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The data that we do (not) have: studying drug trafficking and organised crime in Africa

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Drug trafficking in Africa: a known unknown?

How do we know what we (claim to) know about Africa's organised crime? Much of our understanding of the phenomenon is filtered through the representation of a growing threat carried out by criminal groups specialized in smuggling and trafficking commodities, who exploit vulnerabilities in state capacity (Interpol 2018). African states are often depicted as weak and possibly prone to criminal capture, thereby offering to sophisticated and powerful criminal cartels a soft belly in terms of interdiction capacity and effectiveness (for example, Naim 2012). The illicit trade of profitable goods and natural resources (timber, diamonds, gold, protected wildlife) typically takes centre-stage, fuelling a narrative that coalesces criminal networks, greedy insurgents and violent entrepreneurs.

Within this framework, drugs constitute the quintessential illicit market, one that typically involves domestic and transnational criminal organisations, and armed groups vying for protection and extraction. Law enforcement agencies tend to consider any seizure of drugs as an indication of organised crime activity; the drug metrics that they produce are usually considered sensitive data, and therefore they are not easily accessible to researchers. For reasons that are not difficult to understand, those units that investigate the illicit drug business tend to perceive themselves as the bastions in checking serious crime: so much so that the law enforcement officers employed in 'narcotics units' often exhibit quite distinctive attitudes and special operational protocols. At policy making level, the genealogy of initiatives to counter drug-related crime has typically been presented as a core activity in the fight against organised crime (Nadelman 1990).

Recent trends suggest that Africa is no stranger to these dynamics. Over the past fifteen years or so, an increasing amount of reports has highlighted the growing salience of drug trafficking flows across the continent. Around the 2010s, the UNODC (2008, 2011a) has laid emphasis on booming cocaine flows in West Africa and the security threat they allegedly posed, prompting the West African Commission in Drugs (WACD 2014) to call for greater awareness and more adapted countermeasures. A few years later, both the UNODC (2016) and the EU-sponsored ENACT Africa programme (Haysom et al. 2018) have raised the alarm about a soar in opiates trafficking across Eastern Africa. More recent studies (Herbert and Gallien 2020; Klein 2019) have highlighted the expanding trafficking and abuse of synthetic narcotics such as Tramadol in North and West Africa. These developments have led the African Union (AU) to adopt a Plan of Action on Drug Control (AU 2019) to reduce both demand and supply of narcotic drugs on the continent. In the face of these trends, several studies have argued that drug trafficking has enabled domestic and transnational criminal syndicates to take root and thrive in Africa (Ellis 2016; Lacher 2012; Shaw and Reitano 2013). At the same time, the fear that Africa could become a platform, or 'safe haven', for criminal organisations and transnational illicit flows proliferating globally has prompted the enhancement of international cooperation in law enforcement, counter-crime and security, starting with the field of drug trafficking (Sandor 2016; Stambol 2019). Mainly focusing on the detection of large quantities of cocaine arriving in West African ports, the Global Illicit Flows Programme (GIFP) of the European Union, and the Container Control Program (CCP) of the UNODC are a case in point.[1]

The logic driving these efforts is straightforward: once the nature, scale and quality of the drug trafficking phenomenon are somehow assumed, what remains to do is to measure and

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Springer springer.com quantify drug flows as precisely as possible. Such an assessment is meant to provide a diagnostic that allows to answer the omnipresent calls for evidence-based responses to those security threats that are allegedly linked to drug-related organised crime in Africa (UNODC 2013), including its controversial nexus with terrorism, and therefore its implications for regional and international stability. And yet, while the impression that drug trafficking represents a real challenge for Africa is no doubt growing and spreading, the evidence-base for this claim remains problematic.

Assessing smuggling activities in fact is an inherently difficult task. In Africa, in particular, the demi-monde of smuggling typically goes undetected and underreported (Bensassi and Siu 2021), and drugs make no exception (Meneghini 2022). Data that measure drug-related seizures and arrests, as well as crop eradication, remain highly problematic (Maghsoudi et al. 2020), and recent advances focusing on consumption indexes (Moxham-Hall and Ritter 2017) and drugs retail on the dark web (Dolliver 2015) have proved insufficient to build a solid knowledge of drug flows dynamics, especially regarding the African continent. For all the attention paid to the Western African drug crisis, for instance, we are still confronted with "a lack of population-level data on drug production, trafficking and consumption in West Africa" (Nelson and Obot 2020, 128).

Stemming from a critical approach to social sciences' epistemology, this article first engages in an exploration of how the assessments of drug trafficking are produced, then discusses the reliability of figures that are available on and from the African continent. It argues that what we (claim to) know about drug trafficking in Africa often rests on a shaky ground, one in which impressionistic assumptions and untested hypotheses run the risk of outweighing (poor) data. The failure to meet satisfactory knowledge criteria does not imply a call for abandoning the truth-claims about organised crime and its activities on the continent. Rather, it invites to reconsider the underlying positivist epistemologies of existing metrics, and adopt instead a relational interpretation of drug trafficking 'evidence' to make sense of (limited) data as well as data gaps.

In order to explore how drug trafficking is measured in Africa, we first consider how the politically-driven framing of the phenomenon at international and regional level shapes its empirical appraisal. We then turn to the in-depth analysis of three of the main open-source metrics of drug trafficking most commonly referred to in scholarly and policy reports,[2] including on Africa: the US State Department International Narcotics Control Strategy Report (INCSR), the UN World Drug Report (WDR), and the EU European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) reports. After critically reviewing their pitfalls, we complement the investigation of the methods of knowledge production about drug trafficking in Africa from a bottom-up perspective. Building on ethnographic investigations, we examine the inner workings of the domestic agencies tasked with generating and sharing drug trafficking information in three of the countries that are most heavily affected by drug trafficking in Africa: Nigeria, Senegal and Mali.

