

## Research to Blood on the Leaves:

The impact that cocaine production has on the earth is immense. How immense I couldn't have imagined. The scale at which it influences the environment and wildlife, the population physically and politically is a stark reality check to the somewhat glamorous reputation the white powder holds. This project was inspired by my generations new found pursuit of awareness and the strive for sustainable solutions in everyday life to help preserve our environment. Generally, in every aspect of life generation x has adopted the views that a more simplistic, holistic, mindful, balanced, vegan, vegetarian, flexitarian, yoga enriched, healthy lifestyle is the ideal way to live. This can be somewhat difficult to attain depending on how extreme and strict you are with living sustainably. Deciding which aspects of your life and routine you will be tweaking sometimes requires a bit of research. Nowadays, many ask themselves "what (more) can I be doing in my daily life to live more sustainably?" and likely, "Where is the line? How far does our mindfulness extend?". Each effort even if small is noteworthy because the common goal is slowing down climate change but since we all are on a spectrum, how far we are willing to go to be green?

To list a few: using less water, electric energy, buying naked products, reducing meat consumption, regular exercise, awareness of where your food and clothes are being produced and manufactured are some of the things we have adapted to achieve this ideal. Recently, vegan alternative products are on the market, even pleather has been remarketed as vegan leather, which is why the vegan marketing scheme is tricky because certain "pleathers" are in fact not made with animal products but are produced with chemicals harmful to the environment. So today more than ever it is important to stay informed because greenwashing has tremendous effects on our buying behavior. Obviously, society's craving for sustainable solutions has positive effects on the environment but because this is a trend, it allows for a bandwagon effect to take place where consumers blindly purchase vegan or eco-friendly marketed products whether it actually has a positive effect on the environment or not.

When sourced ethically and sustainably these things can have great positive effects in our environment but how strict do we need to be in our quest to fulfilling a sustainably sound life? A conversation with my friend before a party made me start wondering about just that. Where does the line start and stop with sustainable living. At a party, people don't tend to ask if the coke was ethically sourced maybe where it's from, if that at all. With this project and research I wanted to invoke awareness about the taboo that is coke. The drug talked about hushed behind closed doors, the glamorous façade the drug holds created by the elite. Now even used by your local mindful yogi's. They make their own kombucha and bread and occasionally go to a rave and take a line of coke. So I want to give a shout about this greenwashing culture present in 2020 and talk about what this coke thing is really all about.

For a bit of background information, for the previous 4 years illicit cocaine production has nearly tripled between 2016-2017 and cocaine produced globally had increased by an estimated 23 percent. The amount of cocaine seized globally in 2017 reached an all-time high of 13 percent, 1,976 tons. The largest quantity reported yet. (UNODC 2018)

The quantity of cocaine that was seized worldwide in 2016 was 1 129 tons which was a 23% increase from the previous year. So the trend of a growing production is clear to see. As previously mentioned, In 2017, the amount of cocaine seized globally was 1 976 tons according to the UNODC, 2018. The 23 percent increase from the previous year is a staggering increase considering that in the rainforest there are law protections put in place for Central and South American national parks and indigenous reserves. It is reported that 30-60 percent of these protected lands are still used for coca cultivation (Smithsonianmag, 2017). Why is this amount important? Well, if you consider that to produce one gram of cocaine, 4 square meters of rainforest must be cleared. It is an incredulous amount if you consider that early 2,000 tons were seized in 2017. To put this number in perspective because it is so big; As you may know, one ton is about 1000 grams. If you multiply the amount of cocaine seized by 4 square meters of rainforest you get about 7 170,388.18 m<sup>2</sup>. Remember, the amount seized in worldwide in 2017 does not account for the amount of cocaine produced. This is the reason that the illicit growing of the crop continues even on these protected reserves to keep up to global demand.

