

Part Three: Drugs and the environment

Drugs and the environment

Objectives

By the end of this lecture, the students should be able to:

1. Highlight the key factors leading to environmental degradation in developing countries, focusing on population pressures, shifting cultivation, resource extraction, and the specific impact of drug cultivation.
2. Analyze how the cultivation of coca, opium, and cannabis contributes to environmental harm, including deforestation, soil depletion, and harmful agricultural practices.
3. Illustrate the regional differences in environmental damage from drug cultivation, using examples from countries like Peru and Bolivia, and comparing practices in South-East Asia and Latin America.
4. Address the environmental impacts of drug crop processing, particularly the improper disposal of toxic chemicals and the resulting pollution, emphasizing the lack of environmental responsibility among cultivators.

Drugs and the environment

In developing nations, environmental degradation primarily stems from population pressures, changes in agricultural practices, and the extraction of natural resources. In tropical developing countries, rainforests are particularly affected as they are cleared for agriculture, infrastructure, ranching, dams, factories, and other constructions. The environmental harm associated with drug production occurs mainly through three processes: deforestation or land clearing, the cultivation of specific plants, and the processing of harvested plants into drugs. The nature of environmental damage in a country will vary based on whether drug producers engage in the cultivation of plants, the processing of these plants or chemical substances into drugs, or both activities.

Coca growers, aiming to evade detection by law enforcement and military forces, tend to choose remote and challenging landscapes for their cultivation. A recent report highlights that "coca farmers are clearing forests on steep hillsides prone to erosion, rather than expanding their farming on the fertile alluvial soils found in the valley bottoms" (1, p. 16). An expert from Peru's National Agrarian University (2) indicates that coca farming may have led to the deforestation of approximately 700,000 hectares in the Amazon region. The situation in Bolivia mirrors that of Peru. In an analysis of the environmental effects of coca cultivation in Bolivia, a local expert noted that "farmers in the Chapare are estimated to clear between 2 and 6 hectares of land for every hectare in production. If we consider a (conservative) peak estimate of 52,000 hectares of coca being cultivated in the Chapare ... and an average of 2.5 hectares used for coca and other crops, this suggests that between 260,000 and 780,000 hectares have been cleared

Teacher: Dr. Hanane RABAHI – Specialty: Language Contact and Sociolinguistics Variation- English Language.

due to the surge in coca production. This figure represents a considerable portion of the 250,000 hectares of forest that are estimated to be lost each year in recent times due to logging, colonization, and cattle ranching" (3, p. 66ff.).

Historically, the cultivation of opium poppies has been prevalent in South-East Asia, where farmers from hill tribes have cleared vast areas of rainforest to implement their slash-and-burn agricultural practices. They utilize the newly cleared land for poppy cultivation before relocating in search of more fertile soil. Recently, however, there has been a notable increase in poppy farming beyond South-East and South-West Asia. In the tropical and mountainous forest regions of Latin America, opium poppy farmers are growing their crops on delicate lands that are remote from populated areas, which helps to minimize visibility and the risk of detection. Additionally, cannabis is cultivated even more extensively than both opium and coca. Cannabis farmers often seek out the most fertile soils to maximize their yields, frequently abandoning fields once they suffer from runoff and erosion.

To investigate the connection between illegal drug farming and negative environmental effects, one specialist has pointed out that drug crop growers, in contrast to local farmers, have weaker connections to the land and show less regard for it (4, p. 10). This results in more wasteful practices that exhaust the soil without giving it a chance to recover. In their pursuit of higher yields, these cultivators often apply herbicides and insecticides in excessive quantities and frequently disregard recommended guidelines.

Another way in which coca and opium cultivation harms the environment is through the improper disposal of toxic waste generated during the conversion of plant materials into consumable drugs (1, p. 16, and 4, p. 67). The chemicals used in processing are often carelessly discarded onto the ground or into nearby streams and rivers. An expert discussing Bolivia has noted that "lime, sodium carbonate, sulfuric acid, kerosene, acetone, and hydrochloric acid utilized in processing

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range from moderately toxic to extremely harmful to the environment. Approximately 30,000 tons of toxic chemicals are released into waterways each year, not including what law enforcement confiscates and typically disposes of in the country's rivers. Additionally, this figure does not account for the 200,000 tons of contaminated coca leaves discarded annually, which leach into the soil" (5, p. 217). A Peruvian official (6) has determined that the widespread use of chemicals in drug processing and the tendency to dispose of them hastily have led to the extinction of certain fish species and aquatic plants in the Huallaga River. Other experts, referencing studies by the United States government, have found that cocaine processors in the Andean region "dispose of 10 million liters of sulfuric acid, 16 million liters of ethyl ether, 8 million liters of acetone, and between 40 to 770 million liters of kerosene each year, depending on the amount recycled. These hazardous chemicals are simply poured onto the ground, ultimately contaminating the region's rivers" (1, p. 16). The chemical waste alters the pH of the water, decreases oxygen levels, and causes acute poisoning in fish and plants, potentially leading to genetic mutations in some species. Although this evidence is somewhat fragmented, it underscores the urgent need for more comprehensive studies to evaluate the specific environmental effects of illicit drug cultivation and processing.