Cocaine market developments

Strong decline in coca bush cultivation since 1998

Although global coca bush cultivation in 2014 increased by 10 per cent compared with the previous year, the total area under coca bush cultivation worldwide, 132,300 ha, was the second smallest since the late 1980s. Global coca bush cultivation in 2014 was 19 per cent lower than in 2009, 40 per cent lower than the peak level in 2000 and 31 per cent lower than in 1998.\(^\text{157}\)

Of the three main countries cultivating coca bush, Colombia has shown the strongest decrease in the total area under coca bush cultivation (-58 per cent) since the peak of 2000; that decline was initially related to widespread aerial spraying, followed by manual eradication and, after 2007, by increased alternative development efforts. However, 2014 saw a strong increase (of 44 per cent) in the total area under coca bush cultivation in Colombia, price increase and expectations among farmers that they might benefit more from alternative development if they were growing coca bush during the peace negotiations.\(^\text{158}\) There are also indications that the new upward trend in coca bush cultivation in Colombia continued into 2015. In 2014, the total area under coca bush cultivation in Colombia amounted to 69,000 ha, accounting for 52 per cent of global coca bush cultivation.

Linked to the interruption of the so-called “air bridge”, which transported coca paste or base from growing areas in Peru to cocaine-processing laboratories in Colombia, and thus falling coca prices, coca bush cultivation in Peru declined in the 1990s. Coca bush cultivation in Peru, however, rose by 44 per cent between 2000 and 2011, as the use of the “air bridge” strategy was brought to an end and coca prices subsequently increased. Over the period 2011-2014, the total area under coca bush cultivation in Peru decreased once more (by 31 per cent). It is now, at 42,900 ha (accounting for 32 per cent of global coca bush cultivation), back to its 2000 level. The latest decrease can be linked to achievements in alternative development, as well as intensified eradication efforts.

\(^{157}\) The same patterns are found when the comparisons are based on an average of several years. The average annual area under coca bush cultivation fell by 12 per cent when comparing the periods 1990-1997 and 1998-2008 and by 19 per cent when comparing the periods 1998-2008 and 2009-2014.

In the Plurinational State of Bolivia, the total area under coca bush cultivation decreased in the late 1990s as a result of increased government interventions, including in the form of alternative development (Plan Dignidad), which was able to count on strong external assistance. However, the total area under cultivation doubled between 2000 and 2010 before falling again (by 34 per cent) in the period 2010-2014. The latest decline was linked to alternative development efforts (done with very limited external assistance) as well as strong social pressure placed on coca bush growers by the authorities and unions to limit coca bush cultivation to 1 cato (0.16 ha) per family. The total area under coca bush cultivation in the country in 2014 (20,400 ha, or 15 per cent of the world total) was less than half the total area under such cultivation in the period 1990-1997, but still 40 per cent larger than in 2000.

Global production of cocaine (expressed at a purity of 100 per cent) can be estimated for 2014 at 746 tons (using the “old” conversion ratio) and 943 tons (using the “new” conversion ratio); those values are slightly higher than in the previous year but still 24-27 per cent lower than the peak in 2007, and thus back to the levels reported in the late 1990s. There are, however, indications that the overall upward trend observed in 2014 continued into 2015. Data suggest that the global cocaine interception rate, based on cocaine production estimates and quantities of cocaine seized, reached a level of between 43 and 68 per cent in 2014.

Most of the increases in the global cocaine interception rate occurred after 1998, when the General Assembly held its twentieth special session, dedicated to countering the world drug problem together. The global cocaine interception rate almost doubled between the periods 1990-1997 and 2009-2014.

Cocaine continues to be trafficked primarily from South America to North America and Western and Central Europe

A total of 153 countries reported cocaine seizures over the period 2009-2014. Most of the cocaine trafficking, however, continues to be from the Andean subregion to North America and Europe. The bulk of the cocaine seizures in 2014 occurred in the Americas, which accounted for 90
per cent of global cocaine seizures (in particular, in South America (60 per cent)). Cocaine seizures in Western and Central Europe accounted for 9 per cent of global cocaine seizures.