This article is mainly based on the analysis of the scholarly literature available on the topic and on open-source policy documents, most notably produced by the three agencies mentioned above. Desk-review is integrated by interviews and informal exchanges with key experts – including officers of international organisations in the field of drug, crime and security; African politicians and counter-narcotics leaders; law enforcement agents; and smugglers themselves – who have kindly agreed to share their insider perspectives. Most of the interviews have taken place between 2017 and 2021, either remotely or in person, with respondents based in Europe (Austria, Belgium, Italy, Netherlands, Portugal, UK) and Africa (Mali, Niger, Nigeria, Senegal, Tunisia).[3] Furthermore, between 2013 and 2021 we have conducted different rounds of field research in the central Sahel region, which have provided valuable background knowledge based on a wealth of interviews and ethnographic data.

The (political) framing of drug trafficking

The measurement of a given phenomenon arguably depends in first place from its framing, which is in turn exposed to the risk of politicisation and institutional capture. Drugs flows make no exception.

The United Nations Office on Drugs and Crime (UNODC) defines drug trafficking as a "global illicit trade involving the cultivation, manufacture, distribution and sale of substances which are subject to drug prohibition laws".[4] The international drug regime is relatively well defined, and includes most notably the 1961 UN Single Convention on Narcotic Drugs, the 1971 UN Convention on Psychotropic Drugs, and the 1988 UN Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. The plurality of the conventions and the differences of their provisions leave some room to ambiguity and diverging interpretations, especially when it comes to defining what drugs are subject to what type of control and restriction regimes[5] and what specific practices actually amount to drug trafficking and are therefore forbidden.[6] Nevertheless, some consensus has been reached around the idea that the efforts made by the international community are to target the 'big-4' drugs, including cannabis (both resin/hashish and leaves/marijuana), cocaine, opiates (heroin, etc.) and synthetic drugs, although what these labels actually encompass, along with the rationale behind these choices, ultimately remain contested.

Over time, cracks were opened in the international drug control regime, as the adverse impact of counter-narcotics policies became patent and several countries called for a revision of the regime itself. As far as Africa is concerned, the Accra-based West African Commission on Drugs (WACD) advocated a balanced and integrated approach based on a critical assessment of the 'war on drug' and the prohibition policy paradigm. Some of these positions were echoed in the Common African Position prepared by the African Union (AU) for the Special Session of the UN General Assembly held in 2016 (UNGASS), which highlighted how disproportionate emphasis on law enforcement and repression in the continent have not succeeded in eradicating supply, demand and harms caused by illicit drugs (AU 2016).

The voice of African countries barely made itself heard at the UNGASS 2016. The latter failed to reach policy consensus on reviewing the international regime: however, its outcome document, along with subsequent ministerial declarations, takes stock of problematic aspects, and enables flexibility in policy interpretation and implementation, which provides an opportunity for governments to prioritize national needs in drug policy. In overall terms, then, while prohibition remains by far the dominant approach, whereby militarized response, seizures and arrests are typically presented as performance indicators (Klantschnig, 2016), the policy environment in which national control agencies operate and conduct classification and data collection, in compliance with the UN drug conventions and the national drug laws, is no doubt evolving all over Africa (Eligh 2019; Carrier and Klantschnig 2020).

The diffusion of hybrid political orders across the continent (Bagayoko et al. 2016) further complicates the framing of illicit drug trafficking, including the discrepancies between legal frameworks (*de iure*) and practical implementation (*de facto*), and more generally the competing claims of legitimacy at international, national and local level. Different perceptions of legal and criminal conducts tend to emerge, in fact, when a social order rests insecurely on competing sources of authority, as plural authorities generate plural understandings of legality and illegality. This situation is one that often calls into question the status of specific practices: among many African communities, the smuggling and even the mere consumption of khat and/or alcohol, albeit legal according by international regulations, is seen with greater contempt than that of cannabis or opiates (Klantschnig and Carrier 2016). Similarly, Stephen Ellis pointed out that in West Africa "a business involving a willing seller and a willing buyer is seen as completely legitimate" and drug smuggling makes no exception (Ellis 2009, 178).

Within this framework, the proscription of specific drugs generates its own shadow – that is, an illegal market. Since the first attempts to build international drug control, enshrined in the 1912 Hague Convention (Collins 2014), there exists plenty of research showing how supply reduction policies have always been accompanied by the expansion of illicit markets. Furthermore, the degree of prioritisation that framing a certain drug as illegal implies is typically correlated with the degree of observation to which that drug becomes object. In other words, while an increase in seizures does not not necessarily correlate with an increase in narcotics flows, the securitisation and the visibility of specific drug flows tend to go in parallel. Within this correlation, however, the direction of the causal arrow lends itself to different interpretations. One could claim that it is not the observation a rising flow the factor that prompts a more proactive response in terms of policy priorisation; rather, it is the political choice (exogenously given) to target a specific drug that comes to be framed as illegal and threatening the key factor driving greater detection efforts and more compelling measurement. This effort, in turn, feeds back and justifies the policy agenda. In other terms, one finds drugs where one decides to search – not the other way around. Illustrating this argument in the African context, Klantschnig (2016) argues that the well-established cannabis market in Nigeria was only 'discovered' by local authorities when the country's military rulers declared cannabis-related offences as symbols of Nigeria's crisis. As Reuter and Greenfield (2001, 159) summarise: "the demand for number creates its own supply". The more (the fight against) a certain drug is prioritised, the more that drug is observed, the greater the size of its flow appears, and the more it is prioritised.

The framing and the measurement of drug trafficking are therefore co-determined. Moreover, neither is immune from politicisation (Reuter and Greenfield 2001). This phenomenon is further magnified when drug flows happen to be measured by the very same agency that is tasked with fighting them. Law-enforcement agencies have incentives to exaggerate the monetary value of the eradicated crops (for instance by citing wholesale instead of farmgate value); political pressures may lead different agencies to claim credit for the same seizure or arrest, leading to a risk of double-counting; while massive arrests can be made more with a view to impressing international partners ('give them the data they want') than to actually fighting the criminal threat. As a result, such drug-related arrests are often selective and target 'the small fish', and fail to translate in an actual reduction of drug flows (Andreas 2010; see also Obot 2004 for a specific African case). When data are not accessible to the public – as it often happens in Africa (WACD 2014) – in addition to endogeneity and path-dependency problems that limit the scope for critical scrutiny, bureaucratic inertia can lead international institutions monitoring drug policies to preserve the drug control system and how it is measured, and to resist change (Bewley-Taylor and Schneider 2016; see also Sandor 2016 for a specific African case). The degree of prioritisation, visibility and therefore measurability of drug flows is also dependent on existing variations in criminal market structures, including their organisation, hierarchy and social embeddedness.

