



# **ANALYSIS OF THE UNODC WORLD DRUG REPORT 2022: DRUGS, DRUG POLICY AND THE ENVIRONMENT**

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# Executive summary

- The 2022 World Drug Report was released at a moment marked by the aftermath of the COVID-19 pandemic, global economic turmoil, multiple armed conflicts, a climate emergency, and increasing calls to end the so-called ‘war on drugs’. And yet, the Report’s conclusions and policy recommendations disappointingly keep to ‘business as usual’, by refusing to contemplate alternatives to criminalisation and interdiction.
- For the first time in the history of these annual reports, the United Nations Office on Drugs and Crime (UNODC) dedicates its thematic chapter to the issue of drugs and the environment, with the UNODC coming to the welcome conclusion that the international community should ‘mainstream the objective of “do no harm to the environment” in drug policy responses’. While the Report provides important takeaways, it also contains significant blind spots and questionable assertions that are highlighted in our analysis.
- Firstly, the Report’s claim that damage to the environment is mostly identified in areas with little to no State presence should be questioned. In fact, recent research has pointed out that rural and underdeveloped regions are not defined by State absence, but rather by particular modalities of State presence, and that such State intervention can have equally, or even greater, damaging impacts on the environment as State absence, for instance by undermining modes of rural governance and environmental protection associated to farmer and indigenous land control.
- Secondly, the Report fails to acknowledge the harmful effects of the ‘war on drugs’ approach for the environment, especially with regards to its discussion – and questioning of the mere existence of – the ‘balloon effect’. In the context of crop cultivation, the ‘balloon effect’ refers to the displacement that follows the forced eradication of illegal crops, with efforts to eliminate cultivation in one area simply leading to cultivation shifting elsewhere, and driving ecological harms such as deforestation. Contrary to what the World Drug Report suggests, the balloon effect is a well evidenced phenomenon, and it should be taken into consideration when assessing the environmental impacts of responses to cultivation.
- Thirdly, the UNODC offers questionable comparisons of the carbon footprint associated with the production of cannabis, cocaine and cocoa beans. This analysis is problematic in many respects, including the fact that calculation of the carbon footprint of cocaine includes the impact of land deforestation whereas that is not included in the case of cocoa beans, and that cocoa beans and cocaine are simply not comparable products, as the former is a raw material whereas the latter is the result of a chemical and industrial process.
- Fourthly, when discussing ‘community responses’ towards environmental protection, the Report fails to examine how different drug policy regimes impact on these community responses. These drug policy regimes are indeed a determining factor in shaping the prospects for addressing drug-related environmental challenges.
- Finally, the Report refuses to acknowledge how legal regulation may address some of the environmental harms identified, for instance by allowing legal outdoor cultivation of cannabis in Global South countries that have traditionally produced the plant, which would have a much lower carbon footprint than indoor cannabis cultivation in the Global North. This, however, would also require addressing the tensions with the current UN drug control regime. It would also force a reckoning with the colonial legacy in drug policy narrative and practices – an issue that is entirely ignored in the 2022 World Drug Report.
- To conclude, while the efforts made by the UNODC to consider the environmental impacts of drugs and drug policies may be laudable, the UNODC continues to be behind the curve as it refuses to acknowledge the severe consequences of the ‘war on drugs’ rationale, to challenge the range of human rights abuses associated with this approach, or to propose meaningful options for reform. Unless the UNODC aligns itself with the work of other UN entities to promote an approach to drugs truly grounded in human rights, health, development and environmental protection, there is a real risk that it will quickly get out of step with broader efforts to building a strong and unified UN response to pressing world challenges.

## Introduction

As in previous years, the 2022 World Drug Report provides an impressive range of data and analysis on the so-called ‘world drug problem.’<sup>1</sup> Following an overall summary of findings, points of interest, regional highlights, conclusions and policy implications in Booklet 1, Booklet 2 offers a global overview of drug demand and supply. Booklets 3 and 4 then analyse drug market trends, one focusing on cannabis and opioids, while the other covers cocaine, amphetamine-type stimulants and new psychoactive substances. Finally, this year’s thematic chapter, included in Special Booklet 5, provides a welcome analysis of the interrelationship between drugs and the environment.

This year’s report, we are told by UNODC Executive Director Ghada Waly in her Foreword, is ‘the first World Drug Report of the post-pandemic world’, from which countries ‘have emerged from cycles of lockdowns to confront a “new normal”’. The analysis presented by the UNODC also comes at a time when the international community is grappling with ‘multiple conflicts, a continuing climate emergency and threat of recession’, as well as a strained and fatigued multilateral order. In parallel, the alarm is being raised more strongly than ever before on the urgent need to address climate change. In early November, when addressing the COP27, UN Secretary General Antonio Guterres strongly called the attention of the international community of the fact that: ‘we are on a highway to climate hell with our foot on the accelerator... It is either a climate solidarity pact or a collective suicide pact.’<sup>2</sup>

At the same time, the devastation caused by punitive drug control has come under increasing scrutiny. Just as the 2022 World Drug Report was being published, 13 UN Special Procedures released a joint statement concluding that ‘the “war on drugs” undermines health and social wellbeing and wastes public resources’ while having ‘far-reaching negative implications for the widest range of human rights.’<sup>3</sup>

The current geopolitical context presented an ideal opportunity for the UNODC to think differently about drug policy, and present forward-looking recommendations for the future of international drug control. Indeed, placing its analysis of trends in illegal drug markets and related policies into this broader context would have enabled the UNODC to consider how drug policies can better contribute to the UN objective of ensuring a ‘rapid transformation of societies,’<sup>4</sup> through efforts to protect human rights,

social inclusion and the environment, and promoting good governance, economic stability, safety and security, especially for vulnerable and marginalised groups. It is highly concerning, therefore, that the Report’s conclusions and policy recommendations keep to the rhetoric of ‘more of the same’, as will be highlighted throughout our analysis.

