as MAOC-N (see below) have probably had an impact on cocaine trafficking in the region and dissuaded some organised crime groups (OCGs) from using it as a transit point en route to Europe, or led them to change trafficking methods and routes.

Another factor for changes in the West African route could be the recent political instability, particularly in those states where South American OCGs became established. Continual shifts of power could have made operating there more difficult, at least for some time. This would be ironic, since the political instability of these countries was probably one of the factors that had attracted the OCGs to the region in the first place.

Importation to Europe and distribution

Cocaine importation and distribution in Europe ([20]) is mainly concentrated in western European countries. The Iberian Peninsula is considered the main entry point for cocaine into Europe. In 2007 the Spanish authorities seized almost 38 tonnes of cocaine, much of it at sea, representing about 50 % of the estimated total quantity intercepted in Europe. In Portugal, the amount of cocaine seized has increased rapidly since 2005, with a peak in 2006 at 34 tonnes accounting for 28 % of the European total, whereas in 2007 a total of 7.3 tonnes were seized. This development in Portugal since 2005 points to the use of the Iberian Peninsula by cocaine traffickers as a gateway to the European market. It may also point to a diversification in the unloading points throughout the Iberian Peninsula, in response to the likely intensification in the controls of the traditional cocaine maritime route to the Spanish north-western coast in Galicia (Figure 3).

Cocaine 'secondary extraction' laboratories in Europe

While the laboratories seized in South America manufacture cocaine base or HCl from coca leaves or coca paste, it is likely that the majority of the cocaine laboratories seized in Europe are of a different type, that is, 'secondary extraction' labs. These are used to remove the cocaine from other materials in which it has been incorporated — and therefore concealed — before importation.



Cocaine brick with embossed lyre logo.

Cocaine base and more frequently HCl may be incorporated into a range of materials including beeswax, fertiliser, various types of plastic, clothing, herbs, liquids, guano, upholstery, etc. The incorporation process may be fairly simple, for instance by soaking pieces of clothing in a mixture of cocaine and water. But it may also be more complex and require a chemical process, for example in order to incorporate cocaine HCl within plastic. In this case, a reverse chemical process will be required to extract the cocaine from the plastic. After secondary extraction, the cocaine can then be adulterated with different cutting agents (see box on adulterants) and pressed into the form of traditional cocaine bricks embossed with logos, probably to convince buyers that they are purchasing original high purity cocaine.

([20]) In its 2008 *World Drug Report*, the UNODC suggests, quoting different law enforcement agencies including Europol, a figure of 250 tonnes of cocaine entering Europe every year, with a rising trend (UNODC, 2008a). However, the report does not specify how this figure was calculated.



Cocaine press seized in Oosterhout, the Netherlands (2007).

Recent reports from Member States have revealed that more than 38 cocaine 'secondary extraction' laboratories of all sizes were seized in the European Union during 2008 (Europol, 2009). For example, a mid-scale 'secondary extraction' laboratory removing cocaine from cacao powder and liquor was seized in the Dutch city of Roosendaal in December 2008. In September 2007, Dutch Authorities dismantled two illicit cocaine 'secondary extraction' laboratories in Oosterhout and Steenbergen, seizing a total of 8 tonnes of polypropylene (a plastic), samples of which were tested and found to contain cocaine. According to documentation recovered at the scene, more than 50 tonnes of polypropylene had been imported from Colombia since the beginning of 2007, although it is not known if cocaine was present in all of it (Europol, 2009).

There is also information that criminal organisations use EU neighbouring countries, such as Albania and Moldova, to set up such laboratories (Project Cola)