**Stabilization of cocaine trafficking in South America**

The total quantity of cocaine seized more than doubled in South America over the period 1998-2014 (reaching 392 tons in 2014), although recent data suggest a levelling off. In the period 2009-2014, Colombia accounted for 56 per cent of all the cocaine seizures in South America (and more than a third of global cocaine seizures); it was followed by Ecuador (accounting for 10 per cent of total cocaine seizures in South America), Brazil (about 7 per cent), the Plurinational State of Bolivia (about 7 per cent), Peru (about 7 per cent) and the Bolivarian Republic of Venezuela (6 per cent). The increase in cocaine seizures between the periods 1998-2008 and 2009-2014 was particularly pronounced in Ecuador, where the increase was linked to intensified law enforcement activity. In Brazil, the increase in the quantity of cocaine seized was attributable to a combination of improved law enforcement efforts, the growing domestic market for cocaine and increasing cocaine shipments to overseas markets.

**North American cocaine largely stable after a decline in recent years**

North America has been the world’s largest cocaine market for years. Given the falling cocaine production in Colombia and the increased violence linked to the drug cartels in Mexico, the supply of cocaine to Canada and the United States has declined. That has raised the purity-adjusted price of cocaine and prompted a decline in consumption. In the United States, the prevalence of past-year cocaine use among the general population fell by 32 per cent between 2006 and 2014, while cocaine-related deaths decreased by 34 per cent between 2006 and 2013 (the latest year for which data are available), treatment admissions related to cocaine use fell by 54 per cent between 2006 and 2012 (the latest year for which data are available) and a decrease was also reported in cocaine-positive urine tests among the general workforce, by 66 per cent over the period 2006-2014. Cocaine seizures in North America fell by some 50 per cent, to 100 tons, in the same period.

The largest cocaine seizures in North America over the period 2009-2014 were reported by the United States (accounting for 90 per cent of the seizures in North America), Mexico (8 per cent) and Canada (2 per cent). The United States accounted for 15 per cent of global cocaine seizures over the period 2009-2014 and was second only to Colombia.

According to the Cocaine Signature Program of DEA, more than 90 per cent of the cocaine trafficked to North America originates in Colombia. Cocaine is often smugg...
gled by boat or semi-submersible directly to Mexico or via Central America to Mexico and then by land to the United States and Canada. Organized criminal groups based in Mexico continue to dominate the transportation of cocaine across the border into the United States, as well as the large-scale transportation of cocaine in the United States, supplying local organized criminal groups. Although the volume of cocaine has been declining, United States estimates for 2014 suggest that 87 per cent of the cocaine continues to be transported through the Central American-Mexican corridor, while around 13 per cent of the cocaine reaching the United States over the period 2009-2014.

The prevalence of cocaine use in the European Union member States appears to have declined from a peak in 2007 and is now rather stable, at a level of about 1 per cent of the population aged 15-64. However, this masks trends and patterns at the subregional and national levels; in particular, prevalence of cocaine use tends to be above average in several Western European countries and lower in the rest of Europe, and several countries with high prevalence of cocaine use showed a decrease while some smaller countries with low prevalence showed an increase.

**European cocaine market is now stagnating**

In line with reports of massive increases in the European cocaine market, cocaine seizures in Europe quadrupled between 1998 and 2006, reaching some 120 tons, before falling to 62 tons in 2014. Member States of the European Union accounted for 98 per cent of the total amount of cocaine intercepted in Europe over the period 2009-2014.

The prevalence of cocaine use in the European Union is estimated to be 0.5 per cent in 2012, falling to 0.3 per cent in 2014. This is lower than the overall prevalence of 0.7 per cent estimated in the European Union in 2008, indicating marked differences across cities in terms of cocaine consumption and trends, but also indicates overall stable cocaine consumption levels over the period 2011-2014.