The in-depth analysis of the gears and wheels of the international open-source databases providing metrics of drug trafficking is therefore crucial in order to assess the reliability of information about drug trafficking in and from Africa.

Global metrics of narcotics flows

It is only with the sharpening of the focus on global governance challenges during the 1990s that measuring global narcotics dynamics and revenues became a *vexata quaestio*, with the proliferation of observers, practitioners and policy makers increasingly engaged in debating alarming figures and maps characterized by large arrows depicting drug flows. Between 1990 and 2000 the Paris-based, independent Observatoire Géopolitique des Drogues (OGD) created a repository of investigative analyses on drugs production and trafficking. Critical scholars and those activists who contested the 'war on drugs' declared by US administrations since the 1960s would typically engage in the debate by questioning the reliability and interpretation of the official data regarding the supply side of the global illicit drug market. In some African countries, too, the measurement issues regarding substance abuse (demand) and illicit trade (supply) have been known for long (Obot 2000). In recognizing that "the obstacles to statistical data collection are daunting [because] the illegal nature of the industry precludes direct measurement" (Thoumi 2005, 187), scholars were often brought to conclude that "clearly this is entirely a policy driven enterprise, without any scientific goals" and that "the numbers are in fact just decorations on the policy process, rhetorical conveniences for official statements without any serious consequences" (Reuter 1996, 18 and 2).

No doubt the sophistication of assessment and measurements has improved in the past decade. Nonetheless, challenges that have nurtured data skepticism prove to be both pervasive and persistent. Compounding enduring methodological challenges related to drug measurements, states with limited administrative capacities – as is the case of many African countries – often lack the tools, if not the political resolve, to detect concealed phenomena taking place in unmonitored remote regions. The quantification of phenomena that are by definition elusive, given their clandestine nature, poses almost unsurmountable challenges in places where the reliability of official statistics is doubtful even for perfectly legal domains (Jerven 2013). Furthermore, compared with other macro-regional contexts such as Latin America or Asia, in Africa one finds a relative scarcity of alternative sources for data integration and triangulation. The resulting fragility (or absence) of consensus about data undermines the capacity to engage in evidence-based policy making.

The remainder of this section illustrates the inner functioning and the main shortcomings of the most widely used open-source databases regarding drug trafficking flows worldwide, with a specific focus on Africa.

The US International Narcotics Control Strategy Report

The first systematic attempt to collect and make data about international drug trafficking publicly available dates back to the 1986 Omnibus Drug Enforcement, Education and Control Act of the United States of America (see Friman 2010). It was a cornerstone in Reagan's administration legislative action, which amended the 1961 Foreign Assistance Act by tying US foreign assistance to the beneficiaries' compliance with US drug policy restrictions. On this basis, since 1987 the US State Department has been producing its annual International Narcotics Control Strategy Report (INCSR), in which selected countries are ranked according to their compliance with the requirements of the 'war on drugs' revamped by President Reagan. Such countries, which were originally 32, have more than doubled in latest years, with a growing emphasis on Africa: in the four years between 2018 and 2021, INCSR have systematically scrutinized more than 10 African countries each year, including a steady focus on Cape Vert, Ghana, Morocco, Nigeria and Senegal which highlights the prominence of West Africa in this domain.

Over time the INCSR has attracted widespread criticism: the US national security agenda has influenced, if not determined, the assessment of drug production and flows, leading one to conclude that the criteria in use have little to do with numbers themselves, but are instead overshadowed by broader political concerns (Friman 2010). Following US changing priorities, over time INCSRs have laid greater emphasis on cocaine, then on opium, largely eschewing those drug-producing countries which did not seem to affect US internal market or raise security concerns. In other words, US national interests have appeared to drive, not to follow, the assessment of some countries' cooperation, to the extent that in 1987 countries such as Mexico and Panama were considered as "fully cooperating", while Afghanistan was certified to do so only after the regime changes favoured by the US first in 1990 and then in 2001. Moreover, as the INCSR is intended to be a foreign policy tool, the US is excluded by design from its rankings, in spite of its being one of the largest producing countries of cannabis worldwide (UNODC 2016).

As Reuter (1996) recalled, the INCSR methodology for data collection and treatment was initially classified, thereby hampering the scholarly community's capacity to provide constructive criticism and possibly lead to more accurate estimates. The early results of INCSR's rankings featured inconsistencies that were particularly conspicuous. For example, problems in price series were noted, and subsequent changes in estimation techniques have hindered cross-time comparisons. In recent years, more information about INCSR's methodology has surfaced: data are reportedly drawn from estimates of the growing area of targeted drugs in targeted countries, estimates of the yields rates in these areas, estimates of the processing and transformation, and estimates of markets dynamics. Data sources do not provide guarantees about accuracy: cultivation estimates largely derive from satellite imagery, yet arbitrary choices about zooming areas, poly-cropping, irregular terrain and cloud cover (a frequent phenomenon in the Andean region where coca bush is grown) severely impact on the reliability of the estimates thereby obtained. Similarly, variability of production factors, changes in weather, farming techniques, soil fertility, and diseases prevalence further complicate the estimation of the production rates of the cultivated areas. The transformation process is heavily influenced by differences in the origin and quality of the raw material used, the technical processing method employed, the size and sophistication of laboratories, or the skill and experience of local workers. Moreover, the estimates of market dynamics rely on the *potential* production of illicit drugs, which assumes that all of the cannabis, coca and poppy grown is harvested and processed into illicit drugs. However, evidence shows that substantial amounts of coca leaf and opium are consumed directly without being processed: Reuter and Greenfield (2001) suggested that more than three quarters of world opium is consumed as such in developing countries rather than being processed into heroin and sold abroad. And yet, the INCSR assumes that 100% of world opium production is converted into opiates (heroin most notably), while at the same time acknowledging that "the proportion of this opium ultimately processed into heroin is unknown" (US State Department 2021, 21).