Be it on the pressing issue of climate change or that of drug policy, the international community no longer has time for ‘more of the same.’

The data presented in the World Drug Report leaves the reader with no doubt that the global drug market is thriving, with the production of cocaine reaching record high levels, as have seizures of amphetamines and methamphetamines globally.<sup>5</sup> As for the number of people who use drugs, one in 18 people aged 15 to 64 have used a drug in 2020, representing a 26% increase over the last decade – although we are reminded that part of this increase is due to overall population growth.<sup>6</sup> The Report also underscores how illegal drug markets are spreading in areas affected by weak governance and conflict, exacerbating already fragile political environments.<sup>7</sup>

Despite the clear conclusion that the world drug market remains more vibrant than ever before, no reconsideration of the punitive drug policy framework is made within the Report. This is particularly obvious in the UNODC’s analysis of the health harms associated with drug use. There, the report provides staggering numbers, with 494,000 drug use-related deaths recorded in 2019 alone, one in two people who inject drugs living with hepatitis C (representing 5.5 million people), one in eight living with HIV (1.4 million people), and the number of overdose deaths in North America having reached record high levels during the COVID-19 pandemic.<sup>8</sup>

Ms. Waly’s opening remarks in the Foreword summarises the way in which the UNODC assesses this dire situation: ‘Drugs can kill’. Despite such a statement, and the alarming numbers presented in the Report, the UNODC does not, at any time, mention the words ‘harm reduction’ within the 2022 World Drug Report, ignoring overwhelming evidence that harm reduction can, and does, prevent drug-related risks and harms. Instead, the Report simply mentions specific interventions such as ‘HIV prevention and treatment’, ‘opioid-assisted therapy’ and ‘community-based provision of naloxone’, while steering clear of promoting an overall harm reduction approach to drug use and dependence. The UNODC’s failure to promote harm reduction

stands in stark contrast with the UN system Common Position on drugs<sup>9</sup> and the individual positions of other UN entities such as UNAIDS,<sup>10</sup> the UN Committee on Economic, Social and Cultural Rights,<sup>11</sup> the UN Working Group on Arbitrary Detention,<sup>12</sup> all of which have come out strongly in favour of the approach.

Equally problematic is the UNODC's ongoing refusal to question how punitive drug control itself has exacerbated the health risks and harms associated with drug use, by pushing people into adopting more risky behaviours to avoid detection by the police, deterring them from accessing services for fear of arrest and incarceration, and exacerbating the social stigma associated with drug use. Likewise, when discussing how women are particularly affected by the lack of access to treatment services, no mention is made of the heavy barriers created by criminalisation.<sup>13</sup> And while Booklet 3 does discuss some decriminalisation policies in countries like Malta, the Netherlands and South Africa, the UNODC disappointingly does not make a clear link between these policies and the positive health outcomes they have achieved for people who use drugs.<sup>14</sup> The UNODC's failure to embrace and promote the decriminalisation of drug use and related activities once again puts the Office at odds with the positions taken by other UN entities on this policy<sup>15</sup>, and with the recommendations of the UN System Common Position on drugs which is unequivocal in its support for decriminalisation.<sup>16</sup>

Similarly, while the UNODC refers to legal regulation at various points in the Report, in particular in Booklet 3,<sup>17</sup> it is mainly to express fears over the 'wide-ranging impact on public health and safety, market dynamics, commercial interests and criminal justice responses.'<sup>18</sup> In the context of legal regulation, the UNODC offers the sensible observation that countries that have legalised cannabis, or are planning to do so, should 'prioritize public health and safety as commercial interests lobby to expand the market for legal cannabis'. And yet, the analysis presented in the Report fails to acknowledge that highly commercialised models are not the only policy option available for legally regulated cannabis markets.

In addition, this year's Report once again fails to condemn the widespread human rights abuses committed in the name of drug control – a major issue over which IDPC has repeatedly expressed concerns.<sup>19</sup> This is clear as the UNODC refuses to question the devastating impacts of criminalisation on people who use drugs, but this can also

be observed as the Report discusses supply-side issues. For instance, when assessing the effectiveness of forced eradication campaigns taking the example of Colombia, the UNODC simply focuses on whether such campaigns have managed to decrease overall levels of cultivation,<sup>20</sup> while ignoring the myriad human rights abuses that local farmers and communities have suffered as a result of forced eradication, often carried out by security forces as part of a militarised 'war on drugs' approach. These include, to name a few, the environmental consequences of aerial herbicide spraying (or 'fumigation', an issue to which we will return); the killings of, and other forms of violence faced by, subsistence farmers and human rights defenders in cultivation areas; or violations of the rights of Indigenous peoples who are denied access to controlled plants for cultural or religious purposes.

Interestingly, some effort has been made within the Report to question how drug policies (and not simply drug crop cultivation and production) have affected the environment. As it is the first time in the history of the production of the annual World Drug Reports that the UNODC dedicates one of its thematic chapters to the issue of drugs and the environment, the rest of our analysis of this year's report will focus on Booklet 5.

