



Fact Sheet: Environmental Impact of Tobacco

March 2013



Overview

There are more than 440,000 deaths each year in the US caused by tobacco use and exposure to secondhand smokeⁱ, and it is estimated that tobacco will contribute to 1 billion deaths worldwide during the 21st centuryⁱⁱ. This is a huge number of lives impacted directly by tobacco use, but what are the impacts of producing tobacco products? Evidence shows that the growing, manufacturing, packaging, use and disposal of tobacco products contribute significantly to the degradation of the environment.

The World Health Organization states it clearly:

*The global cost of tobacco is undeniable: tobacco cultivation, production and consumption deplete the planet of natural, human and economic resources. Worldwide tobacco production and consumption represents a net economic loss.*ⁱⁱⁱ

Tobacco growing and pesticides

Tobacco is a sensitive plant to grow, and therefore needs multiple pesticides, fungicides and herbicides are added to the crop throughout its growing season^{iv}. Some tobacco crops receive up to sixteen applications of chemicals^v. Tobacco pesticides harm birds and other small animals, and/or cause soil depletion; some, like methyl bromide, are known to cause ozone depletion^{vi}. According to the General Accounting Office, every year an estimated 27 million pounds of pesticides are sprayed onto tobacco fields in the United States,^{vii} and tobacco ranks sixth among all agricultural commodities in the amount of pesticides applied per acre^{viii}.

Workers in tobacco fields are exposed to these chemicals, causing a host of problems including acute poisoning, cancer, nervous system damage and birth defects. According to the General Accounting Office, tobacco pesticides include some of the most dangerous pesticides used in the United States^{ix}. And in many of the developing countries worldwide where the majority tobacco is produced, environmental laws are often non-existent, and farmers lack protective equipment or training in the handling of hazardous pesticides^x.

In addition to experiencing the health impacts of pesticide use, workers can get “green tobacco sickness” (GTS), which occurs when they absorb nicotine from wet tobacco leaves. Typical symptoms include weakness, dizziness, headache, nausea, vomiting, cramps and trouble breathing^{xi}. A study by the United States National Institute for

Occupational Safety and Health estimated a crude incidence of 10 cases of GTS per 1,000 workers, and another study of Hispanic migrant workers in North Carolina suggests that as many as 41 percent of workers get GTS at least once during harvest season^{xii}.

Deforestation

As much as 30 percent of the greenhouse gases released into the atmosphere each year are due to deforestation^{xiii}. Deforestation not only affects the climate by increasing the atmospheric level of carbon dioxide but also affects the environment by inhibiting water recycling, triggering severe flooding, aquifer depletion, soil degradation and the extinction of plant and animal species^{xiv}.

Trees are cleared both to provide land to grow tobacco, and to provide fuel to cure tobacco leaves. Tobacco is grown in more than 100 countries, including 80 developing countries, on a total of 5.3 million hectares of arable land^{xv}. Each year, 20,000 hectares of forests are cleared to cure tobacco^{xvi} (with approximately 1000-2500 trees per hectare, which equals 20 to 50 million trees cut down every year, depending on type of tree). This accounts for 5% of deforestation in developing countries, especially among major tobacco producers such as China, Malawi and Zimbabwe^{xvii}. A recent report found that in Tanzania alone, over 61,000 hectares of forests are lost every year due to tobacco growing and curing^{xviii}.

Impacts on hunger

Globally, 5.3 million hectares of arable land are currently under tobacco cultivation; land that could feed 10–20 million people^{xix}. In 2009, six of the top ten tobacco-producing countries had undernourishment rates between 5% and 27%^{xx}. In many countries, such as Sri Lanka, thousands of farmers have replaced traditional food crops with tobacco, due to its commercial profitability^{xxi}. Additionally, switching from food production to tobacco growing has lowered many farmers' actual incomes; for example, in Kenya, the average tobacco farmer makes \$120 a year, after paying all inputs (except labor)^{xxii}. Hunger and malnutrition are made worse when countries use scarce land for tobacco production rather than for growing food, and small tobacco farmers make barely enough money to purchase food to eat^{xxiii}.

