Waste communications:
Pushing the right buttons

Variable charging
Our roundtable of experts considers what must be done

Sharing economy
What is becoming of collaborative consumption?

Drug trade waste
Illegal drugs damage more than health and society
The illegal drug trade is a divisive topic that never seems to have a clear solution. Many of us are aware of the issues associated with drug policy, drug use and addiction, but we rarely consider the environmental impacts of the drug trade.

Unfortunately, even when we do consider the environmental side, it’s very difficult to pinpoint the exact consequences, given that they so often go undocumented in the illegal trade. Dr Julia Buxton, Professor of Comparative Politics at the Central European University and Senior Research Officer for the Global Drug Policy Observatory, explains: “We do have lots of assumptions about the damage and some evidence of the impact of the illegal drug trade, but overall, the evidence is very weak.”

What we know so far

Nonetheless, it’s possible to make general assumptions about waste from different drug streams. Dr David Murray, Senior Fellow at conservative American think tank The Hudson Institute and former Chief Scientist and Associate Deputy Director at the US’s Office of National Drug Control Policy, firstly identifies the difference in waste streams between cultigens – products that depend upon agricultural produce, like cocaine, heroin and marijuana – and synthetic drugs like amphetamines.

As far as cultigens are concerned, he tells me the initial environmental damage results from the deforestation in rainforests and mountain areas such as the Sierra Nevada de Santa Marta, Colombia, which has been identified as most irreplaceable park in the world for threatened species by the International Union for Conservation of Nature. Drug production in places like this (the Sierra Nevada foothills are often used to grow cocaine) can lead to the loss of complex ecosystems and watercourses before the crops are even planted, followed by the “application of pesticides, fungicides and various chemicals that are part of the agricultural activity to suppress the natural plant growth around and to enhance the monoculture of coca plants”, explains Murray.

Once the crop is cultivated, more damage is done in conversion from coca leaves into coca paste and eventually high-quality, concentrated cocaine through an even greater application of chemicals including “gasoline, potassium permanganate and a variety of solvents”. Murray adds that during production, there is a large amount of wastage and spillage, and that remaining chemicals are often just dumped into watercourses.

It’s a similar story for heroin, most commonly produced from opium poppies in Afghanistan, where Murray claims “the local laboratories will basically be 55-gallon drums with somewhat inexperienced chemists bringing in industrial chemicals for the processing”.

Worryingly, Murray suggests that the environmental danger from synthetic drugs manufacture could be even greater. Whilst you don’t get deforestation through “slash and burns”, there is a potent mix of toxic chemicals used in the manufacturing process, with Buxton identifying the noxious chemicals involved in methamphetamine manufacture as including “red phosphorus, paint thinner, anhydrous ammonia, iodine crystals and pseudoephedrine”, for example.

“It leaves remarkable toxic signatures from that production”, Murray explains. “You will have areas where whole buildings have had to have been abandoned and neighbourhoods contaminated as toxic waste sites.”

Furthermore, the environmental consequences of illicit drugs can continue in perhaps unexpected ways, even "illicit drug manufacturers have no incentive to look after their labs or the areas that they are manufacturing, even just lessening the prohibitionist aspect would reduce the environmental impact"
after consumption. Murray describes how ‘metabolites’ (read: the products of drugs that have gone through the human system) have been discovered in surface and sewage water in Europe (including Italy and the UK) and, increasingly, the northwest of the US, “where the public water supply can be seen to have been contaminated by the byproducts of metric tonnes of cocaine having been passed through the human system”, although such waste streams can also result from legal drugs, such as antidepressants.

**Regulation vs eradication**

Even if we can’t put exact figures on it, it’s clear that the illegal drug trade does substantial damage to the environment, but there are disagreements over the best ways to counter them. The two most touted drug policies are the destruction of the drug crop at source through either aerial or manual eradication, or the greater regulation of drug crop cultivation to mitigate negative environmental consequences.

Buxton suggests that a country’s ability to regulate and enforce its waste laws is of utmost importance when it comes to environmental impact, even when it comes to legal pharmaceuticals: “You can have as many regulations about sewage effluence, water supply, and landfill sites as you want, but it’s the capacity of the state to enforce compliance [that matters].” She emphasises that countries with greater regulation already have effective management of waste for legal drugs, at least: “One of the world’s largest producers of morphine from opium poppies is the UK because we produce it for medical morphine.” She adds that there does not seem to be a strong correlation between toxic waste levels and legal drug production in highly regulated countries, suggesting that a tightly regulated, formerly illicit, drug industry would not necessarily have detrimental waste streams.

Indeed, Buxton says that when it comes to drugs that would traditionally be deemed illegal, greater regulation (and less prohibition) can prove effective in mitigating the environmental impact, pointing to Bolivia’s success in curbing coca production: “What the Bolivian government, through Evo Morales, did was legalise coca cultivation, but they limited registered farmers to a maximum of one cato per family, 1,600 square metres.” She indicates that the government also cracked down on traffickers to control the cross border flow of potential narcotics and used community leaders to oversee the volume of coca being produced. “It seems to have led to a 25 per cent fall in coca cultivation”, she says.

Buxton suggests that coca cultivation in Bolivia has reduced greatly because there is now an open market for the drug, meaning farmers no longer supplement their income with illicit cultivation. Despite this success, though, she cautions that the ability to replicate this method in other countries is open to question.