In spite of its offering a systematic publication of data, the value of INCSR for research purposes is therefore quite limited. The latest versions of the INCSR seem to reflect awareness of these limits. A disclaimer is introduced: "We publish these estimates with an important caveat: they are *estimates*. While we must express our estimates as numbers, these numbers should not be seen as precise figures. Rather, they represent the midpoint of a band of statistical probability that gets wider as additional variables are introduced" (US State Department 2021, 20, italic original). Similar disclaimers introduce an important element of caution in a field where – as Andreas (2010) shows – the public is unmistakeably attracted by memorable, takeaway numbers that are issued by official governmental agencies, and that create sensation and confirm the imminence of a threat or justify policy failure. Given the number of variables at play, studies that invest in methodological soundness and accuracy are likely to produce results characterised by broad oscillation forks that are of little practical use, fail to confirm the sensationalist hype about the drug threat and therefore tend to be ignored and/or not funded.[7] As a result, methodological limits of existing metrics produce a proliferation of "mythical numbers" about drug trafficking, which are as inaccurate as communicatively effective, and take a life on their own by force of their unscrupulous reiteration.

The UN World Drug Report

The second-born open-source database on drug flows is the World Drug Report (WDR). The WDR has been issued every year since 1997 by the United Nations Office on Drugs and Crime (UNODC), which has received from the International Drug Conventions the official mandate to monitor Member States' drug control measures and their effectiveness. The early exercises of this sort admittedly yielded poor results. Building on the observations of scholars and experts, the sophistication of UNODC's methodology has improved over time, by differentiating market analysis by region, drug prices at farmgate, wholesale and retail level, as well as by considering both supply side and demand side data with a view to cross-checking production with consumption estimates (UNODC 2005, 2011b). Today, in fact, the data elaborated in the WDR are drawn from a multiplicity of sources - including, most notably, surveys on drug production in targeted countries and the Annual Report Questionnaires (ARQ) of UN Member States. The latest version of the ARQ was updated and standardized in 2010, so as to collect from each country information about drug legislation and policies (Parts I and II), drug demand and prevalence (Part III), and drug supply, including seizures, drug-related offences, etc. (Part IV). Additional sources include reports from Interpol, UNODC Field Offices, individual drug seizures (IDS) of member states, and the UN Survey on Crime Trends and Operations of Criminal Justice Systems. As a result of this complex setup, the WDR is seen as "the main drug data source in the world… authoritative and objective" (Thoumi 2005, 188). Despite methodological improvement in the elaboration of this wealth of information, however, the data sources and processing of the WDR still pose a number of challenges.

The surveys on drug production in targeted countries represent the bottom-line for the analysis of the global supply of illicit drugs. UNODC supports national monitoring systems which carry out almost yearly surveys on the production of opium poppy and coca bush for the main producing countries (Afghanistan, Myanmar, Laos and – lately – Mexico, for opium; and Colombia, Peru and Bolivia for coca). Significantly, the publication of surveys on cannabis production in Afghanistan stopped in 2012, in Morocco it was discontinued in 2005,[8] and in Nigeria it was attempted several times, but never ultimately approved by local authorities.[9] These limitations have brought WDR drafters to conclude that "given the high level of uncertainty and the continuing lack of information in many cannabis-cultivating countries, the estimates of global cannabis herb and resin production have not been calculated" (UNODC 2020, 46; similar statements can be found in previous years' versions of the WDR, too).

The estimates of the cultivation and production of opium, cocaine and (when possible) cannabis are similar to those employed by the INCSR, mentioned above, and therefore imply the same limitations. However, UNODC methodology recognises the need to adjust remotely made estimates, resulting from satellite imagery and abstract conversion models, with data from field surveys and interviews. Theoretically, field research would be needed at least once a year, possibly in every bioclimatic niche, but security constraints, economic considerations and variable degrees of country cooperation seriously hinder access and the actual feasibility of these studies. Given all these limitations, UNODC experts concede that "we hope we are correct, but we acknowledge a very high deception rate. […] The margin of error of supply estimates can be very significant, 10–40% for opium, even more for cocaine".[10] The conversion of the estimated yields into marketable products adds yet another set of unknown variables, and the 2020 WDR intriguingly concludes that "the margins of error of these conversion ratios – used to calculate the potential cocaine production from coca leaf or the heroin production from opium – are not known" (UNODC 2020, 45).

The analysis of drug seizures reported by member states in ARQs and IDSs further complicates the picture of drug supply. To ensure cross-place and cross-time comparability, the conversion rates of seized products are arbitrarily postulated (for instance, 10 kg of opium are seen as equivalent to 1 kg of morphine or heroin). Moreover, UNODC generally assumes that seizures amount to the 10% of the overall production, and this measurement is particularly sensitive for those drugs whose global supply is estimated solely on the basis of seizures, such as synthetic drugs and amphetamine type stimulants (ATSs). The UNODC places indeed a great deal of emphasis, and of confidence, on seizures data: "seizures are the most comprehensive indicator of the drug situation and its evolution at the global level" (UNODC 2020, 50), and already back in 2005 it claimed to have an almost complete dataset about seizures (UNODC 2005). Yet the overall reliability of seizures data is highly controversial. First, because data collection and sharing becomes particularly challenging when quantification regards phenomena that are by definition not only elusive, but also criminalised: anecdotal evidence from West and North Africa suggests that drug flows typically target areas where state authorities are impotent and unable to provide data, or where they are connivant and uninterested in drawing attention. Secondly, and linked to that, because according to UNODC's field researchers "seizures largely focus on flights interceptions, while 98% of shipments occur by sea".[11] Ethnographic accounts (Nordstrom 2007; Rastello 2010) corroborate this hypothesis, thus offering a chance to introduce the value of field research. Researchers employing site-intensive methods have systematically observed variations in the involvement of law-enforcement agencies in drug trafficking business, not least in Africa, and their disruptive impact on data reporting about drug flows (see for instance Kemp et al. 2013). However, WDRs' methodology heavily relies on state-reported seizures data, and leaves very little room for ethnographic methods of data collection, a circumstance that increases the risk that publicly available figures about drug flows and drug supply could be seen as deceptive. As a result of these structural uncertainties, significant ambiguities remain in the interpretation of seizure figures: does an increase in seizures imply that drug trafficking is rising or that law enforcement is being more effective? Does a decrease in seizures indicate a contraction of drug trafficking, or a greater degree of concealment and corruption?