Indeed, coming seven years after the landmark COP 21 Paris Agreement which committed countries to dramatically cut their greenhouse gas emissions in order to limit global heating,<sup>21</sup> the UNODC's focus on the environment in its World Drug Report for 2022 is long overdue and a welcome contribution to efforts to foster UN system-wide coherence and align drug policy with the 2030 Agenda for Sustainable Development. Unfortunately, as will be discussed below, the UNODC's business-as-usual attitude displayed throughout the 2022 Report, including on issues related to the environment, means that it continues to miss key opportunities to support the work of other UN entities, and to contribute to building a strong and unified UN response to pressing world challenges. This very likely risks undermining the best efforts to achieve the Sustainable Development Goals (SDGs).

## **Do no harm to the environment: An analysis of Booklet 5**

Booklet 5 aims to provide a 'comprehensive overview of the state of the research' on drugs and environmental issues 'in order to assist Member States in anticipating and addressing environmental

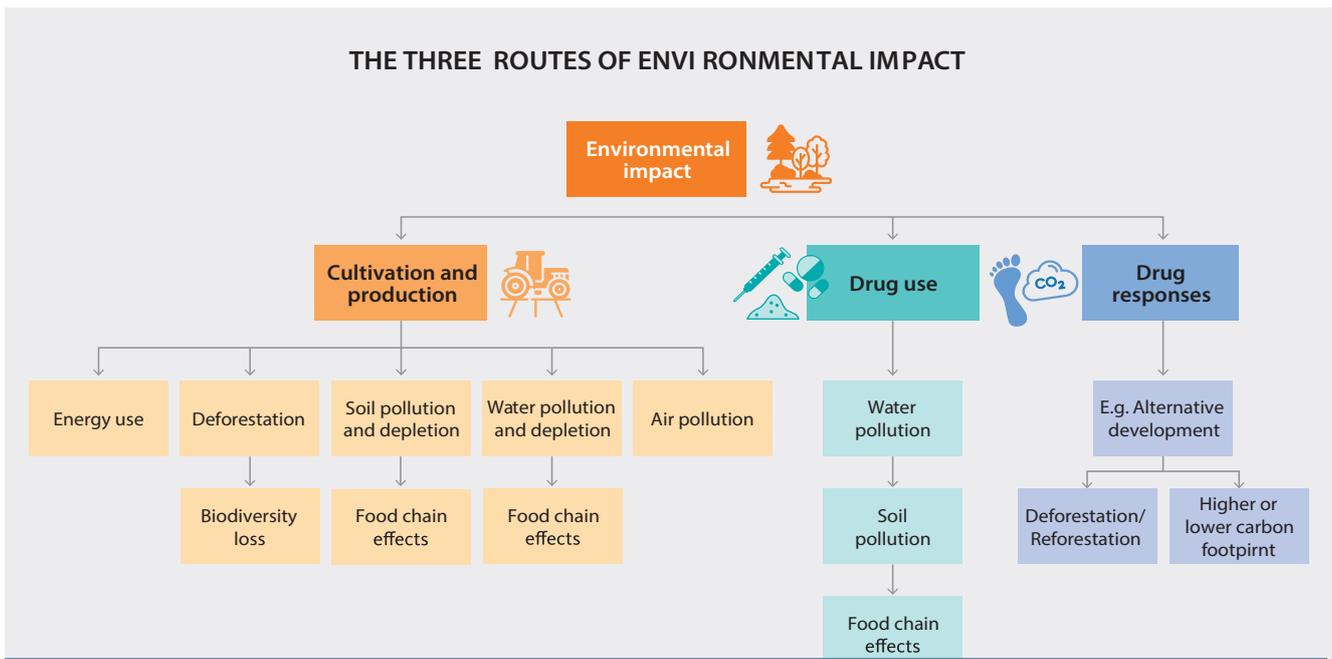


Figure 1. The three routes of environmental impact  
 Source: UNODC World Drug Report 2022, Booklet 5, p. 1

challenges and mitigating risks.<sup>22</sup> To this end, the Booklet examines the direct and indirect environmental effects of both plant-based and synthetic drugs, identifying three routes of environmental impact: within cultivation and production, within drug use, and within drug policy responses.

There are a number of useful and important takeaways from Booklet 5. Contrary to over-simplifying slogans that drugs are destroying the environment, the Booklet rightly puts the relative environmental impact of drugs in its proper perspective, noting that the global environmental impact of illegal crop cultivation and drug manufacture is ‘relatively small’<sup>23</sup> compared to the legal agricultural and pharmaceutical sector and that ‘the carbon footprint of legal agriculture is much larger than that of all illicit cultivation combined.’<sup>24</sup> The Booklet introduces a level of nuance to the analysis of drug-related environmental harms, noting that these are ‘often not clear-cut or unidirectional in terms of causality’ and are complicated by drug policy responses, for example alternative development programmes based on substitute crops that can have even worse impacts on the environment.<sup>25</sup>

Arguably, one of the best recommendations to follow from this discussion is to ‘Mainstream the objective of “do no harm to the environment” in drug policy responses.’<sup>26</sup> This includes the recommendation to integrate environmental protection into the design and monitoring of alternative development programmes, building on international standards such as the UN Committee on World Food Secu-

rity’s Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests<sup>27</sup> as well as through broader support to approaches such as agroecology.

The Booklet also offers striking findings with regards to the significant carbon footprint of legal indoor cannabis cultivation as well as the polluting effects of the illegal dumping of chemicals and other waste products generated by the production of synthetic drugs such as amphetamine, methamphetamine and MDMA.

Nevertheless, the Booklet also contains significant blind spots, questionable assertions based on selective or problematic metrics, and an inability to fully grapple with a number of findings and follow them through to their logical conclusion. The analysis below will highlight five key dimensions that Booklet 5 distorts, obscures, or ignores completely.