**FIG. 45**: Quantities of cocaine seized in Europe and prevalence of past-year cocaine use in European Union member States, 1998-2014

Source: Responses to the annual report questionnaire and data from EMCDDA.

**FIG. 46**: Benzoylecgonine (a cocaine metabolite) found in wastewater in 67 European cities: averages and ranges, 2011-2014

Source: Sewage Analysis CORe group Europe (SCORE).

Note: (a) The cities were in the following countries: Belgium, Bosnia and Herzegovina, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Serbia, Slovakia, Spain, Sweden, Switzerland and the United Kingdom. The analysis in each city was based on the amounts of benzoylecgonine identified in the wastewater over a 7-day period and was weighted by the population of the wastewater catchment area. (b) The population-weighted average of 11 cities reporting each year in the wastewater catchment area were located in Belgium, Croatia, France, Italy, Netherlands, Norway and Spain were located.

Analysis of benzoylecgonine, a cocaine metabolite, in waste-water, based on information from 67 cities located in 20 countries in Western, Central and South-Eastern Europe, indicates marked differences across cities in terms of cocaine consumption and trends, but also indicates overall stable cocaine consumption levels over the period 2011-2014.

Of the main coca-producing countries, the main country of origin or departure for cocaine shipments to Europe continues to be Colombia (mentioned in 42 per cent of responses by European countries in the annual report questionnaire over the period 2009-2014), followed Peru (31 per cent) and the Plurinational State of Bolivia. The importance of Colombian cocaine in Europe, however, has been declining compared with the situation during the period 1998-2008.

The most frequently mentioned non-European countries of departure for cocaine shipments over the period 2009-2014 were Brazil, followed by Colombia, Ecuador, the Dominican Republic, Argentina and Costa Rica. Countries in Africa (mostly in West Africa) were mentioned as
non-European transit countries in 10 per cent of responses to the annual report questionnaire over the period 2009-2014. The main points of entry in Europe were the countries of the Iberian peninsula, notably Spain, followed by the Netherlands and Belgium.

Cocaine trafficking via Africa may be regaining importance

Cocaine seizures in Africa increased from 0.8 ton in 1998 to 5.5 tons in 2007, reflecting the rapidly growing importance of West Africa as a transit area. In 2014, cocaine seizures in Africa fell to 1.9 tons. Given the limited law enforcement capacity, the decline in seizures in 2014 does not necessarily reflect a decline in cocaine trafficking in Africa, though the decline went in parallel with fewer reports from Europe indicating that Africa had been used as a transit area. In the meantime, the situation may have changed again: over the period December 2014-March 2016, at least 22 tons of cocaine were seized en route from South America via West Africa to Europe, although most of those seizures took place outside Africa.165

Over the period 2009-2014, the proportion of the total cocaine seizures in Africa accounted for by West Africa rose to 78 per cent; North Africa accounted for 11 per cent of the cocaine seizures made in Africa. The largest quantity of cocaine seized was reported by Cabo Verde, followed by the Gambia, Nigeria and Ghana.

Africa is often supplied with cocaine departing from Brazil (accounting for 51 per cent of all mentions of South American countries in responses to the annual report questionnaire by African countries over the period 2009-2014). Colombia (18 per cent), Peru (13 per cent) and Chile (9 per cent). The African country most frequently mentioned (by other African countries) as countries of departure or transit countries for shipments of cocaine within Africa was Nigeria, followed by Ghana, Mali and Guinea.

The main countries of final destination for cocaine trafficked to Africa are in Europe (accounting for 58 per cent of all mentions; notably Italy, Spain, France, the United Kingdom and the Netherlands), Africa (26 per cent), North America (notably the United States (12 per cent)) and Asia (3 per cent, notably China and Malaysia). Most of the cocaine shipments transiting Africa left the region by air. In recent years, of the cocaine shipments leaving Nigeria for other countries, 50-70 per cent left the country by air, 20 per cent left the country on roads leading to neighbouring countries and 5 per cent left the country by boat; this is in contrast to reports that, of the cocaine shipments leaving Ghana, 61 per cent left the country by boat and 39 per cent by air.