On the demand side, too, the reliability of WDRs' figures is not exempt from criticism. In several cases, and especially in Africa, UN Member States lack the resources (treatment and services for drugs users) or the technologies (wastewater analysis) that would allow to collect key data estimating drug prevalence rates. Lack of political motivation is also an issue: moral and political considerations drive a widespread attitude of denial, as many countries in the Global South see drug demand and use as a 'luxury problem' of rich countries, and therefore refuse to collect and share information about it. This phenomenon is particularly acute in Africa (see WACD 2014), where the quality of the drug-use data reported to UNODC is "a complete catastrophe":[12] typically very few – if any – African countries respond to the ARQ III on drug use. And whenever this data is unavailable, it is extrapolated from regional average estimates. Even in cases where detailed information is available, however, there is often considerable divergence in the definitions used (chronic or regular users) and in the most appropriate methodology to access the target population (household surveys, targeted population surveys or aggregate registry data). These observations fuel a considerable degree of scepticism about the quality of WDRs drug-use data, particularly regarding the African continent (Bewley-Taylor and Schneider 2016).

Furthermore, short-term changes in the consumer markets are first reflected in purity – not price – changes, but law-enforcement agencies often lack the training and the resources to disentangle prices, purity and potency. And even if they do not, different states' standards and changing conversion rates make these data extremely difficult to harmonize, thereby limiting the scope for cross-place or cross-time comparisons. Data collection and analysis, however, remain contentious also for in-country studies: as Reuter and Greenfield (2001, 169) observe, "the principal conceptual problem is that buyers cannot report a price in dollars per standardised unit, but only how much they spent on some quantity of white powder, the contents of which is unknown". As a result, existing figures, when they are available, do not provide a classic statistical confidence interval, with a clear central tendency, but a mere range. Given that the latter's width can be considerable, cross-time variations of drug prices are more easily dismissed as a statistical error.

On such a shaky ground, one can conclude that, generally speaking, the market analysis of drug flows appears to be a daunting task, and even more so when Africa is in focus.

The EU European Monitoring Centre for Drugs and Drug Addiction Reports

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) was established in 1993 as a decentralised agency of the EU, based in Lisbon, to provide Member States with a factual overview of drug trends in Europe. EMCDDA issues two main open-source reports on drugs: the European Drug Report (EDR), published yearly since 1996, and the EU Drug Markets Report, jointly published with EUROPOL every three years since 2013. Unlike other drug-monitoring international institutions, the EMCDDA places a particular emphasis on epidemiological indicators intended to capture the demand-side of drug markets, which are the main focus on the EDR. The monitoring of the supply side, which is the main object of the Drug Markets Report, is endowed with fewer resources, and can be seen as an ancillary information vis-à-vis health-related data.

Since the late 1990s, the EMCDDA has improved the standardisation of its procedures for data collection and treatment by establishing a network of national focal points (NFPs) in each Member State (plus Norway and Turkey), and by adopting a methodological handbook to ensure the quality and comparability of the data supplied by national agencies and NFPs, including standardized formats for tables, reports and surveys. Coordinated and assisted by the EMCDDA, NFPs are requested to collect and share data, including general probabilistic surveys of drug use among the adult and school populations; prevalence surveys targeting problem drug user populations (defined as "injecting drug use or long-duration/regular use of opioids, cocaine and/or amphetamines"); quantitative and qualitative data about access to and demand of drug treatment; the prevalence of drug-related infectious diseases and deaths; drug seizures (including also precursor seizures, stopped shipments, dismantled drug production facilities, etc.); drug-related offences; and indicators about seized drugs price, purity and potency. Beyond NFPs, data on the drug supply and markets are reported by law-enforcement agencies, or sourced via automatized programmes monitoring open-source information and press-releases about drug trafficking in Europe.

In spite of the efforts toward harmonisation, discrepancies still exist with regard to how data are collected and framed in different states. The quality and comparability of this data is heavily influenced by changing legal frameworks across countries at different points in time, and tend to reflect the different priorities of member states' law-enforcement agencies. Drug-related offences also depend on the modalities of law enforcement in different contexts. Recording procedures, definitions and statistical units vary significantly: for instance, some countries record and report information about drug offences, others about the (presumed) offenders. The indicator of drugs' price, purity and potency is admittedly "the less evident one", as EMCDDA experts acknowledge.[13] The cooperation with EUROPOL can do little to limit these gaps, as most of the organization's attention is today diverted towards terrorism and irregular migration. Fully aware of these limitations, EMCDDA experts put a lot of caveats around the data they publish, and acknowledge that their figures do not pretend to estimate the actual volumes of drug trafficking in Europe, but limit themselves to highlighting some plausible trends.

In the past, EMCDDA did neither collect nor publish data about non-European countries, while relying instead on those made available by other agencies, most notably the INCSR and the WDR. The recognition of their criticalities, mentioned above, has led EMCDDA to strengthen its cooperation with non-European countries since 2014. As part of this effort, the EMCDDA organises every year an extended NFPs meeting, inviting the representatives from the agency's key partner countries in the European neighbourhood area. Through institutional support, EMCDDA has shared innovative monitoring approaches to step up its own understanding of the developments in transnational drug markets and how these impact on security and health. And within this framework, once notices a clear focus on Africa: EMCDDA-led capacity building and research have especially targeted North (Micallef 2019) and West (Schultze-Kraft 2016) African countries. In spite of these promising steps, however, EMCDDA is far from having the capacity to engage in systematic data collection and to offer a comprehensive picture of drug flows in Africa. As a result, even the EMCDDA appears unable to tackle the shortage of reliable data and measurements regarding drug flows in Africa.