## On illegal economies, development, and the role of the State

One of the main conclusions of the Special Booklet is that, in terms of environmental impact, ‘location is a key differentiating aspect’, noting that while in global terms, the environmental impact of illegal crop cultivation and drug manufacture is ‘relatively small’, impacts ‘can be significant at the local, community, and individual levels.’<sup>28</sup> This is undoubtedly true as many studies across a range of different contexts

and regions have demonstrated over time with respect to the impact of drugs on deforestation, land degradation, soil erosion and contamination, water depletion and pollution, and biodiversity loss, as well as on the socio-ecological resilience of local communities. This is particularly the case for fragile ecosystems or other sensitive areas, such as natural parks or in the collective territories of Indigenous peoples.

Yet, there is a particular linear understanding of the interaction between drugs, illegal economies, and development that is pervasive throughout the Booklet and that is worth unpacking further as it also informs much of what follows in terms of the recommended policy responses. This centres in particular on the role of the State. A key pillar in determining the location-based impact of drugs (including on the environment) that the Booklet identifies are areas where the State, with its corresponding functions, is largely absent. The Booklet, for example, comments that ‘Illicit crop cultivation generally takes place in remote, thinly populated areas, *far from any governmental presence*<sup>29</sup> (emphasis added) while noting that harmful environmental impacts are ‘...visible in illicit cultivation located in isolated areas *with little State presence and a lack of official land-use or development planning*, where the vulnerability to environmental shocks may be higher and have an important impact on the affected communities<sup>30</sup> (emphasis added). This fits within conventional understandings of how the growth of illegal economies, including drug economies, are the outgrowth of state weakness, destabilisation or capture, especially in what are variously described as ‘frontier zones’ or ‘borderlands’ or otherwise isolated or peripheral areas that are ‘left behind’ by mainstream development processes.

There is, however, no simple or singular role that ‘the State’ plays in ‘the illicit’ or in ‘development’. A wave of recent research has, for example, pointed out that with respect to notions of underdevelopment, especially of rural regions, these areas are not defined by State absence, but rather *by particular modalities* of State presence.<sup>31</sup> For instance, various studies focusing on Central America and Mexico demonstrate that, far from being absent, over time the State’s actions themselves have effectively undermined modes of endogenous rural governance and environmental protections – particularly in terms of peasant and indigenous land control – which have now made remote rural places amenable to control by criminal actors. Further, studies show that those criminal actors can serve State interests well, by effectively privatising rural land and thus making it amenable to State and foreign investment.<sup>32</sup>

In the case of an anti-drugs framework, this can include a militarised or securitised presence or other ‘improvement’ projects pursued under the rubric of, or alongside, ‘anti-crime’ enforcement measures. For example, in his study of land grabbing in Colombia, Teo Ballvé (2012) shows how processes of territorial restructuring that laid the foundation for the routinisation of State functions and capitalist development were deeply intertwined with the rise of new agrarian elites connected to narco-paramilitaries.<sup>33</sup> This has included expansion of agribusiness (e.g., banana and palm oil plantations, cattle-ranching), infrastructure development, contracts for the provision of municipal services, and the accumulation of land and (rural) property to exercise territorial control and political influence. The violence and corruption that has accompanied this process of State-building has paved the way for the extraction of wealth from biodiverse and environmentally fragile regions, concentrating capital accumulation in the hands of a few while leading to the displacement of four million campesinos. In this way, Ballvé argues that ‘Narco-driven economies of violence are not somehow anathema to projects of modern liberal statehood – usually associated with tropes of institution building and good governance – but deeply tied to initiatives aimed at making spaces governable, expanding global trade, and attracting capital.’<sup>34</sup>

The point here is not to deny the corrupting and brutalising effect of organised crime or other drug-financed non-State actors on landscapes and people, but to call into question superficial notions of statelessness, State failure or ‘governability’ within a theory of environmental harm. Not all State presence is equal, and processes of State-making can have equally, or even greater, damaging impacts on the environment as processes of State unravelling. This conclusion is important because it opens up the analysis to a deeper interrogation of State responses to illegal drugs and environmental harm as well as the often intimate and uncomfortable interconnections between licit and illicit capital.

## Forced eradication, balloon effects and deforestation

Arguably, one of the most overlooked yet absolutely critical aspects of the drugs-environment nexus concerns the negative unintended consequences of the so-called ‘war on drugs’ – the suite of coercive strategies including forced eradication (either manually or through aerial fumigation), interdiction and seizure, and deployment of the military and/or secu-

city apparatus that form part of an enforcement-led approach to achieve the goal of a 'drug-free world'.

It is highly telling for example that in the key diagram outlining the three routes of environmental impact and in much of the text that follows, the main focus in terms of drug policy responses centres on a discussion of alternative development.<sup>35</sup> To the extent that where the more coercive elements of drug control are touched upon, a number of highly questionable statements are made.

In no place does this crystallise more than in the discussion of the 'balloon effect': the name in drug theory to describe, in the face of inelastic demand, the displacement effects observed following the forced eradication of illegal crops, with efforts to eliminate cultivation in one area simply leading to cultivation shifting elsewhere. The balloon effect thus shows forced eradication to be not only ineffective but also environmentally destructive as migration effects drive further deforestation as well as expansion into new frontiers. The phenomenon is not new, and the environmental damage resulting from the balloon effect has been documented for many years. As WOLA researchers concluded in a 2008 study on Colombia, 'Far from preventing new coca plantings and thereby reducing environmental damage, the fumigation program evidently has contributed to the spread of coca cultivation to new, more remote areas of the country. Fumigation is not a solution to coca cultivation or to the environmental damage caused by it, but rather a part of the problem.'<sup>36</sup>

Despite many studies over the years documenting this balloon effect, the Special Booklet casts doubt on whether it is a real phenomenon, calling research on the likelihood that eradication triggers a balloon effect 'mixed', juxtaposing two separate studies on coca cultivation in Colombia that reach opposite conclusions to make this statement.<sup>37</sup> The Booklet also asserts confidently, and without further elaboration, that 'it is not possible to understand the impact of forced eradication and whether it triggers a balloon effect in locations outside of Colombia.'<sup>38</sup>

These assertions need to be challenged.