Signs of increased smuggling of cocaine to Asia

Cocaine seizures in Asia tripled from an average of 0.4 ton over the period 1998-2008 to 1.5 tons per year over the period 2009-2014, in line with indications that cocaine consumption among the upper classes in several of the more developed Asian countries has started to rise.

Most of the cocaine seizures in Asia over the period 2009-2014 were made in East and South-East Asia (59 per cent) and in the Middle East (39 per cent). In 2014, however, the share of cocaine seizures in the Middle East rose to 49 per cent.

The most frequently mentioned Latin American countries of origin, departure and transit for cocaine shipments to Asia in the period 2009-2014 were Brazil, followed by Colombia, Peru, the Plurinational State of Bolivia, Argentina and Mexico. The African countries used as trans-shipment areas were mainly Nigeria and South Africa, and the countries of departure and transit countries in Asia were mostly in the Middle East (United Arab Emirates, followed by Jordan and Lebanon) and in South Asia and South-East Asia (Thailand, followed by Malaysia, Philippines and India). The most frequently mentioned final destination in Asia was Israel, followed by China.

Rapid growth in the cocaine market in Oceania over the past decade

Cocaine seizures in Oceania more than doubled, from an annual average of 0.5 ton over the period 1998-2008 to 1.2 tons over the period 2009-2014, with Australia accounting for 99 per cent of total cocaine seizures in the region from 1998 to 2014. The increase is in line with reports of rapidly growing prevalence of cocaine use: the prevalence of past-year cocaine use among the general population (aged 14 and older) in Australia doubled from 1 per cent in 2004 to 2.1 per cent in 2010 and remained stable at this level in 2013.

Is the global cocaine market shrinking?

Estimated global coca bush cultivation fell by more than 30 per cent over the period 1998-2014 — by 40 per cent after 2000, when it reached its peak. The decline was far less pronounced in the case of estimated cocaine production, reflecting improvements in yields and in laboratory efficiency in the Andean subregion. Cocaine production decreased by 10 per cent between 1998 and 2014, according to calculations based on the “old” conversion ratio (available for both years), but comparison of the estimates based on the “new” conversion ratio for 2014 with the 1998 estimate (based on the assumption that the “old”

165 The UNODC Regional Office for West and Central Africa reported the following in February 2016: in two operations close to Cabo Verde in 2015, the Spanish authorities seized some 3 tons of cocaine; in March 2015, the Bolivian authorities arrested two West Africans and seized 5.9 tons of cocaine en route to countries in West Africa (mainly Ghana and Burkina Faso); at the beginning of 2016, more than 1.4 tons of cocaine were seized in Mauritania; in January 2016, the Bolivian authorities reported the seizure of 8 tons of cocaine (concealed among 80 tons of barium sulphate), destined for West Africa (Côte d’Ivoire), that had been shipped via Argentina and Uruguay; and in 2015 shipments of less than a ton of cocaine – mostly departing from Brazil and organized by Nigerian criminal groups – were seized in Benin (almost 0.3 ton), the Gambia (0.2 ton) and Guinea (81 kg).
Conversion ratios have been purity-adjusted. Individual seizures reported to UNODC quantities of pure cocaine. In previous years, responses to the annual report questionnaire and government reports indicate that more than 99 per cent of the seized cocaine (measured in terms of quantity) was intercepted at the wholesale level. The seizures were therefore adjusted to the purity level at wholesale and expressed in quantities of pure cocaine.