Drug data collection and sharing in Africa: a bottom-up perspective

The analytical acumen of scholars trained in quantitative research methods has enabled the identification of the shortcomings in-built in existing open-source drug trafficking databases. Compounding these observations, ethnographic accounts highlight how the peculiarities of the African context add their own specific challenges to the obstacles of measuring drug trafficking.

Although African countries are not known to be among the largest producers of coca and opium, they do provide a major contribution to the global supply of cannabis and different sorts of synthetic drugs. Nigeria, Morocco, Lesotho, South Africa, Guinea and Kenya are all cases in point. However, methodological challenges concur to jeopardize the supply estimate of these drugs: poly-cropping and indoor production largely shield cannabis and synthetic drugs production from aerial detection. At the same time, as mentioned above, governments of African countries known to be major drug hubs, such as Morocco and Nigeria, have showed little appetite to facilitate or authorize international agencies to carry out field research about drug production and trafficking in their territories. While examples of national surveys of drug use have been occasionally issued in/on African countries, estimates of the overall amount of drugs produced in Africa are not simply inaccurate: they do not exist. UNODC's regional assessments are now issued only occasionally and irregularly.

Seizures data can do little to bridge the knowledge gap about the supply-side of drug trafficking in Africa. It cannot be assumed that all African law-enforcement agencies have the capacity and/or the willingness to perform seizures, collect accurate data, and share them in good faith with the international community. There is no shortage of research on state-sponsored protection rackets (Snyder and Duran-Martinez 2009) documenting significant patterns of cooperation and collusion, whereby state authorities protect, sponsor and eagerly contribute to the organizations of drug trafficking, not least in Africa (Strazzari 2014; Gallien 2020; Raineri and Strazzari 2021). Within such an institutional setup, data management becomes a politically charged issue. At the same time, the presence of state-sponsored protection rackets and the emergence of situations of *pax mafiosa* – which are not in short supply in Africa[14] – blur the correlation between drug trafficking and violence, thereby depriving scholars of a valuable proxy indicator of drug market dynamics. And indeed, the regulation of drug markets through criminal violence appears to be way less common in Africa than it is in Latin America, just as much as the public discussion about the reduction of drug-related violence (WACD 2014).

Lack of resources and capacity to monitor and tackle drug flows also provide a valuable excuse to ensure a very low degree of transparency. The funding of political parties – that is, the organisational articulation of consent and power – is a case in point. Another example of opacity and manipulation regards those African states which may make use of drug data to accuse neighbours of destabilisation, as it happens for example between Algeria and Morocco, thereby further eroding the credibility of data themselves. More generally, African countries show a tendency to evade the regular submission of drug-related data, even if this is mandatory under the current International Drug Conventions. Their response rate to ARQs remains remarkably low, not only for the sensitive domain of drug use (as discussed above), but also more in general: only 24 out of 53 countries (45%) submitted at least one ARQ to UNODC in 2004; ten years later, in 2014, they were only 12 (22%). UNODC experts confirm that "the situation is not improving at all, no real progress has been observed since the 1990s".[15]

In recent years, international institutions such as UNODC, the United Nations Interregional Crime and Justice Research Institute (UNICRI) and EMCDDA have offered trainings to law enforcement agencies worldwide, and most notably in Africa, with a view to enhancing the domestic capacity of data collection and to improving the quality of drug-related data emanating from Africa. However, in many African countries these counter-narcotic agencies are poorly functioning, under-staffed, with no operational budgets, and demotivated, as a result of budget constraints, corrupt management but also of cultural norms. Illustrating this, the remainder of this section builds on ethnographic evidence, including primary and secondary sources, to provide a quick-but-thick description (Wedeen 2010) of the inner workings of the national agencies tasked with generating and sharing drug trafficking information in three African countries: Nigeria, Senegal and Mali. Several criteria have led to the selection of these country-cases: their salience for Africa's drug trafficking flows (as highlighted in UN, US and EU reports); their belonging to the same sub-region – West Africa – enabling more cogent comparisons; and the considerable spectrum of variation they cover, including small (Senegal) and large (Mali, Nigeria) countries, least-developed (Mali) and middle-income (Nigeria, Senegal) economies, stable (Senegal) and unstable regimes (Mali, Nigeria), francophone (Mali, Senegal) and anglophone (Nigeria) post-colonial heritage. Albeit not immediately generalizable, then, insights drawn from these cases are arguably indicative of broader dynamics affecting much of the continent, and concur to explain the uneven and overall poor implementation of global drug prohibition regimes in Africa (Carrier and Klantschnig 2020).

Given Nigeria's recognized prominence in global drug markets, Nigeria's National Drug Law Enforcement Agency (NDLEA) is today one of the largest and best trained counter-narcotics agencies in Africa.[16] It also served as a model to establish and train counter-narcotics agencies in smaller African countries, including Guinea-Bissau and Sierra Leone, thereby highlighting the significance of the case herein analysed. And yet, the growing size has burdened the NDLEA, and made it subject to patterns of bureaucratic capture: mandates' overlaps among NDLEA's sub-units generate conflicts and confusion, whose operational repercussions in the field of data collection can include slow processing, double-counting and turf wars. This is also due to the fact that NDLEA agents are reportedly less trained for data collection than for law-enforcement purposes, and (very) few are those with a scientific or research background. As a result, NDLEA officers tend to report seizures, drug-related offences and eradication figures, but are haphazard when it comes to purity-adjusted drug prices. The collection of information about epidemiologic indicators and prevalence rates attracts limited interest and is delegated to small NGOs running pilot projects with targeted populations. The lack of systematic data collection makes a comprehensive figure of the demand side of drug markets unavailable. Similarly, the NDLEA has renounced to provide estimates about drug production in Nigeria, most likely due to the methodological challenges of quantifying cannabis and synthetic drugs production discussed above. These observations have led scholars to conclude that "in Nigeria, research and the collection of statistics is one of the lowest priorities of the national drug agency and usually conducted on the sidelines of law enforcement activities" (Klantschnig 2016, 133). In general, available data seem to be less representative of drug flows as such (as the NDLEA is very eager to acknowledge, too) than of NDLEA's effort to tackle drug flows. This is part of a bureaucratic struggle aimed at attracting recognition and resources from the federal government and its international partners, especially with reference to the certification of compliance with US drug policies (Obot 2004; Klantschnig 2016). The very establishment of the NDLEA, in 1989, can be interpreted in this light, as an exercise in signalling good intentions. As a result, figures of drug seizures tend to increase whenever a new executive chief of NDLEA is appointed, and decline again as soon as the relationship between the agency, the government and drug traffickers normalise. One can easily infer from these observations how inaccurate proxies of the actual dynamics of drug trafficking NDLEA's produced data are. As the last UN-led large-scale research on drugs in Nigeria reportedly dates back to the late 1990s (Klantschnig 2016), however, both the UN and the US are usually keen on relying on the data generated by the NDLEA for their own global measurements.