Colombia is one of the major cocaine producers supplying approximately 70% of the world's cocaine but other countries have quickly followed suit. Mexico in recent years has become one of the biggest and newer undertakers of the cocaine trade after the fall of two major Colombian cartels in 1990. One of the reasons Mexico has become a major drug trafficking hub is because of its location. Mexico borders the country where 25 percent of the world's cocaine users reside, The United States. This illicit crop affects numerous countries in Central and South America threatening biological and cultural biodiversity as well as increased criminality and violence. Countries like Bolivia, Peru, Chile, Costa Rica, Puerto Rico, Brazil, Guatemala, Nicaragua and Honduras to name a few. Over the last 10 years the account of deforestation in Guatemala, Nicaragua and Honduras has been between 15 and 30 percent annually. Still, the 4 main hubs of coca cultivation come from Colombia, Bolivia, Peru and Mexico.

To get an idea of how much deforestation is occurring, In 2014-2015 UNODC reported that 96,000 hectares of rainforest were cleared to cultivate the illicit drug in Colombia alone. It is a staggering number to wrap your head around; to get a clearer view, a good example is a football (soccer field) is about a little less than 1 hectares(0.82 hectares). So imagine 96,000 football fields in Colombia in the place of the one of the worlds most biodiverse rainforests, considering that almost 60 percent of Colombia is covered in rain forested area. There is major deforestation in the National parks of Colombia, from the 59, 16 protected parks were affected by the presence of cocaine in 2015. The area of coca plantations in National Natural parks represent 0.04% of the total protected area in the country and 6.5 percent of the total cultivated for coca as reported by the UNODC in 2015. Certain National Natural parks such as the Sierra de la Macarena just one patch of deforested area can span more than 10,000 hectares. To combat the growth of this crop in 1994 with approval of the US government who funded the project; Colombia had aerial herbicide sprayed over coca fields. Not only did this hurt its own population by risking farmers health but the potent chemicals turn this once fertile earth into a desert. The results were devastating as around the world these forests play a major part in the creation of carbon sinks that slow climate

change. Taking these rain forests out of the equation speeds up the release of carbon dioxide into the atmosphere. This program was active until 2015. So just imagine the global impact of 21 years of aerial herbicidal spraying. Though there is no direct link to cancer in the main ingredient of this herbicide (glyphosate) which has been aerially sprayed also in Bolivia and Peru. The International agency for Research on Cancer (IARC) and investigative part of The World health organization classified the weed killer “as probably carcinogenic to humans”. Undeniably, 4.35 million acres or (1760382.544 hectares) of rainforest has become a barren wasteland in Colombia. (Impakter, 2017)

This results in local farmers displacement and the only option to survive is to move further inland and burn more rainforests around them to grow crops, currently coca crops are the only high yielding cash crop around. In countries like Peru and Bolivia, coca attracts farmers and other civilians that are seeking opportunity to make a living farming this crop which in turn usually promotes more rain forest being cleared to make room for these sort of settlers. They are trapped in a cycle of producing a crop that they know destroys there environment but with nothing else to turn to they see this as the only solution.

In places like Peru the illegal cultivation of coca is almost 10 times higher than that of the legal production. Deforested areas are transformed into landing strips (more than 100 exist), laboratories and camp-sites. What makes the cultivation considerably toxic is that in order to produce the highest yields farmers apply commercial agrochemical substances in large quantities which results in phytotoxicity(toxic effect on plant). The run off of these chemicals flow into nearby bodies of water and affect marine life. Not to mention, where the coca happens to be processed in to cocaine, hydrochloride(white powder cocaine). The chemicals that they use in order to achieve cocaine paste; hydrochloric acid and Kerosene/Gasoline, Caustic soda and sulfuric acid are disposed of after use in local bodies of water which have extremely detrimental effects on the natural flora and wildlife in the immediate area.