### Hypothesis 1. No increase in the number of cocaine users

One hypothesis could be that the number of cocaine users did not actually increase over the period 1998-2014 and that the number may have even declined between 2007 and 2014. The margins of error around the prevalence estimates are large, mainly reflecting the lack of reliable information for Africa and Asia; thus, the possibility that there was no increase in the number of cocaine users over the period 1998-2014 cannot be totally excluded. However, this hypothesis is not supported by data on perceived drug use reported by Member States, which indicate a clear upward trend in cocaine use (including in Africa and Asia), particularly between 1998 and 2008, followed by a period of stabilization or slight decline since 2009.

### The deduction of purity-adjusted seizures from cocaine production shows a reduction in cocaine available for consumption over time, irrespective of whether estimates are based on the “old” or the “new” cocaine conversion ratio.

At the same time, global prevalence of past-year cocaine use among the population aged 15-64 remained largely stable over the period 1998-2014, fluctuating between 0.3 and 0.4 per cent, while the number of cocaine users increased (by 30 per cent) from some 14 million in 1998 to 18.3 million in 2014. The increase in the number of cocaine users is attributable to population growth.

The fact that the quantities of cocaine available for consumption declined over the period 1998-2014 while there was an increase in the number of cocaine users (30 per cent) over the same period (the number of users was largely stable over the period 2007-2014) seems somewhat contradictory. Three different hypotheses may help to explain this development.

### Hypothesis 1. No increase in the number of cocaine users

One hypothesis could be that the number of cocaine users did not actually increase over the period 1998-2014 and that the number may have even declined between 2007 and 2014. The margins of error around the prevalence estimates are large, mainly reflecting the lack of reliable information for Africa and Asia; thus, the possibility that there was no increase in the number of cocaine users over the period 1998-2014 cannot be totally excluded. However, this hypothesis is not supported by data on perceived drug use reported by Member States, which indicate a clear upward trend in cocaine use (including in Africa and Asia), particularly between 1998 and 2008, followed by a period of stabilization or slight decline since 2009.

### Hypothesis 2. Increase in the number of cocaine users

Another hypothesis could be that the number of cocaine users increased over the period 1998-2014. The increase in the number of cocaine users is attributable to population growth.

### Hypothesis 3. Increase in the number of cocaine users due to population growth

A third hypothesis could be that the number of cocaine users increased over the period 1998-2014 due to population growth.

Note: For more details of perception indices, see the online methodology section of the present report.
Hypothesis 2. Decline in per capita consumption among cocaine users (shifting from mature to new markets)

Another hypothesis is that the cocaine users’ per capita consumption may have decreased, with a number of indicators seeming to be consistent with this hypothesis.

There seems to have been a shift in the composition of the cocaine user population, towards an increase in the number of occasional users relative to the number of high-frequency or dependent users as a consequence of a geographical shift.

Based on the amount of cocaine available for consumption and the number of cocaine users, table 2 suggests that the mean amount consumed per cocaine user may have increased over the period 1998-2007, from 37 to 41 grams per user, before decreasing to 29 grams per user by 2014.166

Such changes in per capita consumption may have occurred, as cocaine use has declined in established markets, where per capita consumption was high, and increased in new markets, where per capita consumption is still low, as the cocaine epidemic in the new markets is still at an early stage.

The number of cocaine users showed a marked decline in North America and less significant decreases in Europe over the period 2007-2014. Increases in cocaine use, by contrast, could be found in emerging markets in South America, notably between 2009 and 2014, as well as in Oceania and, most probably, in Africa and Asia (although the quantitative evidence is weak for these two regions).

A UNODC analysis on the retail and wholesale value of the illicit drug market, based on data for the period 2002-2003,167 suggested that per capita consumption of cocaine in North America (44 grams per user) was above the global average (37 grams per user). In the other regions, where per capita consumption was below the global average, cocaine use had been increasing. This suggests that heavy cocaine consumption was concentrated in North America, which was indirectly confirmed by a comparatively high proportion of people using cocaine in the United States being treated for cocaine use and a higher proportion of people using cocaine dying from cocaine use. This is of importance as — in parallel — indicators for North America showed that not only recreational use of cocaine but also heavy use had fallen strongly over the past decade. Estimates for the United States suggested that the number of “chronic cocaine users”, defined as users who consumed cocaine four or more days in the past month, had fallen by 22 per cent over the period 2006-2010168 (i.e. almost as much as the overall number of past-year cocaine users during that period) and there were no indications of any reversal of that development in subsequent years.169