Cocaine adulterants

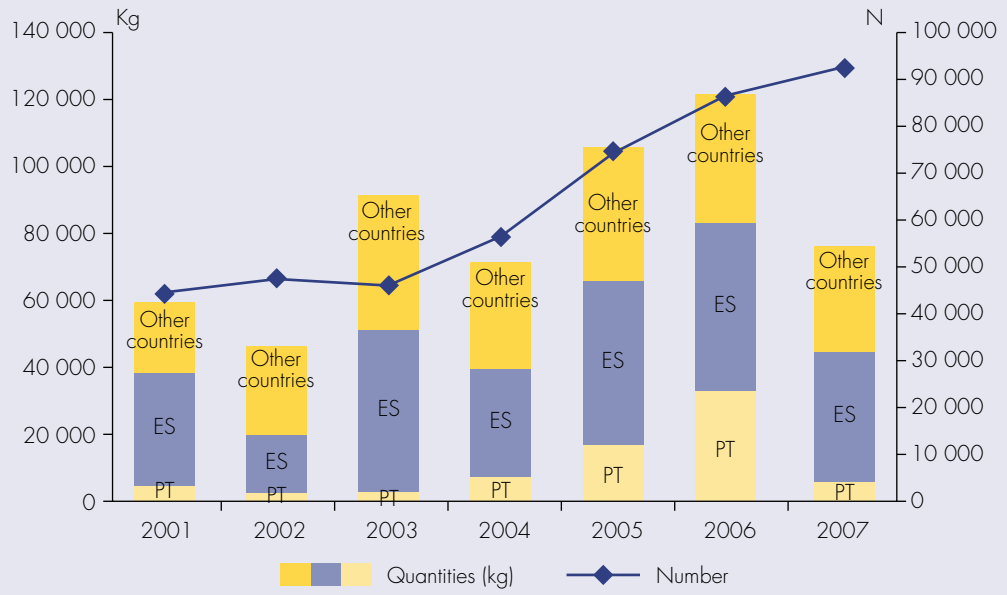
When sold in Europe, cocaine is almost always adulterated. Common adulterants or cutting agents include the local anaesthetics lignocaine (lidocaine) and benzocaine; painkillers such as phenacetin (a carcinogenic substance) and paracetamol; and other agents such as hydroxyzine, boric acid, glucose, manitol, lactose and caffeine.

A relatively recent trend is the use of Levamisole (leva (l)-Tetramisole), a veterinary anti-parasitic agent used in the past in human medicine as an immunostimulant. When used over a longer period of time and in higher doses, Levamisole may cause a number of adverse effects, of which agranulocytosis ([1]) is the most alarming.

Levamisole has been reported as a cocaine adulterant in the United States and in Europe at least since 2004. In 2009, over 70 % of cocaine seizures that were analysed in the United States contained this substance (SAMHSA, 2009). In Europe, recent information from the EMCDDA–Europol Early Warning System indicates an increase both in the percentage of the cocaine samples adulterated with Levamisole and in the concentration of the substance in the samples. Thus, several countries reported Levamisole in about one third (Belgium, Spain, France and Sweden) and one half (Ireland, the Netherlands and the UK) of the cocaine seizures analysed. Levamisole is widely used in South America, and it is likely that the adulteration of cocaine takes place not only at the point of import in Europe, but also immediately after production or just before export.

([1]) Agranulocytosis is a haematological condition that involves severe leukopenia (decrease in the number of white blood cells) that can lead to rapidly developing life-threatening infections.

Figure 3. Number of cocaine seizures and quantities seized (kg) in the EU, Croatia, Turkey and Norway, respective shares of Spain (ES) and Portugal (PT) 2001 to 2007, as reported to the EMCDDA



Notes: The total amount of cocaine seized is based on data from all EMCDDA reporting countries (27 EU Member States, Croatia, Turkey and Norway), whereas 5 EU Member States (Italy, Cyprus, The Netherlands, Poland and Romania) were not included in the total number of cocaine seizures due to unavailability of data. For countries included in the totals per year, missing data have been extrapolated from adjacent years. (PT=Portugal, ES=Spain).

Cocaine also enters Europe via other countries, in particular Belgium, France, Italy, the Netherlands and the United Kingdom, each of which seizes several tonnes of cocaine every year. Other countries are also used to import cocaine into Europe, as flights from the main trafficking routes are increasingly subjected to enhanced controls. One example is the '100 % control policy' implemented between 2002 and 2008 at Schiphol airport (Amsterdam) in the Netherlands — that is, the control of all passengers on direct flights from risk countries for cocaine importation in South America and the Caribbean (Aruba, Dominican Republic, Ecuador, Netherlands Antilles, Peru and Suriname). This initiative, together with preventive measures (controls, radar, body scans) in departing countries, seems to have achieved some results, as both the quantities of cocaine seized and the couriers arrested decreased over the period. Displacement of trafficking to other airports in neighbouring European countries would, however, need to be investigated.