In Bolivia the potential production of coca leaf was estimated at a minimum of 35,500 metric tons and a maximum of 44,200 metric tons (48722,16 tons) based upon the findings of the DEA(Drug Enforcement Administration) back in 1993. UNODC 2005 results and CONALTID (National Council to Combat Illicit Drug Trafficking of the Plurinational State of Bolivia) again in 2010. From the 22 National Parks 6 of the protected areas cultivated the coca crop. Carrasco being the National Park mainly affected followed by Cotapata, Isiboro Sécure and Amboró. A total of 253 hectares of coca fields were detected and identified. According to the Bolivian government the amount of coca leaf sold in the two authorized markets was 22,967 metric ton for the year 2017. They estimate that around 91 percent of the coca leaves are commercialize in Villa Fátima(one of the authorized markets) the remaining 9 percent coming from the other authorized market Sacaba. Seizures on cocaine hydrochloride decreased from 17.8 metric ton to 3.9 metric ton in 2016. While seizures of coca leaf increased by 13 percent from 353 to 370 metric tons and from 12.2 to 13.7 metric tons respectively. Bolivia passed the General Law of Coca (Law 906) in March 2017. This Increased the area where coca can be legally produced from 12,00 hectares to 22,000 hectares, ascertaining the cultivation in authorized and unauthorized zones. (UNODC 2017)

The reality is these figures are the most accurate approximation of the cultivation of coca leaf in Colombia, Peru and Bolivia. According to Francisco Santos Calderón former Colombian president, he says a majority of these fields are controlled by illegal groups including the Revolutionary Armed Forces of Colombia(FARC). It can become very blurry, the scope at which cocaine production has effected deforestation because of its direct link to criminal activity making it difficult to collect accurate data. Also deforestation was not properly documented during the boom of cocaine use in the 70's to the late 80's. So the amount of deforested areas may be higher than what was reported.(Smithsonianmag.com)

However, the amount of seizures made around the world have slowed the amount available for consumption. In 2017 1,275 tons of cocaine was seized an increase from the previous year by 13 percent, which shows progress and can mean that law enforcement efforts have become more effective. International cooperation could also be responsible for helping increase seizure rates. In 2019 though, The EMCDDA report the high availability of most illicit substances. In Europe over 1 million seizures of cocaine are reported annually. So it could also mean the high amount of seizures is due to the increasing amount of production of the illicit coca leaf.

Not to mention, the cultivation and distribution of cocaine has disastrous effects on people around the globe but also in Europe, According to the New York Post "more than 30,000 entered drug rehabilitation for the first time because of cocaine in 2016 an increase of 20 percent compared to 2014." An increase of cocaine residue found by the municipal wastewater revealed that there was an increase of cocaine residue in the water. It was recorded highest in cities such as Belgium, Spain, The Netherlands, and the UK. Justifying that the availability of cocaine has risen exponentially.

Something to remember is the violence that is associated with illicit drug trade. Where there are illicit substances to be sold like cocaine, violence tends to follow. Cartel's and other illicit groups control production and drug trafficking so not only are farmers trapped to remain in the coca production cycles urban communities suffer to escape the terrorization and intimidation of local cartels.

Pablo Escobar was responsible for death of 5,000 people between 1989 and 1993. In Colombia 1991, more than 100 explosives went off in the city from September to December. Needless to say the damage that this caused the people of Colombia mentally, physically and fiscally is tremendous.

In Mexico it only continues to get worse. Just in 2019 it was reported that the Mexican drug lord Nemesio Cervantes is more violent then even Escobar was. Decapitations, Public executions, dissolving bodies in acid, even ripping out hearts, killing women and children and bombings against people. There was a staggering 17,608 gangland murders in the beginning of September. This means that in Mexico in 2019 approximately 94 people being savagely killed each day.(The Sun, 2019)

In the Oxford dictionary, the definition of terrorism is: "the unlawful use of violence and intimidation, especially against civilians, in the pursuit of political aims." Cartels use terror to

enforce dominance over territory's to control and commit further illegal activities. So you could say that the use of illicit drugs like cocaine have a leading hand into funding terrorism.

In the end cocaine is a massive market estimated with a net worth of 75 billion USD. The impact of this drug is difficult to summarize because it is interconnected with so many illicit activities as well as its crushing effect on the environment and quite simply everything and everyone. This research was done in the hopes to bring to light the most shocking and horrifying effects that this coca crop has on our planet.

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