Pollution

Professor Robert Proctor exemplifies the magnitude of air pollution created as a byproduct in the making of cigarettes:

...according to the Economic Input-Output Lifecycle Assessment (EIO/LCA) models developed by Carnegie Mellon University's Green Design Institute, the \$47 billion tobacco industry in the United States was responsible for generating

about 16 million metric tons of carbon dioxide equivalents. American automobiles emit an average of about 4-4 tons of carbon per year (driving 12,000 miles), which means that if cigarettes were to disappear from the United States the country would see a carbon benefit equivalent to taking nearly 4 million cars off the road.

In addition to the carbon dioxide generated in the production of cigarettes, there are other environmental pollutants created. In 1995, for example, worldwide tobacco manufacturing produced 2.26 billion kilograms of solid waste and 209 million kilograms of chemical waste^{xxiv}. Over the past century, ten trillion packs of cigarettes have been smoked. If each of empty pack weighs about five grams, that adds up to about 110 billion pounds of packaging waste-including paper, ink, cellophane, foil, and glue^{xxv}.

Additionally, tobacco smoke itself is a pollutant, whether the smoke is inhaled in the act of smoking, or inhaled by nonsmokers out of the air indoors or outdoors. Tobacco smoke contains at least 172 toxic substances, including three (3) regulated outdoor air pollutants, thirty-three (33) hazardous air pollutants, forty-seven (47) chemicals restricted as hazardous waste and sixty-seven (67) known human or animal carcinogens^{xxvi}. In 2006 California became the first state to declare secondhand smoke a toxic air pollutant, putting it in the same category as diesel exhaust, arsenic and benzene^{xxvii}.

Hazardous, toxic cigarette butt waste

Cigarette butts are the number one type of litter found in international beach clean-ups. This doesn't mean all those butts are disposed of into the water; an estimated 60-80% of marine debris started out on land^{xxviii}. Annually, worldwide cigarette butt litter amounts to at least 1.69 billion pounds.

Cigarettes are a serious litter disposal problem; made up of cellulose acetate, they are not biodegradable. This means that although ultraviolet rays from the sun will break them down, the source material never disappears and instead becomes diluted in water and soil^{xxix}. Additionally, cigarette butts contain benzene, nicotine, cadmium, and dozens of other known poisons^{xxx}.

Cigarette butts can also be deadly. Researchers have found that one used cigarette butt placed into a liter of water will kill half of all exposed freshwater fish or marine fish^{xxxi}. Additionally, even un-smoked butts are deadly; sixteen un-smoked filters placed into a liter of water contain enough toxins to kill fish^{xxxii}. And not just fish are affected by the toxicity; both young children and pets can become ill or potentially die from ingesting cigarette butts^{xxxiii}. In 2008, the American Association of Poison Control Centers

received 7,310 reports of potentially toxic exposures to tobacco products among children younger than six years of age in the U.S.^{xxxiv}

In response to cigarette butts as litter, the tobacco industry has typically called for increasing the number of ashtrays available for disposal of cigarette butts, and people who smoke to be responsible when disposing of butts. Additionally, various tobacco companies have sponsored clean up days, such as Altria (parent company to Philip Morris, maker of Marlboro cigarettes) providing funding to both International Coastal Cleanup and Keep America Beautiful^{xxxv}.

The most recent partnership to reduce butt litter is a partnership between Santa Fe Tobacco Company (maker of Natural American Spirit products) and TerraCycle, a company that specializes in transforming trash into usable goods. Santa Fe Tobacco will sponsor TerraCycle's "Cigarette Waste Brigade", which allows individuals and groups to collect cigarette waste and mail it to TerraCycle, where the trash will be turned into products such as shipping pallets, railroad ties, plastic lumber and (ironically) ash trays^{xxxvi}.

According to Robert Proctor, in the United States alone, "eliminating cigarettes would yield carbon savings equivalent to raising the fuel efficiency of all cars and trucks by several miles per gallon-or to converting the entire electrical grid of a state like Massachusetts to solar power^{xxxvii}." Eliminating cigarettes worldwide would have an incredibly positive impact on our environment: Reduced deforestation and renewed tree growth which would in turn lead to reduced amounts of CO₂ in our atmosphere; land for food cultivation which could reduce hunger; and a reduction in the amount of trash that is generated in the growing, manufacturing, use and disposal of these products.

Health Department Contact Information:

Multnomah Tobacco Prevention and Education Program

503-988-4163 or htlh.tobacco.prevention@multco.us

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