Trying to link cocaine supply with demand

Cocaine seizures reflect the supply side of the drug market. Even if the focus and intensity of police work influence the number of seizures, this figure can be seen as a proxy to indicate the supply situation of a country. Given the illegal status of cocaine no perfect statistics on its supply exist. In order to take into account the different sizes of the EU Member States, the number of seizures is calculated per 100 000 inhabitants (age 15 to 64 years), resulting in an overall number of 24 seizures per 100 000 population.

In terms of demand for cocaine, there is a lack of reliable data on the total amounts consumed. The prevalence of cocaine use is therefore used as a proxy to describe the country situation. Cocaine use during the last 12 months as assessed by population surveys provides us with this information.

Supply as measured by the number of seizures is above EU average in Belgium, Denmark, Ireland, Spain and the UK. In four of these countries the prevalence of cocaine use is also above EU average. This suggests that there are several links between supply and use. Only one other country, Italy, shows prevalence rates above average but a relatively low number of seizures. Due to a lack of more recent prevalence data no conclusions may be drawn on Belgium.

Table 1. EU Member States where prevalence of cocaine use is above the EU average

Country	Year of survey	Last year prevalence	Seizures/100 000 inhabitants
Belgium	1994	0.2	52
Denmark	2008	1.4	34
Ireland	2006–07	1.7	59
Spain	2007–08	3.1	149
Italy	2007	2.2	18
United Kingdom	2006	2.7	51
EU and Norway		1.2	24

Note: The Netherlands, Malta and Poland do not report number of seizures and therefore were not included here.

With regard to cocaine importation and distribution, Europol (2007b) has identified two main criminal hubs ([21]) in Europe: the 'South-west hub' with criminal groups located in the Iberian Peninsula, which then use France as an important transit country; and the 'North-west hub', with

([21]) Europol defines a criminal hub as 'an entity that is generated by a combination of factors such as proximity to major destination markets, geographic location, infrastructures, criminal group types and migration processes concerning key criminals or organised crime groups in general. A criminal hub receives flows from a number of sources and spreads their effects in the EU so forging criminal markets and creating opportunities for the growth of criminal groups that are able to profit from these dynamics. These hubs can be seen as 'routers' attracting and re-directing external flows, such as cocaine from South America, coming to the EU directly or through West Africa' (Europol, 2007b).

criminal groups located in and around the Netherlands and Belgium. The latter exploit the 'major transport infrastructures, generating huge volumes of commercial traffic with connections to worldwide markets', (Europol 2007b) that are present in the region. This was corroborated by an ethnographic study of Colombian 'cocaine entrepreneurs' based in the Netherlands, which concluded that cocaine importers view the region's transport infrastructure as a key asset for their activities (Zaitch, 2005). According to Europol, the 'North-west hub' acts as a redistribution centre to other European countries, mainly in western Europe (Denmark, Germany, Austria, Finland, Sweden, United Kingdom), for both the cocaine entering via the Iberian Peninsula and that being unloaded in major sea ports in the region itself (Europol, 2007a). Europol reports a recent increase in the number of couriers recruited by organised crime groups in the North-west region to distribute cocaine to other European markets. Most noticeable are West African organised crime groups, who recruit African and European nationals as 'mules' who travel overland (car, coach, train) with relatively small quantities of cocaine (1 or 2 kg). The drugs are concealed inside the body, wrapped around the body, in luggage or in the vehicle used for transport.