Dr John Collins, Coordinator of both the LSE IDEAS International Drug Policy Project and The Expert Group on the Economics of Drug Policy, also emphasises the need for a regulatory system: “Any economic enterprise causes environmental impacts, and it’s the fact that we have an illicit market that drastically worsens the environmental impacts because there is no regulation around it and there is no ability to control how it’s produced.”

“If you look at methamphetamine labs, it’s an exact example: the fact that people have no incentive to look after their labs or look after the areas that they are producing and manufacturing in is a direct result of the black market. I think even just lessening the prohibitionist aspect would reduce the environmental impact.”

Murray, though, is far more sceptical, saying the black market would continue to operate alongside any legal industry. “The black market in fact thrives on these regulatory regimes”, he claims. “They are armed, they are violent, and they are willing to use coercion, bribery, and corruption to keep their hold on a certain segment of the market.”

He also identifies that some (legal) high-value industries cause environmental damage with little regard for the regulations due to their potential profitability. “Some businesses seem to regard [fines] as a tax that one
pays. There are still gold mining operations with heavy chemicals as we know from the spill running down the tributaries of the Colorado.”

Are eradication policies any better? 
In recent decades in the 'war on drugs', eradication policies have been prevalent when it comes to cultigens, and often involve the aerial fumigation of crops using glyphosate, essentially a weed killer. They have been highly controversial regarding both their effectiveness and the potential human and environmental damage caused by the indiscriminate fumigation.

Sanho Tree, Director of the Drug Policy Project and Fellow at the Institute for Policy Studies, strongly opposes aerial eradication policies for failing to tackle the reasons that farmers initially cultivate coca, for example, claiming eradication policies "exacerbate and intensify the feedback loop for these farmers". He states that food security must be greater understood when considering the motivations of coca farmers. "What is the one crop they know how to grow for which there are ready and willing buyers for which you don't need a lot of infrastructure? They of course are the illicit crops.

"With this constant eradication, we are basically chasing farmers deeper into the lungs of the earth with our spray planes - it's not stopping them."

Collins is even more scathing of his review of aerial eradication, claiming: "It's completely pointless. You're just spraying poisons on people's crops, which then seeps into water sources and it's been associated with birth defects... it's just bad news on every front. It's not justifiable."

Buxton also suggests that eradication policies historically have not been successful: "Bolivia in the 1980s had a very forceful eradication policy and it simply shifted coca cultivation to Colombia, where we never had cultivation before. Colombia clamped down, had a massive eradication campaign using the military and military deployment and all that's done is simply shift coca cultivation to Peru."

Glyphosate-based plant killers have tended to be the weapon of choice in prohibitionist administrations' arsenals, but in the case of Fusarium, a naturally occurring fungus, the implications of its use may be far more worrying.

Buxton continues: "Fusarium is completely different because Fusarium is a plant pathogen, so this is something that basically exists in nature." According to Buxton, Fusarium is a naturally occurring fungus that the US State Department and the CIA have tried to genetically modify into a plant killer. The Colombian government considered its deployment, but the country's congress blocked the move on the grounds that the micro-herbicide would violate the Biological Weapons Convention.

Whilst many of the interviewees agree on the negative environmental impacts of aerial eradication, it could prove a difficult step to get the general public to accept in their stead the regulation and legal cultivation of crops that may become Class A drugs.

With four US states legalising recreational marijuana (and 23 plus Washington, DC, legalising medical marijuana), Murray suggests that it's now clear that even regulated drug production can have some damaging environmental impacts through “setting up intense grow operations that have high electricity consumption, high water consumption, the electric glow-lights and so forth.”

Buxton, however, disagrees: "On the contrary, it would seem to be that what this is enabling is a reduction of the planting and cultivation activity in national parks, the dumping of illegal tubes, the dumping of illegal piping, the tapping of electricity.”

"With this constant eradication, we are basically chasing farmers deeper into the lungs of the earth with our spray planes, it's not stopping them.”

A worthwhile debate?
Given the well-documented social and economic impacts of illegal drug use, though, is a debate on environmental consequences even worth having? And is a greater understanding of drug cultivation and production likely to impact drug use in any way?

The answer to the latter question, according to most of the interviewees, is no, unfortunately not. Collins suggests that a greater understanding would only impact a minority of users: “We have a situation with drugs where 80 per cent of drugs are used by 20 per cent of users in most cases. So, it's the small-scale occasional user in West London that might have an extreme environmental conscience that would be dissuaded from using cocaine.”

All our interviewees agree, however, that the answer to the first question is yes, and that drug policy must consider environmental consequences to a greater degree (though better metrics must be used). Murray, for one, states: "Obviously this matters, and it matters more than we have accorded its standing in the debate. The prospect of legalisation should be the very occasion where we would do this much more comprehensive cost-benefit analysis.”

And Sanho Tree indicates a brighter future: "The existence of alternative models is really encouraging. It's very difficult to point in the abstract and say that in theory we can do it better, but we can actually do it better in places like Bolivia.”

So, whilst drug waste and drug policy may seem something of a niche focus, tackling these issues can certainly play a part in facing the world's unprecedented environmental challenges.