First, the study that the Special Booklet relies on to negate the balloon effect in Colombia cannot be considered to be the singular, definitive statement on the subject. The study uses a spatial economic technique to find that aerial spraying activities in a municipality reduce the new area under coca cultivation by 8% inside that municipality and by 3% in

neighbouring municipalities.<sup>39</sup> Totalising across all municipalities, it finds that 'If all municipalities increase aerial eradication by one hectare in period  $tt$ , new coca crops will decrease by 12 percent in period  $tt + 1$  in the typical municipality.'<sup>40</sup>

However, beyond the sheer scale of the operational cost that such a vast programme of aerial spraying across all coca cultivating municipalities would imply,<sup>41</sup> it is unclear to what extent the study accounts for broader diffusion effects, beyond those taking place in the same or neighbouring municipalities. For example, transference of coca cultivation has been observed in Colombia over great distances, not only between proximate municipalities but between entire departments, for example from Putumayo to Nariño or Cauca – to leave out for the moment, transnational shifts in coca cultivation across the Andean region and beyond.<sup>42</sup> The intensive eradication efforts that started under Plan Colombia in 2000 have for example been accompanied by a precipitous rise in coca cultivation in Colombia's Pacific region, with a 70% increase in the land area planted with coca taking place between 2001 and 2012.<sup>43</sup>

Second, there are many other studies that have tested for the balloon effect in Colombia and that find evidence of its operation. The study by Rincón-Ruiz and Kallis referenced in the Booklet uses a mixed-methods approach and a spatial database with social, economic, environmental, coca production and fumigation data for all 1,125 municipalities to analyse land use changes at the ecosystem level. While not discounting the possibility that fumigation acted in concert with other factors, the authors find that 'In conclusion: fumigation is associated with expansion of production to other areas, which can be taken as evidence of displacement. Such displacement diffuses the problem in the territory, with coca production affecting more areas, and presumably more people.'<sup>44</sup> Indeed, between 2001 and 2008, the number of municipalities with coca plantations within their territories increased from 164 to 202. Spelling out the environmental implications of these findings, the authors write, 'The potential causal link suggested by our research is important: it is not coca production alone that causes the deforestation; it is the fumigation that is continuously pushing it to new areas.'<sup>45</sup>

The above findings by Rincón-Ruiz and Kallis are corroborated by other studies. For example, a 2003 econometric analysis finds that 'The elasticity of coca cultivation with respect to hectares eradicated in Colombia indicates that producers increase the

area cultivated in response to eradication efforts but less than proportionately (0.204). Since coca is generally somewhat more profitable than other crops, producers apparently respond to the production risk imposed through supply control policies by increasing the area planted. Eradication seems to have an effect opposite to the one intended by policymakers.<sup>46</sup> Another 2011 econometric study by Reyes finds that ‘the causal effect of a one percent increase in eradication is slightly less than a one percent increase in coca cultivation.’<sup>47</sup> Simply put, ‘More eradication leads to more coca cultivation.’<sup>48</sup>

Further, the Report appears to have forgotten history. Just three decades ago, Colombia was not the world’s principal cocaine producer – Peru was. As the UNODC’s own reports show, Colombian coca production was stimulated, in part, by a crackdown on coca production in Peru.<sup>49</sup> In other words, the balloon effect does not just operate within countries, but also between them. The fact that coca is now being grown in Central America – albeit on what appears to be a trial basis – is the natural next step for producers of an agricultural commodity that is being targeted elsewhere.

As to whether it is possible to test for the balloon effect in other countries and contexts, there are certainly studies that have done so. For example, in their longitudinal study of the Chapare region in Bolivia between 1963 and 2003, Bradley and Millington (2008) find that ‘Deforestation rates were very low from the late 1970s to the early 1990s when coca cultivation was widespread and anti-coca policies [including forced eradication] were weakly enforced. Before and after this period, deforestation rates were significantly higher.’<sup>50</sup> By way of explanation, they point to the higher income generated from coca compared to alternatives, although this is also influenced by other factors including ‘markets for the substitutes, trends in farmgate prices, cropping patterns before switching to coca, and their ability to grow coca under conditions of enhanced surveillance.’<sup>51</sup>

In relation to cannabis, Corva (2014) has looked at the balloon effect in California during the operation of the Campaign Against Marijuana Planting (CAMP) between 1983 and 2012.<sup>52</sup> He finds that CAMP led to both transnational (shift in sourcing of cannabis consumed in the USA from Mexico to within the USA) and local balloon effects (shifting cultivation patterns within different counties in California). These processes of de- and re-territorialisation, Corva notes, respond to the shifting geographies of policing and enforcement. In addition,

CAMP also affected practices of cannabis cultivation, leading to a shift towards indoor growing, larger outdoor trespass grows in more remote areas, and off-the-grid diesel doping amongst others.

The point here is not to dispute the complexity of causal mechanisms of displacement and that forced eradication may be one of a number of variables impacting patterns of drug crop cultivation. It is simply not tenable, however, to state that it is not possible to understand the dynamics of the balloon effect outside of Colombia, or for that matter, that there is not considerable evidence that it is occurring within Colombia. This speaks to an inability to engage in a sober reckoning of the failures of the ‘war on drugs’, including its destructive impacts on the environment.