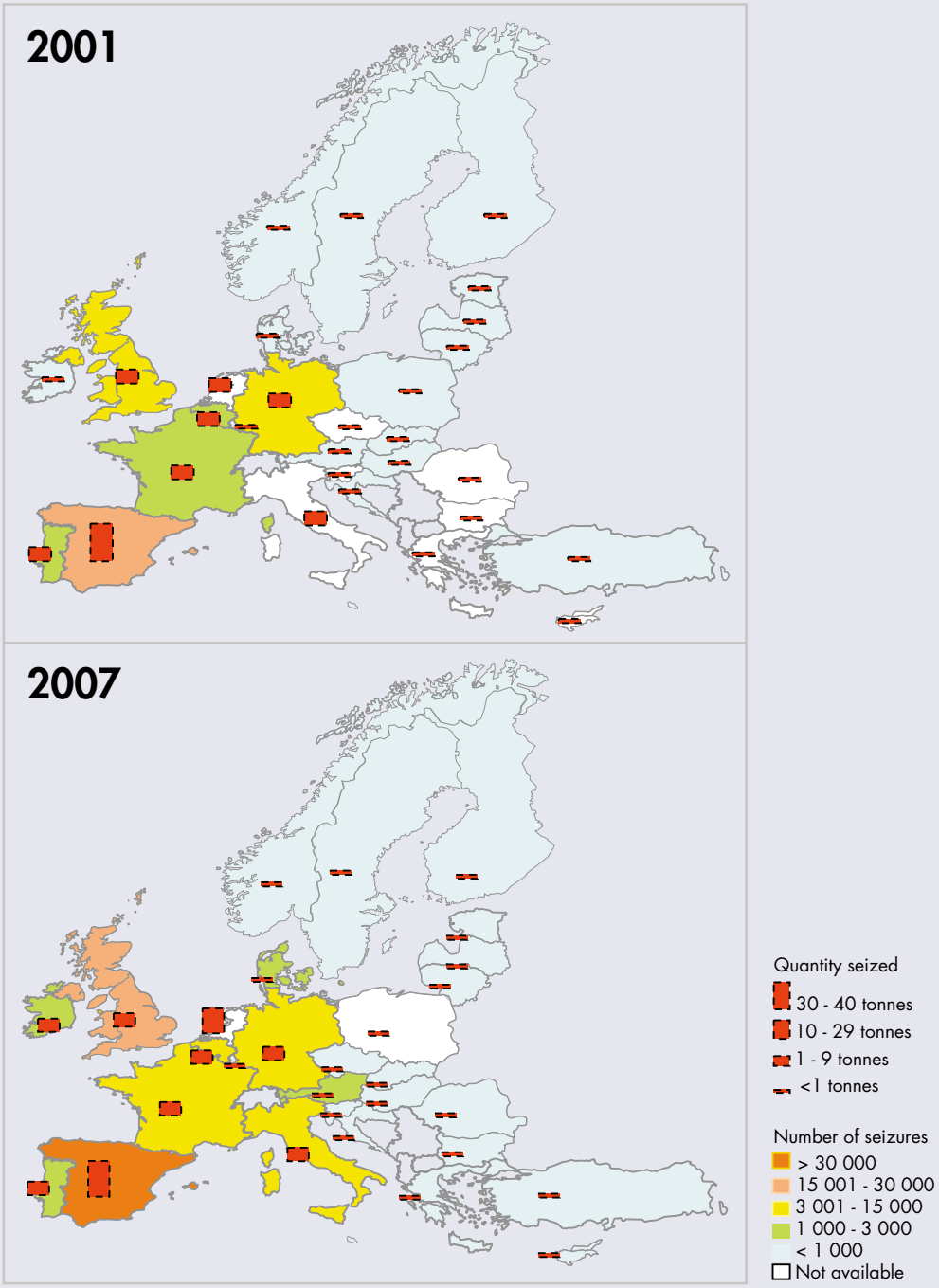
While the majority of shipments of cocaine from South America continue to be directed to Western Europe (Figure 4), substantial seizures of cocaine, usually concealed in containers, has occurred in recent years in important ports in the Balkans (Project Cola, UNODC 2009a). For instance, in January 2009 authorities in Constanta, Romania, seized 1.2 tonnes of cocaine concealed in a consignment of wood. The subsequent investigation led to the discovery of a further 3.8 tonnes of cocaine at the original point of loading, in the port of Paranagua, Brazil. In July 2009, law enforcement in Varna, Bulgaria, seized 1 020 bottles containing a mixture of cocaine and wine shipped from Santa Cruz, Bolivia. The total weight of the cocaine was estimated at 100 kg. In August 2009, at Piraeus, Greece, almost 450 kilos of cocaine concealed in a shipment of scrap metal were confiscated.