Looking at Senegal, Sandor (2016) carried out an extensive ethnographic investigation of the counter-narcotics *dispositif* at Dakar's international airport, allegedly one of the most important drug trafficking hubs in the continent. In the framework of UNODC-sponsored Cocaine Route Programme, Senegalese law enforcement agencies have been encouraged to create a specialized interagency Joint Airport Interdiction Task Forces (JAITF) drawn from the customs, the gendarmerie, and the national police. Interpol and the World Customs Organization have trained JAITF members on advanced anti-trafficking techniques involving the mastery of 'smart-technology' methodologies to enhance the capacities of forecasting, intercepting and reporting drug flows. In a context in which border controls are known to generate extralegal revenues that fuel patronage networks (Raineri 2021), interagency cooperation was meant to reduce bureaucratic capture by introducing a system of mutual checks, and therefore increase transparency and effectiveness in drug trafficking monitoring. UNODC officers in Dakar, however, concede that this initiative only led to a "multiplication of corruption"[17] without appreciable impact on the overall opacity of drug flows reporting in Senegal. Sandor (2016, 497) attributes these shortcomings to the "distinct operating cultures and practices" of Senegalese law enforcement agencies, noting how the material incentives offered to individual agents by either the international partners, their domestic institutional hierarchies, or the traffickers themselves appear to influence interceptions, seizures and reporting. For instance, by rewarding the quantitative amount more than the qualitative importance of the arrested traffickers, international capacity-building programmes arguably contribute to distorting drug measurements. Moreover, the overall visibility of the drug trafficking phenomenon in Senegal is influenced by the country's image Senegalese political leaders are eager to sell to international audiences: that of a stable, willing international partner, yet vulnerable to borderless threats and therefore in need of international assistance, and resources. These observations highlight the considerable politicisation, and by consequence the poor reliability, of drug trafficking data made available by Senegalese law enforcement agencies.

In Mali, the Central Narcotics Bureau (*Office Central des Stupéfiants*, OCS), was created in 2010 by pooling all the anti-drug units of Mali's law enforcement agencies (with the notable exception of the customs). As numerous reports subsequently confirmed, however, in those years the Malian political leadership maintained murky relations with notorious drug barons in the region (Lacher 2012; UNSC 2020). This problematic circumstance has considerably affected the early capacity of the OCS to carry out investigations, operate seizures, and share information with international partners, as OCS officers themselves acknowledge in retrospect.[18] Even in the infamous Air Cocaine case,[19] the prosecution that eventually took place owing to an international outcry did not lead to any arrest nor seizure.[20] In subsequent years, the collapse of the Malian regime and the multi-faceted crisis that ensued drastically reduced the state's foothold in the north of the country. Security hindrances thus compounded enduring institutional restraints in undermining the OCS capacity to monitor, let alone control, the largest portions of Malian territory, including the regions where most drug trafficking flows are supposed to take place. Significantly, over the last years Malian authorities have recorded very few drug seizures, all of them in Bamako and involving modest amounts of illicit substances. This contrasts sharply with the numerous large-scale drug seizures which occurred in neighbouring countries over the same period, which UN experts have been able to trace back to criminal networks based in Mali (UNSC 2020). Overall, one is left with the impression that in the drug trafficking data exchange economy, the OCS is more on the demand- than on the supply side, including regarding its own country. And even when seizures do occur in Mali, the OCS lacks the capacity to carry out systematic analyses of the narcotics' purity and potency. In recent years, the leadership of the OCS has demonstrated an increasing awareness of the problem of drug consumption in Mali, yet no meaningful epidemiological surveys have been carried out to illuminate the demand-side of local drug markets, and related treatments. As a result, the understanding of Malian drug markets is severely limited, and largely relies on evidence that is anecdotal, when not speculative and grossly under-representative of the actual phenomenon. Sure, intelligence tips may provide better data, but when it comes to sources and methods intelligence is by definition untransparent: hence, we are left with the fact that when it comes to Mali it is mainly on such poor data evidence that international drug trafficking metrics are built.

NDLEA's, JAITF's and OCS's limitations are arguably common to many law-enforcement and counter-narcotics agencies in Africa (with the possible notable exception of South Africa), as elsewhere. As a result, all attempts to measure the different dimensions of drug trafficking in Africa have to face major challenges in terms of data comparability, data representativeness, and most notably reliable data sourcing.

Conclusion

A large body of literature exists on how over the past few decades international drug control measures that were deployed against drug supply in Asia and Latin America have contributed to opening new trafficking routes and new markets in Africa, and how these developments have impacted upon African states and societies. In spite of much clamour about the emergence of Africa's alleged narco-states, from Nigeria to Guinea-Bissau, the framing, measuring and quantifying of drug production, trafficking and consumption remain problematic tasks, especially in Africa.

This article shows how practical challenges, methodological inconsistencies, limited access to data sources, poor quality of data themselves, and the slippery terrain of numbers' politicization, all suggest that the trends that can be evinced by existing drug figures should not be considered as an accurate picture of reality of drug flows taking place in Africa. As a result, despite (claims of) recent advances in drug trafficking measurements, in the present state existing open-source metrics of drug trafficking can do quite little to inform evidence-based debates and policies about drug trafficking and organised crime in Africa.