## Carbon footprints: Missing the forest for the trees

A sizeable chunk of the Special Booklet is focused on an analysis of the relative carbon footprints of cannabis and cocaine. The Booklet synthesizes some stark findings with regards to the extremely high carbon footprint of legal indoor cannabis cultivation in the USA, which stands at between 2,300-5,200 kg of CO<sub>2</sub>e per kg.<sup>53</sup> This compares to 7 kg of CO<sub>2</sub>e per kg in the case of green coffee beans and 20 kg of CO<sub>2</sub>e per kg in the case of cocoa beans. This high carbon footprint for indoor cannabis cultivation is attributed principally to the use of energy intensive heating, ventilation, and air-conditioning systems, as well as the use in some cases of supplemental CO<sub>2</sub> which is pumped into growing rooms to stimulate photosynthesis and accelerate plant growth and harvest cycles.

The metrics and extrapolations regarding the carbon footprint of cocaine production that the Special Booklet relies on are more problematic. The Booklet puts the carbon footprint of cocaine production at 590 kg of CO<sub>2</sub>e per kg, still much higher than cocoa beans but much less than indoor cannabis cultivation.<sup>54</sup> However, it should be questioned to what extent these ‘products’ can be considered functionally equivalent given that cocaine production involves a chemical/industrial process of alkaloid extraction and purification. When one considers only the carbon footprint of coca leaf production, this stands at 0.51 kg of CO<sub>2</sub>e per kg of leaves harvested.<sup>55</sup> According to the Booklet, the carbon footprint of cocaine rises to a high of 4,500 kg of CO<sub>2</sub>e per kg when ‘land use change’ is factored in, which the Booklet models based on data drawn from coca

cultivation in Catatumbo, Colombia. In a footnote, it is explained that this involves ‘a change from rain-forest land to cropland with a carbon content in soil and biomass of 231 tons (rainforest land) and 70 tons (cropland) of carbon per hectare, respectively, with carbon stocks reaching equilibrium after 20 years.’<sup>56</sup> According to the Booklet, ‘... the effect of land-use change could easily represent the single most important factor contributing to the environmental impact of cocaine production.’<sup>57</sup> It should be emphasized however that this conversion of forestland to cropland is far from unique to coca cultivation, with drug production accounting for a ‘relatively minor share’<sup>58</sup> of deforestation worldwide (including in Catatumbo where cattle ranching and agricultural activities are by far the leading drivers, with coca cultivation estimated to directly contribute to 4 per cent of observed deforestation).<sup>59</sup>

The causal dynamics of this land use change in relation to cocaine production, especially the role of drug policies such as eradication and interdiction, require further unpacking. In fact, the underlying study by Barrera-Ramirez et. al upon which the findings on the cocaine carbon footprint build introduces a level of nuance that is absent in the World Drug Report. In this study, the authors conduct a life cycle assessment and socioeconomic evaluation of the illegal crop substitution policy in two regions of Colombia. They identify three different environmental profiles based on alternate policy scenarios, including what they term ‘business as usual’ (coca cultivation continues as is); ‘policy success’ (coca is substituted by alternative crops); and ‘balloon effect’ (partial substitution of coca by other crops but coca is displaced in new areas). The authors themselves note that up until the signing of the peace agreement, ‘The main strategy to confront coca crops has been eradication via fumigation which has had little efficacy and has resulted in more environmental and social impacts.’<sup>60</sup> Furthermore, the authors note that ‘The comparison between the three scenarios shows that BE [balloon effect] has the largest environmental impact overall. The fact is explained by the displacement of the illegal crops, which requires more land, fertilizers, and chemical precursors for processing the coca leaves.’<sup>61</sup>

The authors do not comment on what scenario is more likely given the contingency of policy interventions. However, one could make a strong case that a ‘balloon effect’ scenario is likely in light of what some argue is the stalled roll-out and flawed implementation of Colombia’s National Programme for the Substitution of Illicit Crops (PNIS) to date. For example, in a study of PNIS pilot sche-

mes in Miranda in the department of Cauca, spatially differentiated processes of both eradication and continued coca growing and replanting have emerged as assistance has been delayed and little progress has been made on productive alternatives that could replace the cocalero economy.<sup>62</sup> This has forced some former coca farmers who gave up cultivation to become labourers on other coca plantations. It is also worth mentioning here that the 2022 Illicit Crop Monitoring Report for Colombia shows a historical increase in coca cultivation in different regions due, in part, to the failure in implementing the PNIS.<sup>63</sup>

All of this is to make the point that while it can be useful to subject coca, cannabis and opium to life-cycle assessments of their relative carbon footprints, especially under different production models as is the case with cannabis, it is vital that drug policy responses, in particular those related to the ‘war on drugs’, be subjected to the same scrutiny. A report by the Transnational Institute, for example, uses UNODC’s 2020 data on Colombian coca and cocaine to estimate that roughly 50,000 hectares of the 143,000 devoted to coca cultivation were ‘lost’ to interdiction operations, in addition to the 130,000 hectares eradicated.<sup>64</sup> In other words, aggressive eradication and interdiction create a significant surplus in coca cultivation with the additional ecological impact. In failing to make this connection between enforcement-led responses to the drug issue and increased environmental harm, the World Drug Report ‘misses the forest for the trees.’<sup>65</sup>

## The resource politics of environmental and drug policy making

In a section on ‘Ongoing policy responses’ relating to the drugs-environment nexus, the Special Booklet highlights – briefly – what it calls ‘community responses’, notably in the form of community-based resource management groups that have been engaged in various aspects of environmental protection within the context of drug-related programmes. This is to be commended. However, what is missing from this cursory examination is a deeper interrogation of the interaction between these community groups and public authorities within different drug policy regimes. This is important because without an appreciation for how different policy regimes impact on these community responses, the risk is that, while valuable, these community responses will inevitably be project-based

and piecemeal, subject to funding constraints and the burn-out that accompanies volunteerism rather than being able to channel place-based organising into efforts to tackle the structural drivers of environmental harm over time. The tone for this is set by the overarching drug policy regime in place.