An increasing number of nationals of Balkan countries have also become involved in cocaine trafficking in recent years, according to Europol. In addition, Albania has been used as a storage country for cocaine, alongside its traditional role in the Balkan Route for heroin trafficking (Europol, 2007a). This, together with an increase in the involvement of organised criminal groups from that region, may indicate that the already-established trafficking infrastructure developed in the region, especially for cigarettes and heroin, is now being used for the shipment of increasingly large amounts of cocaine.

This suggests a diversification of trafficking routes and points towards an eastward expansion of cocaine trafficking in Europe, which may eventually contribute to the diffusion of cocaine use into countries that are comparatively unaffected at present.

Trade liberalisation in the Balkan area, the region's proximity to the European Union, as well as the presence of pre-established transnational criminal networks are likely to be important explanations for the transit of cocaine through the region. Criminal groups present in the region have control over long-established trafficking networks of the Balkan Route that have traditionally facilitated the movement not only of heroin but also cannabis, contraband cigarettes and human beings, as well as illegal immigration.

Figure 4. Evolution of the number of seizures and quantity of cocaine seized in Europe, 2001 and 2007



Source: Reitox national focal points, *EMCDDA Statistical bulletin 2009*, seizures data (SZR).
Tables: SZR-9 - http://www.emcdda.europa.eu/stats09/szrtab9 and SZR-10
http://www.emcdda.europa.eu/stats09/szrtab10

Supply reduction initiatives at EU level

The European Union (EU) and the Member States are engaged in a range of initiatives to address cocaine trafficking and the changing dynamics of the cocaine market. Some of these initiatives have been developed at the political and diplomatic level, while others are focused on operations 'in the field'.

At political level, the EU has implemented a set of initiatives directly aimed at tackling cocaine production and trafficking from Latin America and the Caribbean into Europe. The EU drug strategy (2005–12) ([22]) and EU drugs action plan 2009–12 set specific objectives for the Latin America and the Caribbean (LAC) region.

In December 2007, the EU Council adopted conclusions welcoming continued cooperation with Latin America and the Caribbean in tackling trafficking along the cocaine routes (Council of the European Union, 2007). In this respect, the Council expressed support among others for alternative development, demand reduction efforts and supply reduction, including sharing best practices achieved in the EU–LAC Intelligence Sharing Working Group, which concluded its activities in 2009.

The EU–LAC Coordination and Cooperation Mechanism on Drugs was launched in 1995. This mechanism is the key forum for inter-regional cooperation on drug-related problems, especially cocaine. It operates in the form of an annual plenary meeting and several technical meetings throughout the year. The XIth high-level meeting took place in Quito in May 2009. It resulted in the 'Quito Declaration' ([23]), which reaffirms the political will to strengthen bi-regional EU-LAC cooperation against drugs.

In recognition of the responsibility of the EU and the Andean Community (CAN) to work together to deal with the challenges posed by illicit drugs, a unique EU-CAN (Andean Community) High Level Specialised Dialogue on Drugs — the only such dialogue at sub-regional level — has been underway since 1995, with annual meetings at senior official level. The EU has also signed agreements with each of the four CAN member states (Bolivia, Colombia, Ecuador, Peru) on precursors and chemical substances frequently used in the illicit manufacture of narcotic drugs (known as 'precursor agreements'). High-level experts from the EU and CAN meet regularly to coordinate and exchange information on implementing these agreements.

The European Union (European Commission and EU Member States) is a major donor for operational projects to prevent drug production and trafficking in Latin America. At the end of December 2009, European funding to anti-drug projects in the region totalled about EUR 360 million. The focus for EU international efforts is support for alternative development initiatives. For instance, in Colombia, three 'Peace Laboratories' to promote alternative development and peaceful conflict resolution were financed, with total funding of about EUR 68 million. Building on this work, a regional development programme for peace and security with funding of EUR 26 million started in 2009.