Heavy cocaine users, although they account for only a small proportion of the total number of users, are responsible for the bulk of cocaine consumed. Earlier analysis of the United States cocaine market suggested that cocaine use typically followed a Pareto distribution, with one quar-

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166 Such levels are similar to the findings of previous UNODC research. A study on the value of the illicit drug market, based on data from the period 2002-2003, arrived at an average per capita consumption level of 37 grams of pure cocaine per user at the global level (World Drug Report 2005: Volume 1: Analysis (United Nations publication, Sales No. E.05.XI.10), table 3, p. 131).

167 UNODC has suggested a decline of per capita consumption levels to 30 grams per user at the global level (World Drug Report 2010 (United Nations publication, Sales No. E.10.XI.13), table 8, p. 71).


169 United States, SAMHSA, Center for Behavioral Health Statistics and Quality, Results from the 2014 National Survey on Drug Use and Health: Detailed Tables (Rockville, Maryland, 2015), table 7.2A.
ter of cocaine users being responsible for two thirds of cocaine consumption. A recent update indicated that more than weekly consumers of cocaine (18 per cent of all cocaine users in 2010) accounted for two thirds of total cocaine consumption in the United States in 2010. Reducing the number of heavy cocaine users can thus effectively reduce the cocaine market. A recent study in the United States showed that cocaine consumption and spending on cocaine fell by 50 per cent between 2000 and 2010 (mostly between 2006 and 2010). The reduction in spending among a small group of high-frequency cocaine users ("more than weekly" users) accounted for around 75 per cent of the aggregate reduction in spending and thus in cocaine consumption over the period 2000-2010. The change in the United States is likely to have affected the size of the global cocaine market, and thus the global per capita consumption level.

Hypothesis 3. Supply-side estimates are incorrect

The possibility that cocaine production estimates may have been incorrect cannot be excluded. There are, indeed, knowledge gaps when it comes to cocaine production estimates and this has long been recognized by UNODC. While there can be discussions about the "correct" estimates of total amounts of cocaine produced, it seems unlikely that there was any strong increase in cocaine production over the period 1998-2014. First, it is unlikely that any new coca-producing countries, apart from those in the Andean subregion, have emerged in the past two decades; and if they had, such a development would not have remained completely unnoticed. Secondly, the total area under coca bush cultivation in the Andean subregion has decreased in size (by over 30 per cent), as shown by scientifically validated remote-sensing surveys. Even though there have been changes in yields and increases in laboratory efficiency, it is unlikely that total cocaine production increased by over 30 per cent (corresponding to the increase in the number of cocaine users).

A shrinking global cocaine market should not lead to complacency

Having analysed all three hypotheses, the most likely is that the global cocaine market has indeed been shrinking, prompted by a decline both in cocaine available for consumption, mainly linked to a decrease in cocaine production in the Andean subregion, and in cocaine consumption in North America and, to some extent, in Europe. Assuming that, as suggested by estimates of the prevalence of cocaine use, the number of cocaine users has not declined, less cocaine is consumed on an average per capita basis today than in previous years.

The net result of this, in the short term, should be positive in terms of reducing drug-related crime and the negative health impact, as heavy cocaine users account for most of the harm arising from cocaine use. However, with a larger number of people worldwide experimenting with cocaine, particularly in developing countries, a certain proportion of them may eventually develop into heavy cocaine users, as can already be seen by the patterns emerging in some countries. As many of the countries in which cocaine consumption is now emerging do not have the health and social infrastructure to deal with such problems, a shrinking global cocaine market should definitely not lead to complacency. Moreover, the overall downward trend in global cocaine production may have come to an end, exacerbating the vulnerability of numerous developing countries.