For example, the World Drug Report highlights the case of community-based resource groups in northern California that have accompanied the rise of legal cannabis agriculture while also noting the significant challenges posed by continued illegal cultivation, especially on public lands.<sup>66</sup> What is left out of the Report's discussion – but what is strongly present in the underlying study by Everett that the Report references – is the role that federal prohibition has played in shaping and sustaining this illegal market. Indeed, it is the ongoing prohibition at the federal level and the conflict between federal and State laws that has created a huge illegal market for cannabis products, estimated at US\$ 45-50 billion. The Everett study therefore ends with a recommendation that, notwithstanding the noble efforts of these community-resource groups, 'It will take Federal government re-investment in neglected national forests, rural landscapes and communities working to sustain critical ecosystem services, and federal legalization of cannabis to reverse the destruction resulting from illegal cannabis production on public lands'.<sup>67</sup>

The point that drug policy regimes – and the involvement of local communities in the design of drug policies – are a critical, if not a determinative factor, in shaping the prospects for addressing drug-related environmental challenges is also on display in other contexts. For example, a study of common property regimes in the collective territory of the Las Vara community in Colombia found that a key factor in the almost total elimination of coca crops from the territory was a decision to go against the grain of the dominant drug policy at the time (which then rested on aerial fumigation and manual eradication) towards an approach centred on voluntary eradication and a rejection of aerial fumigation.<sup>68</sup>

A final part of the policy response section of the Special Booklet outlines a number of what it calls 'environmental policies' that interact with drug policy including those focused on protected areas, carbon credit schemes, payments for ecosystem services and agroecology.<sup>69</sup> However, the superficial presentation of these policies contributes to a flattening of the debate where more in-depth analysis would be useful. There are, for example,

vastly different approaches to protected areas and conservation more broadly that are left uninterrogated. Similarly, the underlying resource politics of agroecology is very different to that which guides the thinking behind carbon trading and offsetting schemes. There are also many different iterations of payments for environmental service (PES) programmes. Broadly speaking, these differences centre around the perceived wisdom of market-based environmental management strategies whereby it is believed that nature and the environment are best protected by putting a price on various environmental 'assets' and those that stress the role of elements such as culture, social reproduction, communal norms and obligations in embedding a sense of environmental stewardship within communities. In the latter case, interventions should focus on alleviating the pressures on peasants, fishers, pastoralists, Indigenous peoples, forest dwellers and, where appropriate, growers of illicit crops who should be recognised and rewarded based on the ecosystem benefits they already provide. While it is not expected that the World Drug Report would resolve these critical and much debated political economy and political ecology questions, they warrant further examination than they are granted in the World Drug Report if they are to adequately inform State responses.<sup>70</sup>

## Towards socio-ecological justice

Even though the World Drug Report finds that the carbon footprint of indoor cannabis cultivation is between 16 to 100 times higher than that of outdoor cultivation,<sup>71</sup> no policy recommendation is attached to this when the logical conclusion would be to encourage sustainable outdoor production where possible, including in traditional producing countries in the Global South where outdoor cultivation is the norm and where access to legal consumer markets in the Global North could bring considerable development benefits. For example, if the estimated demand of 400 metric tons (mt) per year for Germany's soon to be regulated recreational cannabis market were to be met solely through indoor production, this would require an energy budget equivalent to the total household electricity use of Cologne (Köln), the fourth largest German city with over 1.1 million inhabitants.<sup>72</sup> Given the global climate and energy crisis, there is thus a compelling case to encourage sustainable outdoor cultivation and to enable imports from traditional Southern producers.

An explanation given in an official presentation to civil society organisations of the World Drug Report

for why this recommendation is not included in the report centred on ‘trade-offs’ with harm to the environment being only one element to consider.<sup>73</sup> This environmental harm, it was argued, has to be balanced against the ‘higher health harm when cannabis is made more accessible’. The rationale here being that in order to satisfy the demand for legal cannabis, one would need to liberalise laws in more jurisdictions for this production to be met through outdoor cultivation and that these changes in regulation would presumably make cannabis more accessible to a wider population.

Legal regulation for cannabis markets (for the medical and/or adult use market) is however continuing apace, with an increasing number of countries across the Global South and North moving towards regulation.<sup>74</sup> It is certainly true that legal international trade in cannabis is still extremely complex and will require addressing the ‘treaty tensions’ that the current UN drug control conventions give rise to.<sup>75</sup> However, in the absence of reform, demand for cannabis products will continue to be met largely through the illegal market. The continuance of an illegal market for cannabis in the USA, including in States where it has been regulated such as California, has been attributed in large measure to the continuing federal prohibition of cannabis. This inhibits legal inter-state commerce that could enable a form of ‘geographic optimisation’ to emerge where cannabis cultivation can be focused in States whose climatic conditions allow for outdoor cultivation, thereby greatly diminishing the total carbon footprint associated with cannabis production.<sup>76</sup> Responsible legal frameworks would, if well designed, also allow for cannabis-related public health concerns to be better addressed.<sup>77</sup>