([22]) Online at http://www.emcdda.europa.eu/index.cfm?nNodeID=6790.
([23]) Online at http://register.consilium.europa.eu/pdf/en/09/st10/st10758.en09.pdf

In April 2007, the European Commission signed the regional strategy for cooperation with the Andean Community, allocating EUR 50 million for the period 2007–13. One of the three priority areas for cooperation is to support the Andean countries in the CAN in the fight against illicit drugs. A first intervention in this field was approved within the 2008 Annual Action Programme, namely PRADI-CAN (Progama Antidrogas ilícitas en la Comunidad Andina). One of its main objectives is to establish a network between national observatories on drug trafficking. PRADI-CAN will also reinforce and develop further the control of essential chemical precursors in the CAN countries. The EU is contributing EUR 3.25 million out of the programme's total budget of just over EUR 4 million.

In 2009, the European Commission launched the bi-regional project COPOLAD (Latin America and EU Cooperation in Antidrug Policies) with an EC contribution of EUR 6 million. The project aims to facilitate cooperation between national agencies responsible for drug policy in Latin America and the EU.

With respect to cocaine trafficking routes through West Africa, many initiatives are underway at European level. The European Commission is funding a number of bilateral projects in West Africa under its European Development Fund (EDF) that aim to combat organised crime, including drug trafficking. At the regional level, the Commission initiated a three-year project in 2006 on 'Law Enforcement and Intelligence Cooperation Against Cocaine Trafficking from Latin America to West Africa' (CO-LA-CAO), and a major capacity-building project in West Africa is planned to complement this project in 2009–10. Moreover, under the EDF the EU, with an overall budget of EUR 15 million, is ready to assist West African law enforcement agencies in the implementation of the Economic Community of West African States (ECOWAS) Action Plan on Drugs.

Among the initiatives taken by the European Union, the Council, through the horizontal working party on drugs (HDG), has placed West Africa high on its agenda and has presented a resolution on strengthening international support to West Africa to the 2008 UN Commission on Narcotic Drugs. An important step forward in the operational effort to curb cocaine trafficking through West Africa was taken when in September 2007, seven EU Member States ([24]) signed a formal Treaty to set up the Maritime Analysis and Operations Centre–Narcotics (MAOC-N) in Lisbon, Portugal. MAOC-N is a regional initiative supported by EC funding. It is designed to coordinate the interdiction of illicit drugs trafficked by air and maritime conveyances in the Atlantic region in order to prevent drugs from reaching European markets, to deny traffickers the revenue from the delivery of the drugs, and in general to provide long-term deterrence of illicit drug smuggling. During its first two years of existence MAOC-N, on behalf of its partners, coordinated the seizure or led to the jettisoning of a total of about 45 tonnes of cocaine. European countries are currently considering other similar initiatives. For example, in September 2008 France launched another anti-drug coordination centre focused specifically on maritime drug trafficking in the Mediterranean — aiming mainly to combat cannabis resin (hashish) and cocaine trafficking. The Centre de Coordination pour la Lutte Anti Drogue en Méditerranée (CeCLAD-M) of the French National Police

([24]) The co-founders of this project are Ireland, Spain, France, Italy, the Netherlands, Portugal and the United Kingdom, but it is open to other Member States. On 1 January 2008 the European Commission, Europol and Greece gained the status of observers, as did the US Joint Inter Agency Task Force–South (JIATF-S, based in Key West, Florida), Canada, Cape Verde.

is a military-supported law enforcement centre based in the port of Toulon. CeCLAD-M is open to participation from the CIMO countries ([25]), Member States with coastlines on the Mediterranean, and others, such as the United Kingdom and Senegal.

Europol has taken specific measures against cocaine trafficking in Europe — Project Cola and its Analysis Work File (AWF Cola). These offer support to the competent authorities of the Member States in preventing or combating specific forms of criminality within Europol's mandate. AWF Cola seeks to collect intelligence associated with the activities of suspected criminal organisations and networks involved in the production, processing or trafficking of cocaine, including intelligence relating to precursor chemicals and cutting agents. The AWF currently has 17 participating Member States, whilst Third Party States and Organisations (Third Parties) such as the United States (DEA), Eurojust and Interpol are also associated. The Project works closely with Member States' Law Enforcement agencies providing on-the-spot support to investigations, dismantling of cocaine laboratories and operational analysis.