This finding challenges the dominant positivist epistemology of organised crime research, which strives to collect ever more refined data – assumed to represent a "mirror of nature" (Rorty 1979) – in order to provide an objective description of the phenomenon investigated and infer (cor)relations via econometric methods of data analysis. This is not to say that researching drug trafficking from a positivist standpoint is an idle exercise: the best approximation available is still better than groping in the darkness. Yet the risk of a biased reading and undue extrapolations remains dangerously high, both epistemologically and politically.

Against the grain of positivist epistemologies, then, there is a need for realising that figures on drug trafficking do not speak by themselves. Instead, they need an interpreter (Latour 1999). Embracing an interpretivist perspective on organised crime and drug trafficking research thus means that, considering the inherent data limitations that we have exposed, the point is not just to produce more or more accurate data, but rather to make sense of the limited data that we have, including meaningful data gaps. This is not only a critical move highlighting the inherent limits of positivist epistemologies, but also one that contributes to scientific progress in as much as it makes *more* reality speak by supplying additional interpretations to otherwise mute, meaningless facts (Adler 1997). It prompts the observation that absence of data is a datum in itself. While available estimates can at best authorize the researcher to speak of plausibility and detecting some trends, we argue that the (poor) legibility of drug trafficking dynamics is to be evaluated as a meaningful expression of the mechanics of state (un)making. This means anchoring the interpretation of data related to drug dynamics to the parallel modes of governance which are often encountered in African countries, whereby hybrid practices of racketeering, extraction or protection tend to blur criminal justice categorisations of state legality and criminal deviance (Strazzari and Zanoletti 2019; Torkelson 2014). From this perspective, the data that we (do not) have are arguably a product of the enduring ambivalence between the official discourse on organised crime and the diffuse, social-clientelist practice of power, which often feature remote governance via co-optation of local bigmen and condoning, if not protection, of extra-legal economies.

From this perspective, a relational interpretation can enable a deeper understanding of social practices labelled as 'criminal' and help avoid the spectralisation of organised crime and drug trafficking, of which the absence of reliable data is an indicator. By relational interpretation, we refer to the acknowledgement that the definition, apprehension, monitoring and overall visibility of organised crime – which underpin the measurement of its manifestations – are inherently political phenomena. As such, their meaning and value depend on the interests, norms and power hierarchies that define one's position in the transnational field of crime and counter-crime practices. From this perspective, the triangulation of different sources of evidence including purposedly-designed ethnographic studies can contribute to tackling the biases of quantitative-oriented datasets. This does not amount to the naïve belief that qualitative information on organised crime collected through interviews with practitioners (including with traffickers and facilitators themselves) could ever provide an accurate and objective representation of the activities and links between actors, as organised crime scholars have long recognised (Hobbs and Antonopoulos 2014). Instead, ethnographic research is best suited to helping unearth, understand and interpret actors' situatedness and positioning in the political and moral economies revolving around illicit markets, and their measurements (Klantschnig 2016; Bencherif 2021; Dobler 2022).

This approach therefore invites to treat drug trafficking data – both quantitative and qualitative 'evidence' – not as proxies that would reveal 'the reality' of criminal under- and over-worlds 'out there', but socially meaningful performances, whose appearance and disappearance is entrenched in the specific power-knowledge dynamics of hybrid state (un)making. And from this perspective, absence of reliable data is not a mere knowledge gap, but a datum that calls for interpretation and investigation.

Notes

1. See the websites of these initiatives, https://www.illicitflows.eu and https://www.unodc.org/unodc/en/ccp/index.html.

2. One needs to acknowledge the existence of other drug metrics, which are not open source. These are usually available for law enforcement purposes, but are of little help to inform scholarly debates on rigorous flows' quantification.

3. Part of this research was carried out in 2017 in the form of a preliminary baseline assessment for the ENACT Africa project (Enhancing Africa's capacity to respond more effectively to transnational organised crime). We are grateful to ENACT for the opportunity to engage in this study and share some of its findings.

4. Entry *drug trafficking* on the UNODC website: https://www.unodc.org/unodc/en/drug-trafficking/index.html.

5. For instance, the 1961 Single Convention ranks prohibited drugs depending on a qualitative definition based on effects, rather than on a more stringent quantitative definition based on strength.

6. For instance, inconsistencies between the 1961 and the 1988 conventions have led to contradicting results as to whether drug possession and personal use of illicit drugs is in itself legal or illegal under the existing regulations.

7. For instance, Rocha's (1997) estimates of Colombian net cocaine revenues in the early 1990s were right in considering several scenarios, but ended up producing a very wide range of likely figures, oscillating between $ 200 mln and $ 4 bln.

8. After 2005 Morocco has denied UNODC the right to carry out surveys on cannabis production, and national authorities only accepted to provide UNODC with data from unverified sources.

9. Remote interview with UNODC expert, June 2017.

10. Remote interview with UNODC expert, June 2017.

11. Remote interview with UNODC field officer, May 2017.

12. Remote interview with UNODC expert, June 2017.

13. Interactions with EMCDDA experts, June 2017 and October 2018.

14. On the concept of *pax mafiosa*, see Gambetta (1993). On its application to Africa, see Raineri and Strazzari (2015), as well the broader literature on the criminalization of the African state (Bayart et al. 1999).

15. Remote interview with UNODC expert, June 2017.

16. This section is largely based on a remote interview with an expert having conducted fieldwork with the NDLEA, done in June 2017.

17. Interview with UNODC officer in Dakar, December 2013.

18. Interview with OCS officers in Bamako, November 2019.

19. In November 2009, the burnt-out fuselage of a Boeing 727 believed to carry 10 tons of cocaine was found in the Saharan northern region of Mali. According to subsequent reconstructions, upon landing the content was quickly loaded on 4 × 4 vehicles, which immediately left in different directions, before authorities lost track of the convoys.

20. Interviews with Malian prosecutors in Bamako, December 2013 and November 2014.

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The research upon which this article is based has complied with the highest standards of ethical research, including in terms of informed consent: all the interviewed individuals have been fully informed of the purpose of the research, have freely accepted to share information, and their contributions have been anonymized so as to preserve confidentiality. No animals have been involved in this research.

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