By avoiding to fully consider what the ongoing legal reforms across an increasing number of jurisdictions (principally in terms of cannabis regulation but also for coca leaf products) imply for longer-term environmental sustainability, the World Drug Report remains behind the curve. The 2022 World Drug Report only tackles drug crops within a framework of potential environmental harm (see, again, Figure 1 above), but there is nothing pre-ordained about this pathway as it is dependent on the production model that is applied. The cannabis plant, for example, is used to remediate polluted soils contaminated with heavy metals.<sup>78</sup> In Bolivia, support has been given to organic coca production integrated within agroforestry systems for the production of organic coca tea.<sup>79</sup> In Colombia, nearly 2,000 hectares are dedicated to the production

of coca crops for traditional use, involving Indigenous communities using ancestral cultivation techniques.<sup>80</sup> These examples point to a fundamentally different relationship between drugs, people, and the environment than the one that underpins the 2022 World Drug Report. In only mobilising and appropriating (selective) environmental discourses to discuss the potential harms of drugs on the environment, rather than also the positive contribution drugs can make to the environment, the World Drug Report risks simply greenwashing prohibition. However, a ‘green’ war on drugs fundamentally impedes a vision of socio-ecological justice and is problematic for all the reasons discussed so far.

The most incongruent element within the World Drug Report 2022 is undoubtedly the downplaying or outright denial of the serious environmental harm that the ‘war on drugs’ has wreaked, whether it be through forced eradication, aerial herbicide spraying, or other displacement effects. The failures of these supply-side drug control interventions and the framework of prohibition that sustains them are being increasingly recognised.<sup>81</sup> As already mentioned above, the World Drug Report opens with a truism that ‘Drugs can kill’.<sup>82</sup> It could have equally, and more powerfully, opened with another truth-telling, namely that ‘The war on drugs has failed. The fight against the climate crisis has failed’, as the Colombian President, Gustavo Petro, announced in his address to the UN General Assembly in September.<sup>83</sup> To recognise this would be to move beyond a defensive posture of ‘do no harm to the environment’ towards enabling a framework of socio-ecological justice to take root in a post-prohibition world.

This would also force a reckoning with the colonial legacy in drug policy narratives and practices, which continue to prevail in the World Drug Report. Decolonising drug policy at national and global levels would entail that the impacts of prohibition on affected communities and territories are properly evaluated, with adequate mechanisms for compensation and redress for the harms inflicted, especially for countries in the Global South that have borne the brunt of the war on drugs.

Within the climate and environmental justice movement, the ongoing impact of the legacy of colonialism and highly unequal terms of trade between the Global North and South are captured by notions such as ‘ecological debt’, ‘unequal environmental exchange’, and ‘sacrifice zones’, to be addressed through proposals for, inter alia, a ‘just transition’ or a ‘green new deal’. These proposals intersect in many

ways with calls by the drug policy reform movement for restorative justice and reparations and the dismantling of the instruments of repression and oppression used under the prohibitionist drug control regime which have been responsible for perpetuating rights abuses, stigmatisation, violence, harm, and environmental destruction.<sup>84</sup> While an attempt is made in the Special Booklet to connect drugs and the environment to the broader development agenda through an analysis of the SDGs,<sup>85</sup> at no point is an attempt made to engage with or measure the impacts of prohibition and criminalisation on environmental outcomes and development prospects. This significant blind spot means that rather than living up to the SDG mantra of 'leaving no one behind', it is the UNODC that risks being swept aside by failing to acknowledge this reality.

## Conclusions

The 2022 World Drug Report, with its first ever dedicated focus on the linkages between drugs and the environment, no doubt marks a milestone in the history of the production of these annual reports and the research base that informs States' public policy making. The policy guidance to States to 'Mainstream the objective of "do no harm to the environment" in drug policy responses' is a vitally important one.

However, despite this laudable aim, the World Drug Report ultimately fails to connect the dots in a number of key respects – which can be seen in Booklet 5, but also in the entirety of the Report for 2022. Amongst the most important ones is the UNODC's ongoing refusal to truly acknowledge the severe consequences of the 'war on drugs' rationale, or the range of human rights abuses and harms to the environment that have become associated with punitive drug policies, while failing to propose real change or reforms.

The fact that the lead UN agency on drugs remains reluctant to make these obvious links and to unequivocally press governments to reform damaging policies, leaning on the recommendations of the UN System Common Position on drugs and other efforts made by UN entities, is highly problematic.<sup>86</sup>

The annual World Drug Reports constitute the most complete chronicle of the abject failure of drug control to reduce or eliminate international drug markets. As such, they present a key opportunity for the UNODC to shape government policies based on available data and evidence. But this can only be achieved if the Office shows political will

and courage to condemn policies that have caused harm and to objectively promote those that have yielded positive results in terms of human rights, health outcomes, social inclusion, development promotion and environmental protection.

It is high time for the UNODC to step in line with other UN agencies and entities that are calling for an end to overly punitive drug control and towards an approach that is truly grounded in human rights, health and development, so that the principle of 'Do not harm' promoted in the area of environmental protection within Booklet 5 can be extended across all drug policies going forward.

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**The International Drug Policy Consortium (IDPC)** is a global network of NGOs that come together to promote drug policies that advance social justice and human rights. IDPC's mission is to amplify and strengthen a diverse global movement to repair the harms caused by punitive drug policies, and to promote just responses.

Our analysis of the 2022 World Drug Report will focus on the thematic chapter dedicated, for the first time, to the issue of drugs and the environment.