Project Cola includes the Europol Cocaine Logo System (ECLS), the Europol Specific Means of Concealment System (ESMC) and its Alert System. The ECLS collates information on modus operandi, photographic and basic forensic information on cocaine seizures and on logos or markings on the drugs and their packaging. This enables Project Cola to identify matches between seizures with a view to promoting international law enforcement cooperation, initiating information exchange and further investigations for the targeting of criminal groups.

In the framework of the Europol Cocaine Logo System, the ESMC focuses on the specific means of concealment or packaging of cocaine. This sub project collates and stores in its database, relevant information of specific means of concealment that have been reported by the Member States and Third Parties. In those circumstances where new information concerning such specific means of cocaine concealment is received, the information is immediately forwarded to all Member States and other partners via an Alert Message through the Europol Information Exchange. Its principal objectives are to:

- update European Union Law Enforcement Agencies on new trends and methods of cocaine smuggling;
- display drug-related activities in member countries;
- heighten awareness of global trafficking trends; and
- improve the targeting of suspect persons and goods through the efficient and timely dissemination of intelligence developed by Europol and other law enforcement agencies via the respective Alert Messages.

Related criminal data arising from the findings of the ECLS and ESMC is analysed within AWF Cola as well as contributing to the aims and objectives of the European Police Chiefs Task Force (EPCTF) COSPOL Project 'Cocaine'.

([25]) CIMO is the '5+5' Intergovernmental Conference of the Ministers of the Interior of western Mediterranean countries, comprising Spain, France, Italy, Malta and Portugal, together with Algeria, Libya, Mauritania, Morocco and Tunisia.

Conclusions

There is little doubt that Europe has become an important destination for cocaine manufactured in South America. In 2007, an estimated 73 800 seizures in EU Member States, Croatia, Turkey and Norway resulted in the interception of almost 77 tonnes of cocaine. So Europe today ranks third in the world for the amount of cocaine confiscated, after South and North America. Law enforcement data also suggest that cocaine landing points may have shifted within the main gateway regions, the Iberian Peninsula and the Low Countries (Belgium and the Netherlands) and that trafficking networks are spreading eastwards. This increases the risk of a diffusion of cocaine use into eastern and central European countries, which have been comparatively little affected until now.

Cocaine is smuggled into Europe via different routes using a wide variety of concealment methods and means of transport, from cargo ships and private yachts or fishing boats, to commercial airliners and unscheduled small planes. A particularly sophisticated concealment and smuggling method analysed in this report involves incorporating cocaine into other materials and then removing it in 'secondary extraction' laboratories set up in Europe. The growing importance of the West African route, where major cocaine seizures have been carried out in recent years, illustrates the diversification of drug trafficking itineraries. And several initiatives have been launched in Europe to address cocaine trafficking, such as the EU-LAC cooperation, the setting up of the MAOC-N, or Europol's Project Cola.

Most of the cocaine available in the world is produced in Colombia in coca plantations, where coca makes a significant contribution to the local economy. Different measures to prevent coca cultivation and to offer alternative lifestyles to coca growers have been developed and supported, notably by the EU and its Member States. However, both the concentration of land ownership and the ongoing armed conflict make it difficult to implement effective and long-term action. It is important to enhance efforts to intercept cocaine products at source and on trafficking routes and consumer markets. Yet there is also a strong argument for launching complementary initiatives, to restore civil peace and promote the de-concentration of land ownership in Colombia, while fostering land use for productive, licit agricultural purposes, as they enhance the impact of other measures.

Nevertheless, understanding of cocaine production in South America — and trafficking towards and within Europe — is still limited. Additional or better-developed information systems are needed for the future. In particular, the level of precision of cocaine production estimates could be further explored, since differences between various estimates need to be better understood. In addition, there is a lack of information on how much cocaine European markets may be consuming, and on how this aggregated consumption may compare with the estimated cocaine output of South America. Developing a sound methodology to assess the size of the European consumer market for cocaine would be a significant first step towards such an analysis.

Obtaining a better understanding of the cocaine trade in Europe calls for more insight on issues such as the merging of cocaine routes, multi-drug consignments, incorporation of cocaine into other 'carrier' materials, organised crime groups and trafficking networks. It also highlights the need to carry out additional studies of the intra-European cocaine markets, focusing especially on their structure, organisation, actors and dynamics.

For a variety of reasons, it is difficult to draw a clear picture of cocaine supply and trafficking in Europe, based on traditional quantitative indicators such as seizures, prices and purity data. Indeed, these need to be developed further so that comparability and reliability issues can be addressed and more detailed data may be analysed ([26]). For example, it would be useful to distinguish between cocaine HCl and cocaine base in routine data on seizures, thereby enhancing our analytical capabilities regarding the global supply of illicit coca-derived products. Furthermore, there is also a need to develop innovative alternative monitoring strategies that may be based on sources other than law enforcement, and which may rely on more qualitative data.

Better and more systematic information on illicit sources and trafficking routes of potassium permanganate, and other chemicals used to manufacture cocaine, would contribute to a clearer picture of potential processing sites in South America and elsewhere, especially in Europe. Information on precursors would also help in designing adequate responses to countering cocaine production. As we face a need to target supply reduction efforts effectively, both inside and outside Europe, it is vital to improve our understanding of the dynamics of the illicit trade in coca-derived products and essential chemicals.

([26]) See the Council of the European Union document 12411/1/01 STUP 26 on a draft Council recommendation on the alignment of law enforcement drug and diverted precursor statistics.

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EMCDDA–Europol joint publication series

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the European Police Office (Europol) stepped up their cooperation on drugs and crime in the spring of 2009, by defining a series of collaborative activities for the period 2009–12. The commitment was made in the framework of a 'Cooperation Agreement' signed in Brussels in November 2001, under which the organisations exchange information and expertise on drug-related issues, money laundering and the diversion of chemical precursors. The two bodies also collaborate actively in detecting and monitoring new and potentially threatening psychoactive substances and in assessing the involvement of organised crime in their manufacture and trafficking. This activity is carried out under the terms of a specific legal instrument, adopted by the Council of the European Union in 2005 (www.emcdda.europa.eu/drug-situation/new-drugs).

Among the collaborative activities planned for 2009–12 is an EMCDDA–Europol joint publication series covering key aspects of European drug markets. While the first titles in the series are dedicated to illicit substances — e.g. methamphetamine, amphetamine, ecstasy, cocaine, heroin and cannabis — future editions will be developed in line with ongoing and emerging information needs.

The series is designed to inform policymakers, drug experts and the general public on important aspects of the drug situation. Bringing together EMCDDA information and data on prevalence, health consequences and drug research, with Europol data and knowledge on production, trafficking, markets and drug-related crime, the publications will offer an integrated analysis of the topics chosen and constitute a joint EMCDDA–Europol view on key drug issues. The analysis will be informed by complementary information provided by the organisations' respective national networks — the Reitox national focal points and the Europol national units.

About the EMCDDA

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is the hub of drug-related information in Europe. Its mission is to provide the EU and its Member States with 'factual, objective, reliable and comparable information' on drugs, drug addiction and their consequences. Established in 1993, it opened its doors in Lisbon in 1995 and is one of the EU's decentralised agencies. With a 100-strong multidisciplinary team, the agency offers policymakers the evidence base they need for drawing up drug laws and strategies. It also helps professionals and researchers pinpoint best practice and new areas for analysis. As well as gathering information on the demand and reduction of the demand for drugs, the agency in recent years has extended its monitoring and reporting on drug supply, supply reduction and illicit drug markets.

www.emcdda.europa.eu

About Europol

Europol is the European Union's law enforcement agency. Its aim is to improve the effectiveness of, and cooperation between, the competent authorities in the EU Member States in preventing and combating serious international organised crime and terrorism. Operational since 1999 and based in The Hague, the organisation employs some 600 staff to support national law-enforcement agencies in their everyday work, including efforts to tackle illicit drug trafficking, money laundering, cyber crime and terrorism. Europol comes into play when an organised criminal structure is involved and two or more EU Member States are affected. Among others, it facilitates cross-country information exchange and provides analysis of operations.

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